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on the Impact of Technology on Learning in Open Universities and Distance Education

Bernd J. Krämer 2007

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Education and Culture

LEONARDO DA VINCI
PROGRAMME

DATA ANALYSIS REPORT

ON THE

IMPACT OF TECHNOLOGY ON LEARNING IN OPEN UNIVERSITIES AND DISTANCE EDUCATION

PROJECT

IMPACT
(THE IMPACT OF NEW TECHNOLOGIES ON DISTANCE LEARNING STUDENTS)

OUTCOME OF

WORKPACKAGE 3

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EXECUTIVE SUMMARY 7

1. OBJECTIVES AND RESEARCH CONTEXT 9

1.1 Setting the Scene 9

1.2 Objectives of the Project 10

1.3 Project Consortium 11

1.4 Acknowledgements 12

2 RESEARCH METHODOLOGY AND APPROACH 13

2.1 Research Hypotheses 13

2.2 Methodology: Principles and Approach 13

2.3 Conceptual Model and Research Topics 14

2.4 Questionnaire Design 14

2.5 Characteristics of Intervention and Control Groups 15
2.5.1 Intervention Group: 150 Students enrolled in a Distance University 15
2.5.2 Control Group 1: 30 Students without Experience in Technology-Enhanced Learning from Bulgaria 20
2.5.3 Control Group 2: 30 Faculty Members from Corvinno, Hungary 21
2.5.4 Control Group 3: 30 Adult Learners without Experience in Open and Distance Education from Ireland 21
2.5.5 Control Group 4: 30 Vocational Students from Ireland 21
2.5.6 Control Group 5: 30 Postgraduate Students in Educational Studies from Italy 22
2.5.7 Summary about the Composition of Groups 22

3 REVISION OF THE QUESTIONNAIRE 23

4. DESCRIPTIVE STATISTICS AND COMPARISON OF SAMPLES 24

4.1 Preparatory Work 24

4.2 Descriptive Statistics of the Intervention Group 25
4.2.1 Personal Background 25
4.2.2 The Impact of ICT on Learning in General 25
4.2.3 The Impact of ICT on Learning in Open and Distance Universities 27

4.3 Descriptive Statistics of the Control Group 27
4.3.1 Personal Background 28
4.3.2 The Impact of ICT on Learning in General 28
4.3.3 The Impact of ICT on Learning in Open and Distance Universities 29

4.4 Variance between Intervention and Control Group 29
4.4.1 Personal Background 30
4.4.2 The Impact of ICT on Learning in General 31
4.4.3 The Impact of ICT on Learning in Open and Distance Universities 31

4.4 T-Test 33

5 CROSS-TABULATION OF PERSON BACKGROUND AND TECHNOLOGY-RELATED VARIABLES 35

5.1 Influence of Age on Peoples Opinions 35

5.2 Influence of Gender 39

5.3 Influence of Level of Education 40

5.4 Influence of Occupation 41

6 SPEARMAN'S RHO CALCULATION 43

7 FREQUENCIES 47

8 VARIANCE ANALYSIS (ANOVA) 49

9. CONCLUSIONS 50

LITERATURE 51

ANNEXES 53

A.1 Multiple Language Version of the Questionnaire used in WP3 53

A.2 Bulgarian Version 57

A.3 German Version 61
A.3.1 Email Sent to FernUniversität Students 61
A.3.2 The Online Questionnaire 62

A.4 Hungarian Version 69

A.5 Italian Version 72

B. DESCRIPTIVE DATA ANALYSIS OF GROUPS AND THEIR VARIATION 74

B.1 Descriptive Analysis of the Intervention Group 74

B.2 Descriptive Analysis of the Control Group 86

B.3 Cross-Tabulation of the two Study Groups 98

B.4 T-Test 121

B.5 Cross-Table for Variable Age 123

B.6 Cross-Table for Variable Gender 159

B.7 Cross-Table for Variable Education 183

B.8 Cross-Table for Variable Occupation 205

B.9 Spearman's Correlations 257

B.10 Frequencies 276

B.11 Analysis of Variance (One-Way ANOVA for Variable Age) 360

B.12 One-Way ANOVA for Variable Education 379

B.13 One-Way ANOVA for Variable Occupation 395

EXECUTIVE SUMMARY

This report summarizes the findings from Workpackage 3 (WP3) study of the impact the use of information technology and new media has had on distance education in higher education and vocational training. Other than for primary and secondary education rarely any valid result on the impact of the use of technology is available for the tertiary education level. This empirical study aimed:

- To identify new facts about European students' experiences and perceptions of the use of technology in higher distance education including personal benefits or failures, increased or deepened knowledge, behavioural changes that were affected by the use of ICT in education or new opportunities to organize the personal learning process
- To determine attitudes towards the use of technology in higher distance education
- To determine students' opinions about the quality and recognition of university degrees awarded by open and distance universities.

Based on a collection of questions provided by the partners, a sub-committee designed a questionnaire that was grouped in three sections: 1) personal information, 2) experiences with technology-enhanced learning, and 3) questions related to technology supported distance learning experiences. The rationale behind this structure was to reuse the questions in Sections 1 and 2 in the analysis of other facets of technology-enhanced learning and teaching and just adapt the questions on Section 3 to the particular subject under investigation.

An intervention group was formed with 150 students from FernUniversität in Hagen and five control groups were identified with 30 students each from the five other partners in the consortium. The members of the intervention group were supposed to have experience with distance education at a higher institution, while the members of the control groups should lack such experiences. In all groups experiences with technology-enhanced learning was expected to vary. In the end we were able to recruited 183 completed questionnaires from individuals in the intervention group and 150 from members in the control groups. The collected answers were finally analyzed using various statistical techniques.

The following provides a brief synopsis of findings from this research. For detail and evidence, review the appropriate sections of this document.

1. Impact of ICT on learning in general

In the population at large ICT already plays an important role in people's daily life and most participants take a positive attitude on its' impact. Among the five occupation groups being surveyed, teachers and trainers use the advanced technological equipment in their professional life most frequently. More than 70% of respondents agreed that their ways of working has been changed by the development of technology. More than 80% of the participants found that the impact of ICT on their learning is valuable according to their own study experience. In addition, a significant number of participants (more than 50%) believe that the problems of access to learning for students with disabilities have been resolved thanks to technology with only a small portion (around

10%) disagreeing. It is important to note, however, that students exhibit a more negative attitude on this issue (around 30% disagree).

2. *Impact of ICT on learning in open and distance universities*

   Most participants agree that ICT facilitates easier access to material for those studying part-time (90%) and its application to support learning and teaching and providing Internet access to student administrative processes has improved distance education (75%). Among the contributions of information and communication technology, multimedia environments are most widely accepted in open and distance universities. 80% of the population agrees that learning is enhanced when text and pictures are integrated in a multimedia environment. On the contrary, while still being the majority, only 50% participants agree that ICT was used to provide individualized learning programmes.

3. *Effectiveness of the use of advanced technology in distance education with respect to increased motivation and active involvement, personal interaction and improved learning*

   A majority of participants agreed that ICT was used to encourage active learning participation and develop high level thinking skills such as synthesis and problem solving. Especially, educational games received general acceptance as an effective way to develop skills like teamwork. Teachers and students particularly support these opinions. An interesting observation here is that teachers and students take a controversial attitude on the contribution of ICT to the issue of intensified personal interaction. Most teachers believe that online communication allows increased amounts of communication between teachers and students while relatively few students support this point of view.

4. *Recognition of open and distance universities*

   The agreement that a study at an Open University is especially advantageous to adults who have work and family obligations, is overwhelming in both groups. However, especially in the control group a great deal of uncertainty exists (more than 42%) about the comparability of degrees awarded open universities and traditional face-to-face universities. In the intervention group, which just includes people who have made distance study experiences, much less uncertainty can be observed about this thesis, while the degree of agreement is about twice as high as in the control group. Similar differences exist for both groups with respect to the quality of learning outcomes at open universities as opposed to face-to-face universities. In both groups the level of uncertainty dominates in this question.

1. OBJECTIVES AND RESEARCH CONTEXT

This research project aims to compensate the current lack of research information on the impact of technology on adult education, in particular, in the context of distance learning and lifelong learning. This report is the first in a series, each addressing a different context of the use advanced technology in learning and teaching at universities and vocational institutions. It focuses particularly on the growing field of distance education. According to Desmond Keegan (1990), distinguishing characteristics of distance education include the:

- Separation of the teacher from the learner(s)
- Use of technical media supporting communication and collaboration among students and their teachers;
- Influence of an educational organization.

In this study we investigate empirically whether and to what extent known difficulties of the distance education model have been toned down or even been removed. We also try to find out whether the strengths of distance and open universities including elaborate learning content and strong, tutorial, organisational and administrative support have been enforced by the use of advance technology.

1.1 Setting the Scene

In distance education the use of technology is essential. It is not a supplement to the traditional forms of distance education: correspondence and telecommunications-based education. The history of distance education reaches back to the 18th century when it took the form of correspondence education first. It was supplemented later by telecommunications-based distance education, which relies on a synchronous form of delivery and interaction. But only after the early success of the British Open University a wave of foundations of distance teaching universities in Europe and the United States during the 1960s and 1970s provided real alternatives to traditional classroom-based higher education, offering large numbers of adults disadvantaged by limited time, distance or physical disability a second chance at higher education.

In Europe and elsewhere, developments in information and communications technology (ICT) throughout the last decade have substantially changed the format of distance education from correspondence-style courses to technologically based courses using the Internet. The use of various forms of electronic media, e.g., for the submission of assignments and their correction, for performing Internet-based seminars, laboratory experiments and collaborative class activities, has increased time and cost effectiveness and improved the exchange of information. Interactive computer-based learning applications, instructional animations, video or audio are believed to enhance the quality of learning materials. New methodological approaches to learning in technology-based educational scenarios have been developed, promising a wider range of teaching functions and a higher quality of learning, more interaction and feedback for distant students.

But also the culture in traditional campus universities has changed tremendously. The initial period of individual e-learning pioneers is gradually being replaced by an organisational integration of technological innovation and e-learning processes in European universities. In Germany and other European countries these transition processes, which aim

at a sustainable embedding of e-learning in universities affecting administrative processes and services, teacher and tutor qualification, content development, curricular structures and quality assurance, are supported by nationally funded case studies and lighthouse projects.

1.2 Objectives of the Project

Distance education is a rich and complex sector today comprising five major fields of education and training provision that are detailed here for the first time:

- **Distance education** –providing education and training at a distance by Open Universities, distance education institutions and a growing number of distance education departments of conventional institutions
- **E-learning** – e-learning covers a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, virtual learning environments like ILIAS, Moodle or WebCT and digital collaboration. It includes the delivery of content via Internet, intranet or extranet, podcast and videocast, satellite broadcast, interactive TV, and CD-ROM or DVD. But e-learning also provides instructional interactivity, which differentiates learning from mere e-publishing (Allen, 2003).
- **Synchronous e-learning systems** – providing education and training on the WWW to students who study mainly in groups using LMSs with elaborate synchronous communication features like Centra or Horizon Wimba.
- **Blended learning** – using hybrid learning arrangements combining on campus presence in lectures, exercise and practice groups or Instructor Led Training (ILT) and online phases using the WWW and ICT.
- **Mobile learning** – providing education and training on PDAs (including palmtops and handhelds), smartphones and mobile phones.

Along these axes of education and training provision, the project pursues a series of work-packages whose ultimate goal is to present a set of findings that help instructors understand the implications of various technologies for their students, and to provide research-based principles for how instructors can best use technology in their teaching. As mobile learning has been extensively investigated before by a previous project led by nearly the same consortium, the first four facets of distance education are the focus of this work.

This report addresses the situation of distance students who may have been exposed to the use of technology in varying degrees of intensity ranging from mere correspondence education at one end of the spectrum to a rich inventory of technologies, including learning and course management systems (WCET, 2007; Baumgartner et al., 2002), learning activity management systems (LAMS International, 2007), computer-supported collaborative learning tools (Kumar, 1996), interactive and multi-media learning materials, computer-based simulations and laboratories (Goodman, 2007), micro worlds, smart tutoring programs or automatic self-assessment tools, at the other end.

This report contains the results of the project's first data acquisition and analysis work-package, WP3, which took place from January to June 2007.

1.3 Project Consortium

The project consortium represents a good mixture of cultures including western, central, eastern and southern Europe. It represents an interesting combination of target groups including campus education of young adults, distance education with a large number of working professionals at a mean age of 29, and vocational training focused on business and technical experts. Correspondingly the type and intensity of technology in the learning process varies to great degree.

Corvinno Technology Transfer Center, Hungary, is the technology transfer company of the Department of Information Systems at the Corvinus University of Budapest. Its main focus is both on teaching and research of IT applications in business and in the public sector. Corvinno is continuously working to develop educational programmes in information technology, so as to best fit the university's profile and enable economists to manage information systems in real-life situations. Corvinno's role in the Impact project is to gather data from the Hungarian students about their ICT usage in their everyday learning activities.

Distance Education International, Ireland, has made extensive contributions to the literature of distance education and e-learning, has participated in a wide range of European projects and has edited the world's only series of academic volumes on distance education.

Ericsson Education Ireland is part of Ericsson, the telecommunication infrastructure provider. As part of Ericsson Global Services, Ericsson Education is one of the leading providers of training solutions to the telecoms industry. It has led a number of EU research projects, most notably in the field of mobile learning.

FernUniversität in Hagen, Germany, is the only public distance teaching university in Germany serving also other German speaking countries in Europe. FernUniversität provides its 48,200 students with a range of university degrees. The project team from FernUniversität has pursued and led a range of R&D projects on learning technology both at the European and national level and is involved in higher distance education in computer science and electrical engineering, mathematics, law, social and culture sciences and economics.

Plovdiv University, one of Bulgaria's largest universities situated in Plovdiv, Bulgaria's second largest city. There are eight faculties: Physics, Mathematics and IT, Chemistry, Biology, Economics and Social Sciences, Law, Languages and Literature, and Education. The University takes part in international programmes, such as TEMPUS, COST, NATO, Leonardo, CEEPUS, 5FP, and Marie Curie fellowships and in sub-programmes including the Socrates programme - Comenius, Erasmus, Minerva and Jean Monet. The University has a firm commitment to the use of technology in education and has extensive technology facilities. The University of Plovdiv has considerable expertise of the impact of technology on learning and will contribute expertise and data especially in the fields of distance learning, e-learning and the use of the WWW on-campus.

University Roma Tre, Italy, is a leading university in public distance learning. The LPS (Laboratorio di Pedagogia sperimentale) is a research unit that has been operating within the Department of Education Sciences of University Roma Tre for over ten years. LPS aims to contribute to the development of education culture by devising and implementing

experimental research initiatives. The Laboratory publishes the review *Cadmo. An International Journal of Educational Research*, cooperates in national and international research projects, conducts higher education activities through the Ph. D. course entitled *Innovation and Evaluation of Education Systems*.

1.4 Acknowledgements

The team wishes to acknowledge the support and help given to the publication and distribution of the first questionnaire and the assembly of student responses by administration staff of the partner institutions. We are particularly grateful to Dr. Christine von Prümmer and Ute Rossié from the Rector's Evaluation and Quality Assurance Team who prepared the German online questionnaire and processed the 183 responses collected at FernUniversität and Ute Wandel from FernUniversität's student office who compiled the sample of students questioned. Volker Winkler was extremely helpful in the production of the PDF version of this report.

2 RESEARCH METHODOLOGY AND APPROACH

The research methodology proposed by the project to test the impact of the introduction of new technology on adult learners was randomized controlled trials. We adopted a widely used rule of thumb that requires a sample size of 300 people with 150 in the intervention group and 150 in the control group. A point of discussion in the project was the definition of the statistical method to be best used. Our experts from Rome proposed to use inductive statistics because only weak agreements exist on the meaning of variables. One of the goals of the project should therefore be to define a number of variables that can be shared in the scientific community in Europe.

2.1 Research Hypotheses

Our research hypothesis comprises three facets:

- "There is no significant difference in the judgement of people with or without experience in learning at an open or distance university that the use of technology in distance education can overcome several disadvantages of this study model including impeded interaction between tutors and students, indirect communication, or reduced opportunities for social interaction."
- "It is generally accepted that the use of technology in higher distance education is beneficial for the student population at large and for special needs students in particular."
- "It is generally accepted that the education provided by open university compares with that of campus universities and the degrees awarded by open universities are equally well recognized as those awarded by traditional campus universities."

2.2 Methodology: Principles and Approach

The research methodology employed was organized in six stages:

1) Collect problems to be investigated from partner institutions.
2) Form a sub-committee of experts in data analysis in social sciences whose task was to:
    a. Develop a conceptual model guiding the data analysis and
    b. Devise a questionnaire based on the problems contributed in stage 1).
3) Review, test and approve the questionnaire by all the project team.
4) Administer the questionnaire to the six target groups after translating it into the local language – if necessary.
5) Assemble the responses acquired by each institution and perform suitable data analyses.
6) Evaluate the analysis results and present them in a comprehensive report (this document).

A range of statistical analyses were applied to the collected data including descriptive statistics covering the whole population of respondents, t-tests comparing the intervention and control groups, non-parametric correlations, cross-tables or variance analysis.

2.3 Conceptual Model and Research Topics

The conceptual model underlying the themes to which this and follow-on investigations should provide replies include:

Reaction of learners: Did they enjoy and benefit from the education using ICT?

Learning outcome: Did the students increase in knowledge or intellectual capacity?

Behaviour: Did the students apply technology-enhanced learning and thereby change their behaviour?

Result: Were there quantifiable aspects of organisational performance gain?

Technology: Can we prove or disprove that the increasing use of technology in education is perceived positively?

Attitudes: What are people's attitudes to the impact of technology on learning?

Gender: Does the use of technology enhance the learning process of female students? Do female students benefit from learning traditionally "male" subject areas (engineering) through gender-neutral media like Centra?

Student-centred and task-based learning: Does the use of technology in the learning process create opportunities to prioritise task-based learning?

These facets of the conceptual model guided the design of the items and structure of the questionnaires used in our empirical study.

2.4 Questionnaire Design

> *"Statistical designs always involve compromises between the desirable and the possible." (L. Kish, 1987)*

The questionnaire was designed to consist of three sections:

1) Personal information including social indicators like gender, age, profession, or education as judgements depend on such indicators.
2) Experiences with technology-enhanced learning, and
3) Questions related to technology-supported distance learning experiences.

The rationale behind this structure was to reuse the questions in Sections 1 and 2 in the analysis of the other three facets of technology-enhanced learning and teaching (e-learning, synchronous e-learning and blended learning) as well. Only the questions in Section 3 were adapted to address the corresponding investigation topic.

For the sake of succinctness and clarity, only closed questions should be used. As we wanted to test primarily perceptions, attitudes and opinions about the impact of technology on distance education, it was decided to use stated views as questionnaire items in Sections 2 and 3 and allow answers uniformly on five-part scale ranging from a high degree of agreement to complete disagreement. The odd number of possible answers has the advantage that respondents who are neither pro nor cons can express their uncertainty about a particular item in the questionnaire.

To avoid and to be able to detect acquiescence, some statements were formulated negatively, e.g., item 10 (see Annex A.1): "Only optimistic people think that the impact of technology on learning is beneficial."

All four questionnaires were reviewed, partly improved and tested for completeness, exclusiveness and uniqueness by the whole project team during a project meeting held in March 2007 in Plovdiv. The questionnaires were then approved by the whole project.

2.5 Characteristics of Intervention and Control Groups

As distance education was the main objective of this investigation, FernUniversität in its role as an open university was selected to form the intervention group among selected members of its student clientele, while the other partners together provided an equal number of respondents in five different control groups.

2.5.1 Intervention Group: 150 Students enrolled in a Distance University

The respondents for the intervention group were 150 students at FernUniversität in Hagen, the only German speaking distance teaching university with approx. 48.200 students.

To ensure a sufficiently high number of responses, 1.500 students were selected from FernUniversität's student database (see Fig. 1). Selection criteria were:

1) Students enrolled in at least three different departments to catch cultural differences between disciplines

2) Students from different study phases

3) Different degrees of exposure to learning technology and multimedia learning content in distance education

4) Balanced gender distribution

5) Both part-time and full-time students.

FernUniversität in Hagen
Fr. Wandel, Dez. 2.4.2,
Tel. 2081

Befragung zu den Auswirkungen des Einsatzes Neuer Medien und der luK-Technik auf das Fernstudium

07.05.2007

Auswahl: nicht exmatrikuliert
Vollzeit-, Teilzeitstudierende
endgültig eingeschrieben
Studiengang = s.u. weitg. Gleichverteilung

insg. 5.023 Studierenden davon:

Fachsemester	(Alle)
Staatsangehörigkeit	(Alle)
Hochschulsemester	(Alle)
Hörerstatus	(Alle)

male / female

Anzahl von mtknr		geschl		
abschl_l	stg_l	M	W	Gesamtergebnis
Bachelor	Bildungswissenschaft	64	292	356
	Rechtswissenschaft	210	190	400
	Wirtschaftsinformatik	349	88	437
Bachelor Summe		623	570	1193
Master	Elekt-u-Infor-Technik	192	17	209
	Rechtswissenschaft	58	40	98
Master Summe		250	57	307
Gesamtergebnis		873	627	1500

total population

Fachsemester	(Alle)
Staatsangehörigkeit	(Alle)
Hochschulsemester	(Alle)
Hörerstatus	Teilzeitstudent

Anzahl von mtknr		geschl		
abschl_l	stg_l	M	W	Gesamtergebnis
Bachelor	Bildungswissenschaft	46	232	278
	Rechtswissenschaft	177	147	324
	Wirtschaftsinformatik	293	73	366
Bachelor Summe		516	452	968
Master	Elekt-u-Infor-Technik	181	10	191
	Rechtswissenschaft	39	30	69
Master Summe		220	40	260
Gesamtergebnis		736	492	1228

part-time students

Fachsemester	(Alle)
Staatsangehörigkeit	(Alle)
Hochschulsemester	(Alle)
Hörerstatus	Vollzeitstudent

Anzahl von mtknr		geschl		
abschl_l	stg_l	M	W	Gesamtergebnis
Bachelor	Bildungswissenschaft	18	60	78
	Rechtswissenschaft	33	43	76
	Wirtschaftsinformatik	56	15	71
Bachelor Summe		107	118	225
Master	Elekt-u-Infor-Technik	11	7	18
	Rechtswissenschaft	19	10	29
Master Summe		30	17	47
Gesamtergebnis		137	135	272

full-time students

W:\D282\Statistik\20071\Mail\Evaluation\Krämer\Krämer.xls/Pivot

Figure 1: Selection of intervention group at FernUniversität

2.5.1.1 Determining the Samples

We chose 356 bachelor students enrolled in the curriculum Educational Sciences (ES) to meet the first criterion because these students are both exposed to different types of learning technology like Moodle, CSCL tools or synchronous communication and collaboration tools and are concerned with advanced learning technology standards and educational theories. The second group included 400 law students (BL) who have lesser experiences with advanced learning tools but have excellent experiences with novel and interactive multimedia learning materials. 437 students selected were enrolled in Business Informatics (BI), i.e., a cross-disciplinary curriculum that combines technical skills with business know-how. A fourth subgroup included 209 masters students enrolled in the Electrical Engineering (EE) curriculum and 98 law students in a masters program (ML).

The spread over different study phases ranging from second semester bachelor students to master students obviously addresses criterion 2 quite well.

ES and BL students are exposed to learning technology beyond average, while BI and EE students are familiar with technology in general but their experience with learning technology is rather average. The ML students basically rely on correspondence material and standard online communication facilities like e-mail or newsgroups.

Overall the gender distribution in the target population was relatively well balanced with 873 male and 627 female students. Inside the subgroups we notice, however, a striking imbalance with 1 male to 5 female among Educational Science students and 12 to 3 among BI or 10 to 1 among EE students. In total we had selected 1228 part-time students and 272 full-time students.

2.5.1.2 Questionnaire Preparation

Due to the large number of students who were contacted via e-mail by FernUniversität's student secretary, we developed an online version of the questionnaire to automate the collection of responses automatically in a backend database. This had the additional advantage that we were able to control the completeness of each questionnaire as students could only advance to the next page (using button "weiter" in Fig. 2 and 3) if each item on that page was checked.

The original questionnaire was translated into German to increase its readability, avoid possible misinterpretations of items by non-native English students (see Annex A.3.2). A cover page accompanying each e-mail was designed to briefly express the (see also Annex A.3.1):

- Purpose of the questionnaire,
- Responsible organizer (here: Prof. Krämer from FernUniversität),
- Average time needed to answer all items (approx. 10 minutes),
- Deadline,
- Contact person and e-mail address, and
- Information about guaranteed anonymity.

Figure 2: Item 1 partly opened for test purposes

To test the adequacy and completeness of answers to Question 1 ("What is your occupation?"), we opened up this item by adding the option "Other" including a free entry field to allow respondents who were not confident with one of the possible answer to provide specific information about their occupation (see Fig. 3).

2.5.1.3 Announcing a Raffle

To increase the students' interest in the study, we decided to give away five science fiction books authored by a world-famous computer scientist. Students who wanted to enter the raffle had to acknowledge their wish by entering a valid email address in a text input field or reject the offer by checking the button underneath that input field entitled "Ich möchte meine E-Mail-Adresse nicht angeben" (I don't want to provide my email address, see Fig. 3). The note at the top of that page also included the assurance that this information would only be used to enter the raffle and contact the winners.

Figure 3: Webpage announcing the raffle of five books

2.5.1.4 Organisation of the Online Questionnaire

The items in Sections 2 and 3 of the questionnaire were organized in two tables so that students could easily survey all aspects relevant to the actual theme of the questionnaire (i.e., "the impact of ICT on learning in general" and "the impact of ICT on learning in Open Universities", respectively, cf. Fig. 4). The items in Section 2 addressed aspects like access to learning for students with disabilities, personal contact and online communication, more involved students or improvement in learning outcomes. The aspects investigated for the narrower theme of learning independently at a distance included: access to administrative processes or easier access to material. Here we also investigated personal judgements of the quality and recognition of degrees awarded by open universities.

2.5.1.5 Collecting Responses

183 completed questionnaires were collected in the intervention in a database while the website at https://eva.fernuni-hagen.de/mrIWeb/mrIWeb.dll?I.Project=dvtprojekt was open between May 7 and 29, 2007. The data were extracted in an Excel file and communicated to the Italian partner for further data analysis.

As the interest in the raffle was unexpectedly high with 159 positive responses, we increased the number of books to 9 and the chance to winning to 5.7%. The draw was concluded May 30 and all winners received their price by June 8, 2007.

Quest17 31.05.2007 16:52 Uhr

FernUniversität in Hagen — Lehrgebiet Datenverarbeitungstechnik

Abteilung Evaluation der Stabsstelle für Evaluation & Qualitätssicherung

75%

FRAGEN zu Auswirkungen der Informations- und Kommunikationstechnik (IuK) auf das LERNEN AN FERNUNIVERSITÄTEN:

Bitte äußern Sie Ihre Meinung in jeder Zeile, indem Sie auf einer Skala von 1 bis 5 das jeweils Zutreffende anklicken.
Dabei bedeutet 1 = stimme voll und ganz zu; 2 = stimme weitgehend zu; 3 = weder-noch; 4 = stimme eher nicht zu; 5 = bin gänzlich anderer Meinung.

	1	2	3	4	5
Der Einsatz neuer Medien und IuK-Technologien zur Unterstützung der Lehre und zur Bereitstellung von Internetzugängen für administrative Prozesse, die für Studierende von Belang sind, hat das Fernstudiensystem verbessert.	◉	○	○	○	○
IuK-Technologien erleichtern den Zugang zu Studienmaterialien für Teilzeitstudierende.	○	○	○	○	○
Universitätsabschlüsse, die von Fernuniversitäten vergeben werden, sind mit den von Präsenzuniversitäten verliehenen vergleichbar.	◉	○	○	○	○
Es gibt keinen Unterschied im Studienerfolg zwischen Absolventinnen und Absolventen von Fernuniversitäten und von Präsenzuniversitäten.	○	○	○	○	◉
Das Studium an einer Fernuniversität hat Vorteile besonders für Erwachsene, die hauptberuflich arbeiten oder Familienverpflichtungen übernehmen müssen.	◉	○	○	○	○

Zurück Weiter

Email: Dr. Christine von Prümmer Ute Rossié © FernUniversität in Hagen

Figure 4: Items related to the impact of technology on Open and distance universities

2.5.2 Control Group 1: 30 Students without Experience in Technology-Enhanced Learning from Bulgaria

The English questionnaire was translated first into Bulgarian (see Annex A2) to make life easier for local respondents. Then lecturers at the Agricultural University of Plovdiv handed out printed copies of the Bulgarian version of the questionnaire to randomly selected students of that university during their class. After the students had completed their questionnaires, they were collected and the data was compiled in an Excel sheet that was finally transmitted to the Italian partner who performed the collected data analysis.

The reason why students at the Agricultural University were chosen rather than students at the project partner's own institution is that Plovdiv University offers study programmes in

Natural Sciences, Economics and Social Sciences, Mathematics and Informatics, Chemistry and others, which makes it difficult to randomly find students with little or no exposure to ICT in a learning context, which was a desired characteristic of this control group. Students from the Agricultural University satisfy this criterion much better and at large.

2.5.3 Control Group 2: 30 Faculty Members from Corvinno, Hungary

As in the German and Bulgarian case, the Hungarian partner translated the questionnaire to Hungarian first, before an on-line version of that questionnaire was produced and made available at:

http://sirius.uni-corvinus.hu/targyertekeles.nsf/login?open&id=GKIK-73HNXH.

Then the study objectives and rationale were disseminated among the faculty SIG (a Special Interest Group consisting of current and alumni students, who are interested in Corvinno's activities). 50 anonymous login codes were prepared for the members of the SIG community and sent via email.

As the website was open, submitted responses were collected automatically and after the 30th filled out questionnaire came in, the collected results were submitted to the Italian partner for data analysis.

2.5.4 Control Group 3: 30 Adult Learners without Experience in Open and Distance Education from Ireland

The persons who filled in the questionnaires under the direction of Distance Education International (DEI) were students at Cork Institute of Technology, Bishopstown in Cork, Ireland. They were all enrolled in adult education courses at Cork Institute of Technology. Many of them were female and many were over 40 years of age.

They were chosen for the control group because they had no experience of study at an Open University or in a distance education system.

The questionnaires were administered to the respondents in a class situation in an evening course and filled out in the presence of the teacher.

30 responses were received and communicated to the Italian partner.

2.5.5 Control Group 4: 30 Vocational Students from Ireland

Approximately 55 questionnaires were distributed to groups within Ericsson Education and to groups in a local third level college. The feedback was rewarding and the target of 30 was met. The groups were chosen to reflect experience with distance education and open universities.

The majority of the respondents came from Ericsson Education. In Ericsson Education the respondents were primarily from the categories of management and training consultants. With regard to the third level college the respondents were lecturers and students.

All data was sent and responded to in electronic format.

2.5.6 Control Group 5: 30 Postgraduate Students in Educational Studies from Italy

The data were gathered among postgraduate students enrolled in Roma Tre University. Over 56 questionnaires were collected; only four respondents were male, following the general pattern in the courses in Education offered by the University. The groups were chosen in order to represent this particular tier of students.

The questionnaires were administered before classes, giving to the respondents all the time needed for answering. Data were then entry in electronic format.

2.5.7 Summary about the Composition of Groups

From the description of the selection of samples in the intervention and control group we can conclude that we have achieved a good mix of different nationalities, age groups, professional backgrounds and career or study stages, and different modalities of education including traditional face-to-face teaching of young adults on campus, education of working adults in evening classes and in distance and open universities and vocational training for professionals. We have a good spread of study disciplines with agricultural science, engineering, social sciences and law. The samples in both group exhibit different levels of exposure to technology, in general, and in education, in particular, while experiences with distance and open universities only exists in the intervention group.

3 REVISION OF THE QUESTIONNAIRE

In the intervention group 67 respondents marked category “Other” of the occupation item (Item 1) and entered a specific job name, which means that they were uncomfortable with the other categories given. With a generous interpretation of the job names listed by the respondents, 45 of these nominations can be mapped to category “Technical”, 5 to category “Student”, and 9 to category “Unemployed”. The other 9, however, did not fit and would require new categories “Self-employed” (8) and “Retired” (1).

The consortium therefore decided to add these two categories to the questionnaires to be used in workpackages 4 to 6.

A special problem occurred with category “Student” because every person in the intervention group is a student of FernUniversität. This made students read the question as “Full-Time students”, which is typically a minority among open and distance university students. The 5 respondents who voted for “Other” but could be considered students in a wider sense are people in a trainee program or apprenticeship.

Another problem was detected with the answer categories in Item 4 (level of education) because the time periods appeared to be awkwardly defined. In the next version of the project’s questionnaires, the category “One to three years of post-secondary education” will be replaced by: “Three years or less of post-secondary education”.

4. DESCRIPTIVE STATISTICS AND COMPARISON OF SAMPLES

The total sample size of the study was 359, which was nearly equally distributed between two groups: the intervention group with 183 and the control group with 176 samples. Different analyses were applied to test our hypothesis. A descriptive analysis of the intervention and control group and cross-tabulation was performed to understand the characteristics of both groups and to find homogeneity and differences between them. Cross tabulations helps us to look at the relationships between nominal and ordinal variables.

The results of these analyses are selectively presented in Subsections 4.2-4.4. All corresponding statistical analysis data are presented in detail in Annexes B.1 to B.3. B.1 and B.2 comprise the descriptive statistics, B.3 present the cross-tabulation of both investigation groups. Summary tables for the answers are also included in the annexes as well as Chi-square tests and comparison bar charts, some of which are shown in the main text as well.

The Chi-Square gives us a measure of the statistical significance or probability value and tests the hypothesis that the row and column variables are independent or unrelated to one another. To be able to say that a relationship is statistically significant, the p-value needs to be as small as possible. The value used is less than 0.05 (confidence level of 95%). In the tables, it is therefore necessary to inspect the "Pearson Chi-Square"-row in the "Asymp. Sig."-column. If the p-value is less than 0.05, this means that there is a low probability that the differences we have found are due to chance.

The t-test presented in Section 4.4 allows us to compare the means of the two sample groups.

4.1 Preparatory Work

Before analysing all items and the last two variables about the personal background of the respondents, we reorganised all items into an ascending positive scale. Thus, a positive feeling about the impact of technology always corresponds to a higher numeric value (i.e., 5 in our case), while a negative opinion corresponds to a lower numeric value (here 1).

Variables as such as "Gender" or "Occupation" are nominal variables because it is possible only to distinguish respondents by a particular feature. Variables such as "Education" or the items in Likert format are ordinal variables because it is possible to sort respondents by the quantity of a certain characteristics they have. Variables such as "Age" are continuous variables because it is possible not only to sort respondents on the basis of a feature but also to individualise a fixed distance between two of them on the scale. The types of variables allowed us to choose the most appropriate kind of analysis.

All the statistical analyses presented in this report were produced with SPSS 13.0.

4.2 Descriptive Statistics of the Intervention Group

The results of the descriptive analysis are discussed in the following subsections according to the three sections of the questionnaire:

4.2.1 Personal Background

The majority of the distance students questioned are in technical positions (47), followed by those in a manager position (36), while the other three categories (teacher or trainer, student and unemployed) range between 15 and 16. Under the correction described in Section 3.1 category "Technical" would nearly double, "manager" and "teacher or trainer" remained stable and the others would only slightly grow.

As Fig. 5 illustrates, the mean age of the intervention group is somewhere slightly above 30.

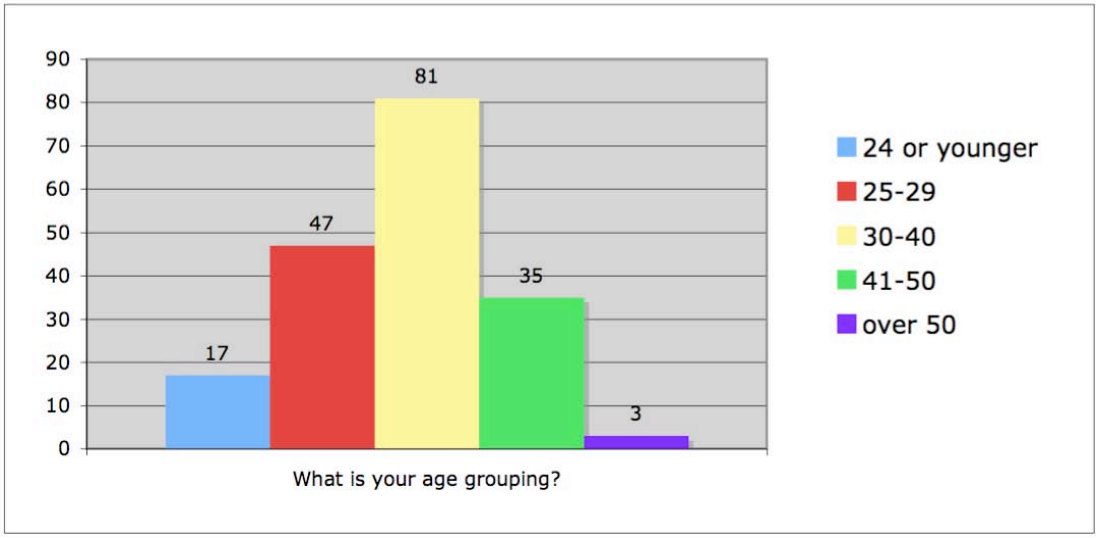


Figure 5: Age distribution of intervention group

More than half of the respondents acquired a high school matriculation, 30 people have mastered one to three years post-secondary education, 53 even more years.

An overwhelming majority of 131 had to change their way of working due to technical innovation and 12 of the respondents in this group had to change their way of working at least once.

4.2.2 The Impact of ICT on Learning in General

The items in the section of the questionnaire that asked for the impact of ICT on learning in general addressed both general impressions and more specific attributes like the intensity of contacts and communication between teachers and students, benefits for disabled students, encouragement for active participation or more individualized learning programmes.

Communication technologies support synchronous and asynchronous variants of communication that differs from face-to-face communication due to particular para-lingual char-

acteristics like volume and height of voice or non-verbal means of communication like gestures and facial expressions, which help to reduce misunderstandings (Schröder, Wankelmann; 2002).

More than half of the respondents believe that the problems of access to learning for students with disabilities has been resolved, 12 even strongly agree, only 54 are uncertain, 18 disagree and 3 strongly disagree. A different picture is drawn when the intensity of contacts between students and teachers in a face-to-face situation and in online education are equated: more people disagree or even strongly disagree with this argument than people agree or strongly agree (58 versus 87) and the number of respondents who are uncertain is relatively high with 38 people. The contribution of online communication to the increase of communication between teachers and students shows a slightly positive attitude with 84 people agreeing or strongly agreeing but only 48 (strongly) disagreeing. The uncertainty on this item is relatively high with 51 responses. The negatively formulated Item 10 "Only optimistic people think that the impact of technology on learning is beneficial" supports the positive perception of the impact of technology on learning with 120 (strong) disagreements. This impression is even enforced with 150 positive answers to Item 11, which addresses personal experiences. This positive attitude towards the impact of technology on learning is a bit weaker when asked for encouragement of students to become more involved in the educational process. 94 are still positive, only 25 are negative about this issue but 64 are uncertain. A positive attitude is also visible about the development of higher level thinking skills and more individualized learning programmes but the number of uncertain respondents reaches nearly one third of the sample. A relatively strong agreement can be found on the impression that learning is enhanced when multimedia components are integrated in the learning content (see Fig. 6). The motivating factor of educational games is also perceived positively but 52 respondents are uncertain, which probably derives from the fact that they have no such experience, and 33 are rather negative minded.

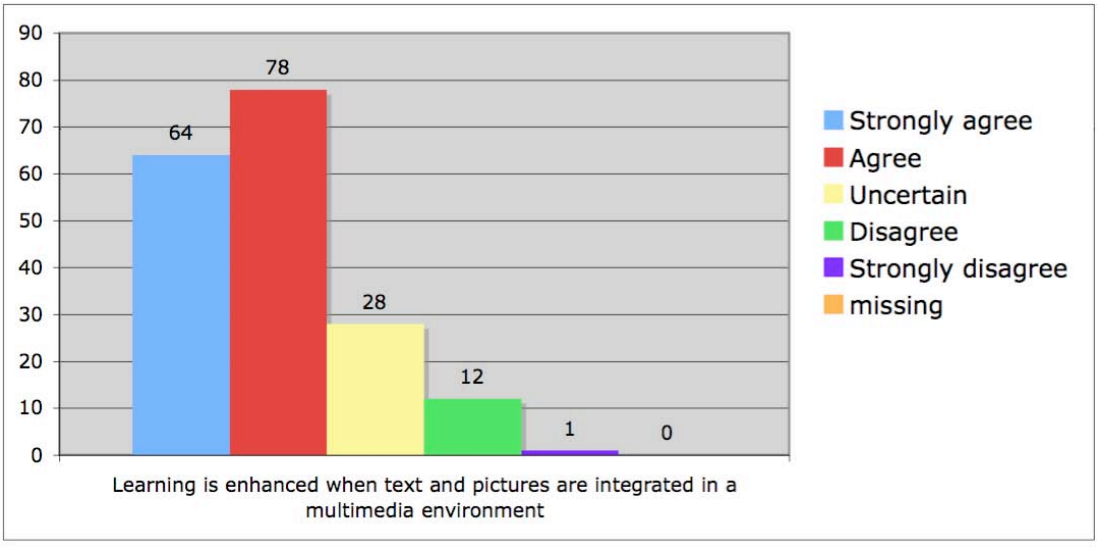


Figure 6: The positive impact of multimedia environments on learning

4.2.3 The Impact of ICT on Learning in Open and Distance Universities

The third section of the questionnaire especially looked at perceptions and opinions about the impact of ICT on learning in open and distance universities. This group of 5 items addressed issues like:

- improved student administrative processes,
- easier access to material for part-time study,
- views about the statements that studying at a distance university and a face-to-face university and awards granted by both systems are of the same standard and
- the assessment of a foundational argument for open and distance universities, namely that they are especially advantageous for working professionals and adults with family obligations.

The improvement factors are largely confirmed with a higher value on the strong agreement and only around 7% of the samples being uncertain. Disagreement is neglectable with 3 and 7. That degrees awarded by traditional face-to-face universities and open universities compare is also seen positively with a slightly higher value in uncertain and negative judgements (see Fig. 7). With respect to the learning outcomes of systems, agreements and strong agreements predominate with 85 samples as opposed to 37 disagreements, but the uncertainty factor is quite high with 61 samples. That the study at an open or distance university is especially of advantage to adults who have work and family obligations proves politicians who supported the instalment of these institutions in the 1970s and 1980s to have taken the right decision with a strong agreement by 165 samples and 14 additional agreements.

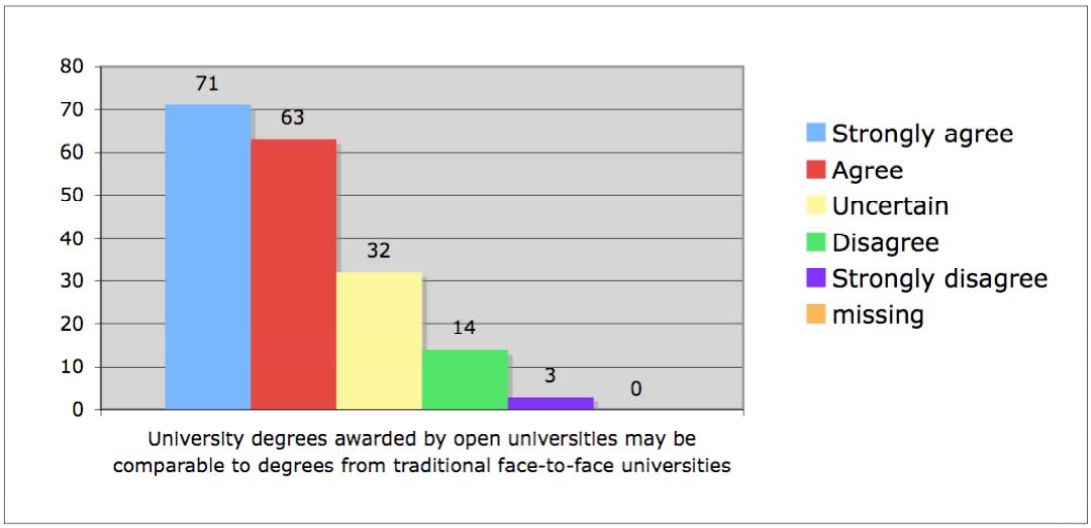


Figure 7: Degrees awarded by face-to-face and open universities are largely considered to be of equal standard

4.3 Descriptive Statistics of the Control Group

We adopt the structure of discussion in the previous section with three subsections.

4.3.1 Personal Background

The samples of the control group are mainly occupied in educational positions as teachers, trainers or students (125). Management positions are occupied by 30 persons, technical staff are 11 and unemployed are 8 people. Two did not provide an answer to this question. The age of the population spreads as follows: 43 respondents are 24 or younger, 43 are between 25 and 29 years old, 39 are in the thirties, 29 in the forties and 22 over 50. Female participants are dominant with 108 to 66 male in the control group. The level of education shows 79 with high school matriculation, 37 with up to 3 years and 57 with three years and more post-secondary education. The majority of respondents had to adapt to advanced technological equipment once or more (17 and 100, respectively) but about one third did not experience this.

4.3.2 The Impact of ICT on Learning in General

Opinions about the claim that access to learning in general for students with disabilities is resolved is shared by nearly half of the sample but about one third are uncertain and 28 disagree. Only 37 respondents accept the claim that the intensity of contacts in face-to-face and online education is comparable. 19 are uncertain and a large majority of 117 persons objects this position. A somewhat larger group of respondents is convinced that online communication mechanisms have contributed to intensify communication between teachers and learners but still a substantial portion is uncertain or doubts that claim (see Fig. 8).

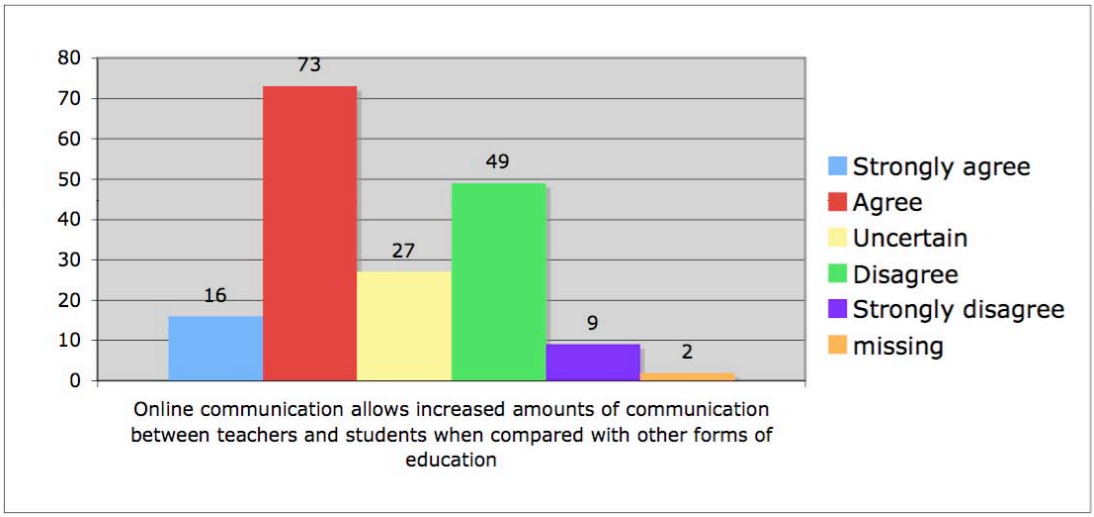


Figure 8: Online communication has intensified interaction between teachers and students

The negatively formulated Item 10 did not mislead the group as more than 100 respondents objected to it, which confirms their mainly positive opinion about the impact of ICT on learning in general. This is enforced by 148 positive answers to the positive formulation of this position under the impression of personal study experiences (Item 11). The claim that ICT in education encourages the active participation of students is viewed positively as well but still 50 respondents are uncertain and 28 disagree. A similar picture is drawn by the answers to claims that ICT has been used to support the development of more demanding cognitive processes that allow students to evaluate a subject matter or create something new by combining elements to a coherent and functioning whole. The

support of the claim that ICT has been used to tailor learning programmes to individual needs is even higher and more so is the agreement to the claims that "learning is enhanced when text and pictures are integrated in a multimedia environment" and "educational game motivate learners and promote the development of social skills.

4.3.3 The Impact of ICT on Learning in Open and Distance Universities

In interesting observation related to this group of items is the relatively high number of more than 20 missing answers here, whereas the range is below 5 otherwise.

Overwhelming is the agreement here to the claim that new ICT concepts have improved distance education and related student administrative processes. Attitudes to the claim that technology facilitates access to material for part-time students are even more supportive on this item with 97 strong agreements and 45 agreements against 9 uncertain positions and 3 disagreements. The answers to the statement about the comparability of degrees awarded from traditional face-to-face and from open or distance universities shows a high degree of uncertainty in this group with a slight tendency to disagree (see Fig. 9).

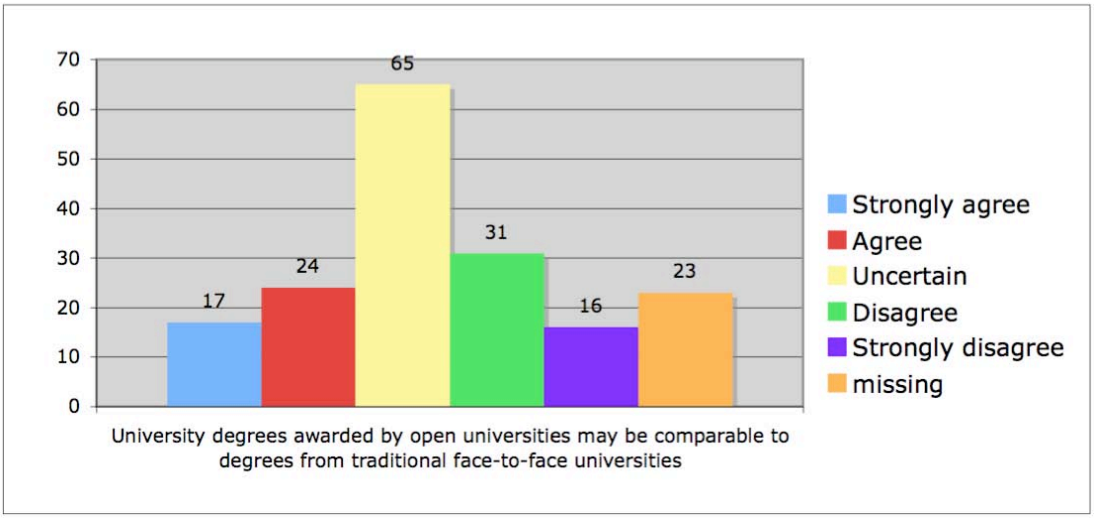


Figure 9: Control group's judgement of the comparability of degrees (see also Fig. 6)

A similar profile depicts the graph of opinions about the learning outcomes between an open and a face-to-face university. Finally we observe an extremely high agreement, even strong agreement, with the claim that "study at an open university is especially of advantage to adults who have work and family obligations.

4.4 Variance between Intervention and Control Group

We applied cross-tabulation to find out whether differences exist between the two different groups of people in our sample. The totality of cross-tables relating to the two study groups is presented in Annex B.3.

4.4.1 Personal Background

In the control group we find a similar number of people in a managerial position in both groups but far less technical employees in the control group (see Table 1). The control group has also more teachers and students.

Table 1: Distribution of occupations in both groups

		Main group/Control group		
		Main group	Control group	Total
What is your occupation?	Manager	36	30	66
	Technical	47	11	58
	Teacher or Trainer	16	66	82
	Student	16	59	75
	Unemployed	15	8	23
	Other (e.g. retired)	53	0	53
Total		183	174	357

The age distribution is also different in both groups with a relatively homogeneous distribution among all age categories in the control group, whose mean age is also lower than in the intervention group (see Fig. 10).

With 42 more female than male respondents the gender distribution is a little less balanced in the control as opposed to the intervention group. The differences between the two groups in this variable are visualized in the bar chart in Fig. 8. These differences are visible in the bar chart and tables we generated but also supported by the Chi-Square test presented on pages 3-5 of Annex B.3.

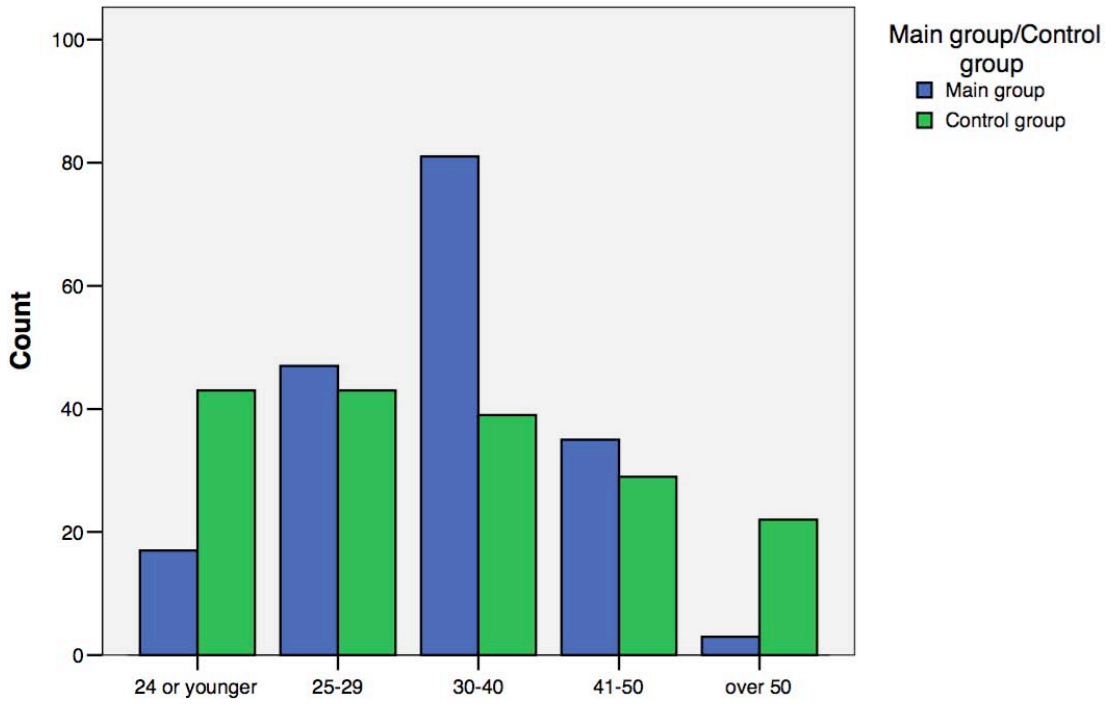


Figure 10: What is your age group?

The graphs illustrating the level of education, experiences in the use of advanced technology and the need to adapt to new technology, have a quite congruent shape with slightly different numbers for the first two aspects (see Annex B.3, page 6-8). A significant difference exists, however, with respect to the need to adapt to advanced technological equipment. Pearson Chi-Square computes a significant difference with a value of 0.029. This could be explained by the fact that the intervention group includes relatively more technical employees and that the mean each in that group is somewhat higher.

4.4.2 The Impact of ICT on Learning in General

The bar charts and tests in Annex B3, pages 9-18, present the results for items 7-16 of the questionnaire. The following observations can be made in the comparison of the two groups:

- The statement that problems of access to learning for students with disabilities have been resolved (Item 7, page B3-9) is viewed rather positively in the intervention group, while agreement and uncertainty have a higher share in the control group and their values are nearly balanced. The higher degree of agreement in the intervention group could lie in the fact that distance students perceive the use of ICT more than others as a means to bridge the physical distance between learners, lecturers and tutors.
- The attitude of the respondents to Item 8 (B3-10) that contacts between students and teachers can have the same intensity in online education as in face-to-face education is rather negative in both groups with a significantly more positive trend in the intervention group. Again different experiences of distance students with respect to limited contact options in the past may have caused this difference.
- As to Item 9, which states that online communication allows increased amounts of communication between teachers and students when compared with other forms of education, the degree of uncertainty is significantly lower in the control group than in the intervention group, the opinions are, however, relatively equally distributed between agreement and rejection (B3-11). Here it is likely that participants in the control group are easier in finding an opinion cause they – other than many distance students – have experienced themselves other forms of education.
- The negatively formulated Item 10 about the benefits of technology for learning is negated in both groups by a majority of respondents (i.e., the benefits are recognised). But a significantly higher negation can be observed in the intervention group (B3-12).
- The opinions to Item 14 that ICT has been used to support individualized learning programmes and Item 16 that educational games motivate learners are slightly more positive in the intervention group. It could well be that ICT applications are viewed as additional offers and a supplement to other educational methods in the control group, while the intervention group considers them rather as a replacement for traditional forms of distance education.

4.4.3 The Impact of ICT on Learning in Open and Distance Universities

In the third group of items again we find great similarities in both groups concerning the assessment of the stated improvement of distance education due to ICT in learning and

administrative process. Facilitated access to material is rated similarly in both groups as well and Pearson's chi-square indicates no significant difference in attitude.

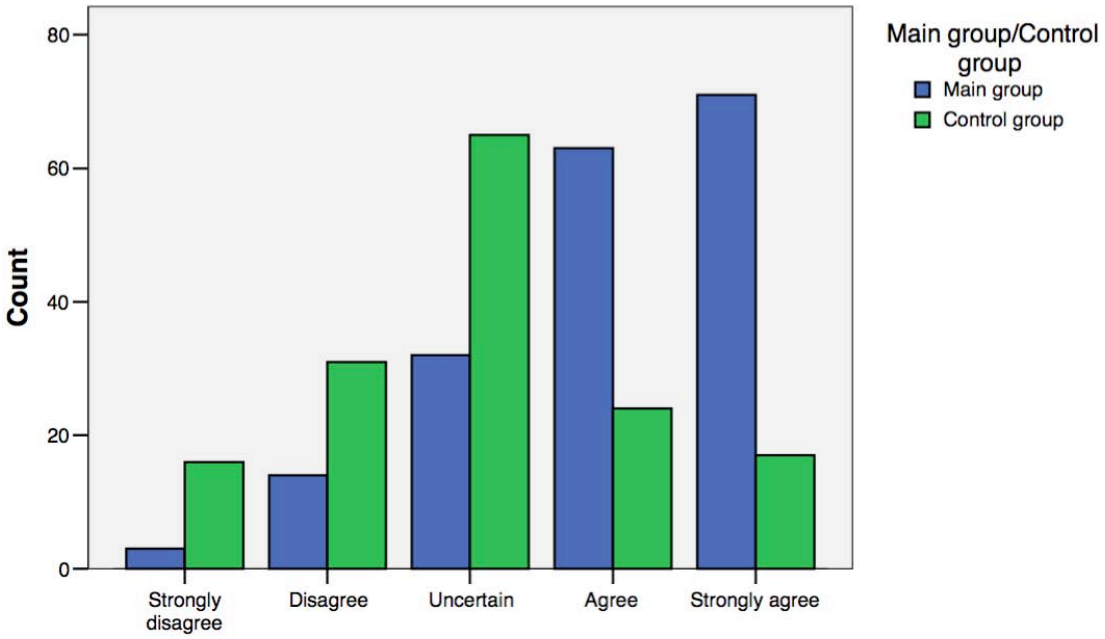


Figure 11: University degrees awarded by open universities are comparable to degrees from traditional face-to-face universities

A striking difference shows up in the respondents' opinion about the comparability of degrees awarded by face-to-face and distance universities (Item 19): The control group is much less certain in this aspect than the intervention group, as can be seen in Fig. 11. More than 42% of this group are uncertain, while agreement and disagreement are nearly balanced. The intervention group show a significantly higher agreement. Pearson's chi-square test as showed on page 21 of Annex B.3 supports this observation. The level of disagreement in uncertainty in the control group is nearly twice as high as in the intervention.

Analogous differences result with respect to the quality of learning outcomes in both systems (Item 20) but here in both groups also shows differences in the distribution among the five answer categories, which is also stressed by the chi-square test (Annex B.3, page 22). Finally there is also a bit more doubt about the specific advantage of the distance study system in the control group than in the intervention group. This can probably be explained by the lack of experience of the participants in the control group.

The close relationship between these questions is not only supported by similar intentions and similar response tendencies in both groups but also by Spearman's correlation test (0.614).

The agreement to Item 21 (Study at an open university is especially of advantage to adults who have work and family obligations) is overwhelming. In the intervention group the agreement is even significantly higher.

4.5 T-Test

The t-test applied to our two sample groups allows us to compare the means of both groups. Table 2 presents these values. Higher values are given in red. Rows with a green background emphasise variables whose values differ significantly. Independent sample tests that were computed as well are appended in Annex B.4.

Table 2: Comparing the means of intervention and control group

	Main group				Control group			
Item	*Valid*	*Missing*	*Mean*	*Range*	*Valid*	*Missing*	*Mean*	*Range*
Only optimistic people think that the impact of technology on learning is beneficial	183	0	3.72	4	174	2	3.4	4
From my personal study experience I find that the impact of technology on learning is valuable	183	0	4.12	4	174	2	4.1	4
Information and communications technology has usually been used to encourage us to be active participants in learning	183	0	3.44	4	174	2	3.48	4
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	183	0	3.36	4	175	1	3.42	4
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	183	0	3.37	4	172	4	3.65	4
Learning is enhanced when text and pictures are integrated in a multimedia environment	183	0	4.05	4	174	2	4.18	4
Educational games motivate learners and contribute to developing skills such as teamwork	183	0	3.46	4	173	3	4.06	4
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	183	0	4.42	3	153	23	4.06	4
Technology facilitates easier access to material for those studying part-time	183	0	4.38	4	154	22	4.53	3
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	183	0	4.01	4	153	23	2.97	4
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	183	0	3.44	4	152	24	2.77	4
Study at an Open University is especially of advantage to adults who have work and family obligations	183	0	4.86	4	154	22	4.44	4
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	183	0	3.52	4	176	0	3.41	4
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	183	0	2.84	4	173	3	2.37	4

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	183	0	3.29	4	174	2	3.22	4

5 CROSS-TABULATION OF PERSON BACKGROUND AND TECHNOLOGY-RELATED VARIABLES

Cross-table analysis was performed to study the relationship between personal background variables like age, gender, occupation etc. and opinions about the use of technology in higher education, in general, and education at open and distance universities, in particular. Cross tabulations helps us to study the relationships between nominal and ordinal variables.

Variables as such as "Gender" or "Occupation" are nominal variables because it is possible only to distinguish respondents by a particular feature. Variables such as "Education" or the items in Likert format are ordinal variables because it is possible to sort respondents by the quantity of a certain characteristics they have. Variables such as "Age" are continuous variables because it is possible not only to sort respondents on the basis of a feature but also to individualise a fixed distance between two of them on the scale. These types of variables allowed us to choose the most appropriate kind of analysis.

Before analysing all items and the last two variables about the personal background of the respondents were reorganised into an ascending positive scale. Thus, a positive feeling about the impact of technology always corresponds to a higher numeric value (i.e., 5 in our case), while a negative opinion corresponds to a lower numeric value (here: 1).

The results of these analyses are selectively presented in the following subsections. A summary table for the answers in each of the remaining items is also included as well as Chi-square tests and comparison bar charts, some of which are shown in the main text to follow. All statistical analysis data are presented in detail in Annexes B.5 to B.8.

The Chi-Square gives us a measure of the statistical significance or probability value and tests the hypothesis that the row and column variables are independent or unrelated to one another. To be able to say that a relationship is statistically significant, the p-value needs to be as small as possible. The value used is less than 0.05 (confidence level of 95%). In the tables, it is therefore necessary to inspect the "Pearson Chi-Square " row in the "Asymp. Sig." column. If the p-value is less than 0.05, this means that there is a low probability that the differences we have found are due to chance.

5.1 Influence of Age on Peoples Opinions

The extent to which our respondents have used advanced technological equipment in their professional life is indifferent with respect to variable age.

Tables 3 illustrates that people in the age of 30-50 have more frequently changed their way of working because of technological developments than users below the age of 30. The A-Sig. value of the Pearson chi-square test shown in Table 4 indicates significance with 0.01 below significance level.

Table 3: Have you had to change your way of working because of technological developments?

			What is your age		
			41-50	over 50	Total
Have you had to change your way of working because of technological developments?	Yes, more than once	Count	49	19	231
		Expected Count	40,3	16,3	231,0
	Yes. Once	Count	6	3	29
		Expected Count	5,1	2,0	29,0
	No	Count	7	3	95
		Expected Count	16,6	6,7	95,0
Total		Count	62	25	355
		Expected Count	62,0	25,0	355,0

Table 4: Chi-square test to Table 3

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22,591[a]	8	,004
Likelihood Ratio	23,667	8	,003
Linear-by-Linear Association	18,033	1	,000
N of Valid Cases	355		

Item "*Thanks to technology, the problems of access to learning for students with disabilities have been resolved*" shows a big difference for respondents under the age of 24 as opposed to respondents in the age range 25 to 29. The former have a more negative attitude while people in the age range between 25 and 29 have a more positive attitude (see Fig. 12).

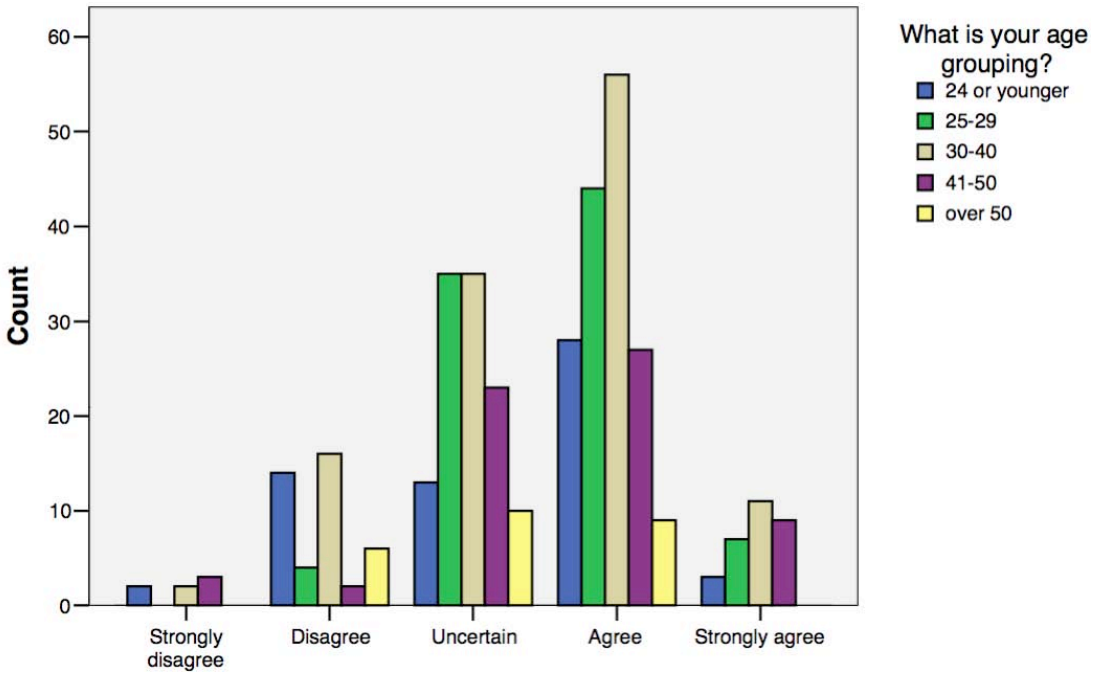


Figure 12: Thanks to technology, the problems of access to learning for students with disabilities have been resolved

For positions to the claims:

- "*Contacts between students and teachers can have the same intensity in the education as in face-to-face education*",
- "*Online communication allows increased amounts of communication between teachers and students when compared with other forms of education*",
- "*Only optimistic people think that the impact of technology on learning is beneficial*" and
- "*From my personal study experience I find that the impact of technology on learning is valuable*"

no significance with respect to the age of the respondents could be shown (see also Annex B.5, Pages 10-16).

For Item 12 of the questionnaire more users under the age of 24 or younger believe that "*Information and communication technology has usually been used to encourage us to be active participants in learning"* (see Table 5 below and Annex B4, pages 17 and 18).

Table 5: ICT has usually been used to encourage us to be active participants in learning

			What is your age grouping?		
			24 or younger	25-29	30-40
Information and communications technology has usually been used to encourage us to be active participants in learning	Strongly disagree	Count	0	2	3
		Expected Count	,8	1,2	1,7
	Disagree	Count	6	15	13
		Expected Count	8,1	12,0	16,0
	Uncertain	Count	18	27	41
		Expected Count	19,2	28,4	38,0
	Agree	Count	22	41	55
		Expected Count	26,7	39,6	53,0
	Strongly agree	Count	14	4	7
		Expected Count	5,2	7,7	10,3
Total		Count	60	89	119
		Expected Count	60,0	89,0	119,0

More users under the age of 25 believe that:

- *Information and communication technology has been used to support the development of higher level thinking skills such as synthesis and problem solving* and
- *Information and communication technology has been used to support more individualized learning programs tailored to our own individual needs*.

But Pearson's chi-square test shows no significant difference in the second case, only in the first (see also Annex B.5, pp. 20-22).

The assessments of the statements:

- *Learning is enhanced when text and pictures are integrated in a multimedia environment* and
- *Educational games motivate learners and contribute to developing skills such as teamwork*

are insignificant with respect to variable age (Annex B.5, pp. 23-26).

That "*the application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education*" is true is believed by more respondents in the age between 30 to 40 than other age groups (see Fig. 13 and Annex B.5, p. 28).

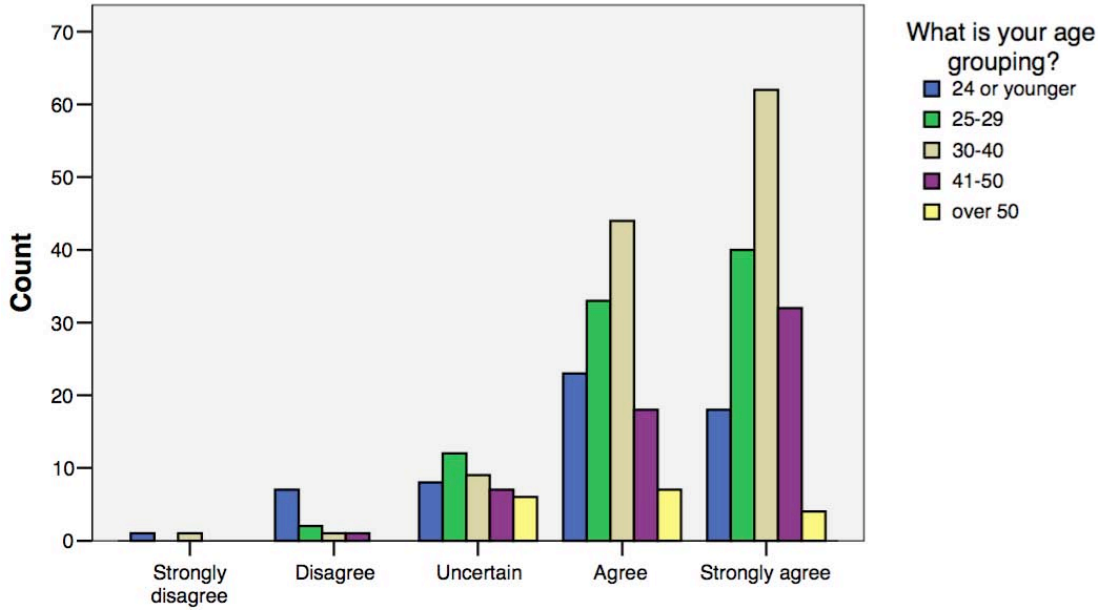


Figure 13: The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Responses to the claim: *Technology facilitated easier access to material for those studying part-time* are independent of variable age.

Users under the age of 30 have a more negative attitude than users at the age 30-50 towards the assertions:

- *University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities* and
- *There is no difference in learning outcomes between studying at an Open university or at a traditional face-to-face university*

(See also Fig. 14 and Annex B.5, pp. 31-34.)

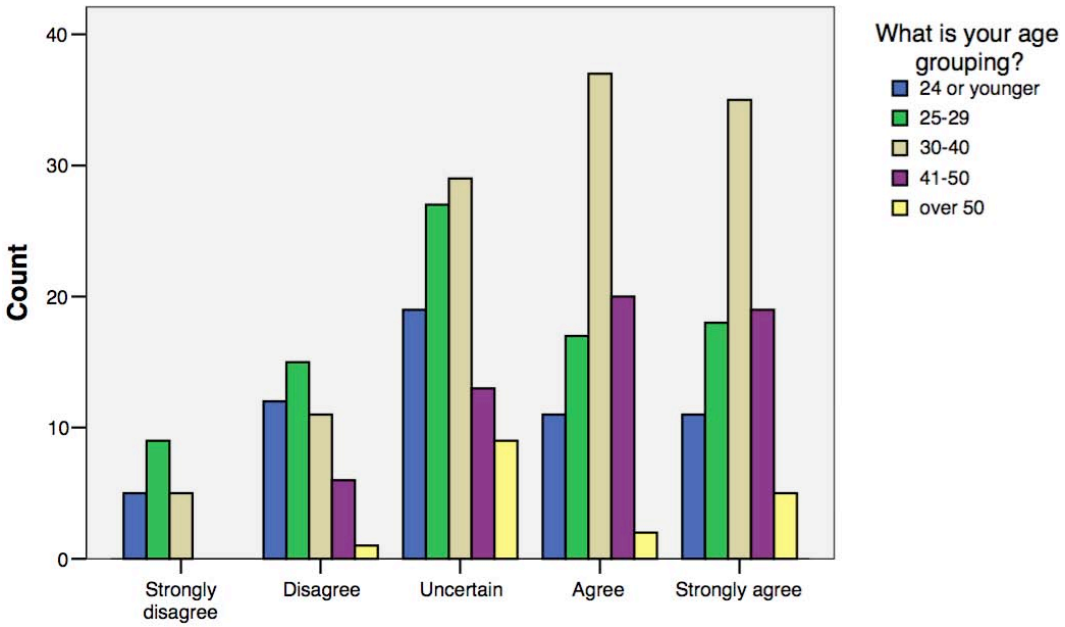


Figure 14: University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

That the study at an Open University is especially of advantage to adults who have work and family obligations is rated independently of the age group.

5.2 Influence of Gender

The complete results of the cross-tabulation of variable Gender with the technology related items are presented in Annex B.6. In the section we only discuss those items that show a significant dependence of the gender of the respondents.

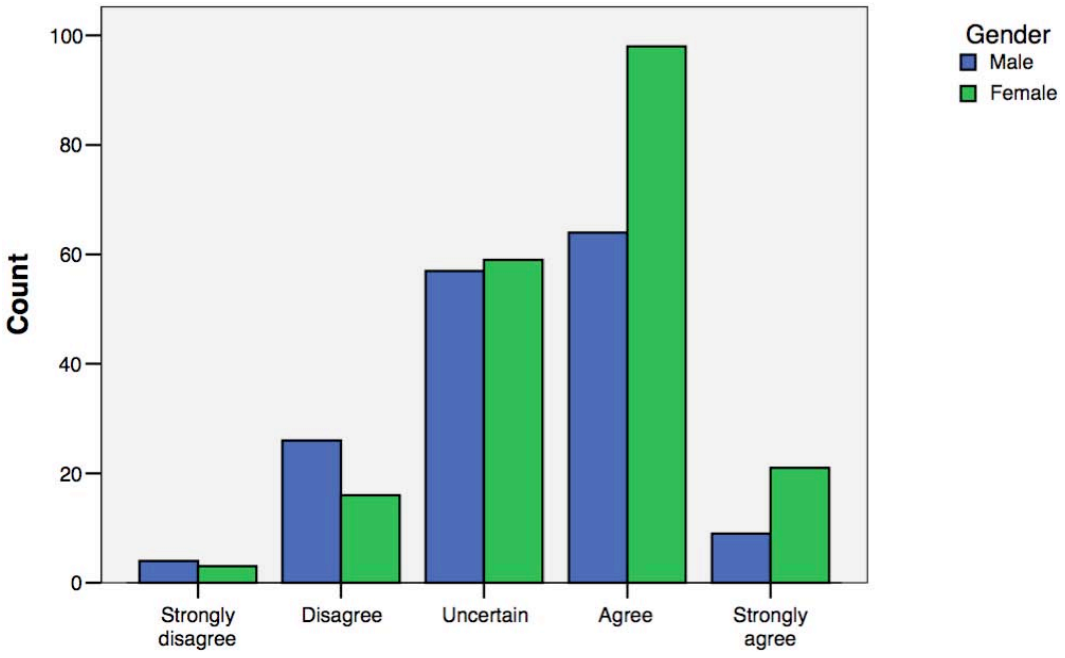


Fig. 15: Thanks to technology, the problems of access to learning for students with disabilities have been resolved

Our study reveals that:

- more male than female respondents *use advanced technological equipment in their professional life* (Item 5);
- more female respondents believe that *the problems of access to learning for students with disabilities have been resolved thanks to technology* (Item 7, see Fig 14);
- more female respondents believe that *online communication allows increased amounts of communication between teachers and students when compared with other forms of education* (Item 9);
- more female respondents believe that *ICT has usually been used to encourage us to be active participants in learning* (Item 12);
- more female respondents are convinced that *educational games motivate learners and contribute to developing skills such as teamwork* (Item 16); and, finally,
- more female respondents strongly agree that *the application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education* (Item 17).

In summary, it seems that females have a more positive attitude toward the impact of ICT on learning in both traditional face-to-face and distance education.

5.3 Influence of Level of Education

Again, the influence of the level of education on the respondents' attitudes will be discussed only when a significant.

The complete set of analysis results is detailed in Annex B.7.

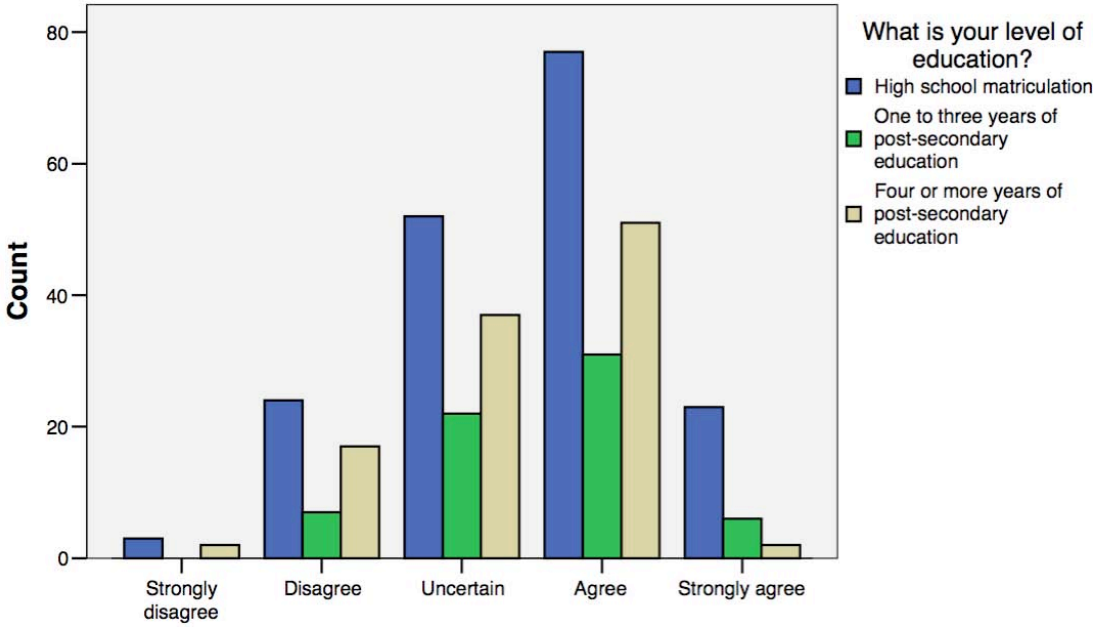


Fig. 16: ICT has usually been used to encourage us to be active participants in learning

Significant dependencies on the level of education we detected include:

- more people with high school matriculation than others strongly believe that *information and communication technology has usually been used to encourage us to be active participants in learning* (Item 12, see also Fig. 16);
- the same group is also more positive than others about the claim that *information and communication technology has been used to support the development of higher level thinking skills such as synthesis and problem solving* (Item 13).

5.4 Influence of Occupation

The following dependencies have been detected:

- Managers and technical staff, somewhat less students as well, use more *advanced technological equipment in their professional life* than other groups (Item 5);
- Students have a more negative attitude to believe that *the problems of access to learning for students with disabilities have been resolved thanks to technology* (Item 7);
- Manager and retired persons have a more positive attitude than teachers and students towards Item 8 (*contacts between students and teachers can have the same intensity in online education as in face-to-face education*);
- Managers and teachers are more positive than technical staff and students about the claim (Item 9): *Online communication allows increased amounts of communication between teachers and students when compared with other forms of education* (see also Table 6);
- Students have a more positive attitude than managers concerning the statement (Item 10): *Only optimistic people think that the impact of technology on learning is beneficial*;
- *Information and communication technology has usually been used to encourage us to be active participants in learning* (Item 12) believe teachers and students more than other occupational groups;
- the same groups are also more positive than others about the statement in Item 13: *ICT has been used to support the development of higher level thinking skills such as synthesis and problem solving*;
- Teachers and students also believe more than other occupational groups that *educational games motivate learners and contribute to developing skills such as teamwork* (Item 16);
- Teachers have a more positive attitude than students against the claim (Item 17); *The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education*;
- Teachers and technicians are more positive than students about Item18: Technology facilitates easier access to material for those studying part-time;

- University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities (Item 19) is viewed more negatively by teachers and students than by retired people; finally,
- Students are a bit more pessimistic that the Study at an Open University is especially of advantage to adults who have work and family obligations.

Table 6: Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

			What is	
			Other (e.g. retired)	Total
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Strongly disagree	Count	1	17
		Expected Count	2,5	17,0
	Disagree	Count	12	89
		Expected Count	13,3	89,0
	Uncertain	Count	7	77
		Expected Count	11,5	77,0
	Agree	Count	22	131
		Expected Count	19,6	131,0
	Strongly agree	Count	11	41
		Expected Count	6,1	41,0
Total		Count	53	355
		Expected Count	53,0	355,0

6 SPEARMAN'S RHO CALCULATION

To determine the linear relationship between different variables, we also applied Spearman's rank correlation coefficient as a non-parametric measure of correlation. This coefficient allows us to correlate two ordinal variables.
In the analysis, we applied it to all the items. It gives us the direction of the relationship (positive or negative) and its strength. The significant values have a flag in the table presented Annex B.9. The strength of the coefficient is interpreted according to (Muij, 2003, p. 145):

0. +/- 1	weak
0. +/- 3	modest
0. +/- 5	moderate
0. +/- 8	strong
over 0. +/- 8	very strong

The direction of the correlation indicates whether both variables increase their values (positive) or one increases when the other decreases (negative).

It is important to remember that the fact that two variables are related to one another does not necessarily mean that one is the cause of the other. Furthermore, the Spearman's Rho is a rank-order coefficient for ordinal variables. This means that when we use the terms "to increase/decrease" or "more/less" we are not referring to proper measurable "quantities" on a continuous scale, but only to a higher or a lower position in a rank-order.

Therefore, the most relevant results of the analysis are the following:

The answers to the questions about the *"impact of information and communications technologies (ICT) on learning in general"* (items 7-16) are – as far as the answers are significant – positively correlated. For items 11 to 16 even a positively moderate correlation was found significant for each combination of items. Whoever had a positive attitude towards at least one claim about the impact of ICT on learning, exhibited a positive tendency towards the other items, too.

The following correlations are of particular interest:

- An agreement to the claim "*contacts between students and teachers can have the same intensity in online education as in face-to-face education*" (item 8) is moderately positively correlated an agreement to the claim in item 9 *"online communication allows increased amounts of communication between teachers and students when compared with other forms of education"* (rho = 0.454; Sig. = 0.000).
- Respondents who agree based on their personal experience with the statement that *"the impact of technology on learning is valuable"* (item 11) also tend to support the thesis of item 15 that *"learning is enhanced when text and pictures are integrated in a multimedia environment"* (rho = 0.327; Sig. = 0.000).
- Responses to item 12 *"ICT has usually been used to encourage students to be active participants in learning"* and item 13 *"ICT has been used to support the development of higher level thinking skills such as synthesis and problem solving"* are moderately positively correlated (rho = 0.396; Sig. = 0.000).

- Answers to item 15 that *"learning is enhanced when text and pictures are integrated in a multimedia environment"* are moderately positively correlated to answers to item 16, which states that *"educational games motivate learners and contribute to developing skills such as teamwork"* (rho = 0.317; Sig. = 0.000).

We also found moderately positive correlations between the answers to the items in section *"impact of ICT on learning in open and distance universities"* of the questionnaire (items 17-21), provided significance was provable:

- Responses to the claim that "*university degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities*" (item 19) and the claim that *"there is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university"* (item 20) are strongly, i.e., for the respondents a comparable degree coincides with an undistinguishable study success (rho = 0.614; Sig. = 0.000).
- The agreement with the idea that *"technology facilitates easier access to material for those studying part-time"* (item 18) is moderately positively correlated to an agreement with item 17 that *"the application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education"* (rho = 0.443; Sig. = 0.000).
- The responses to items 17 that *"the application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education"*, item 18 that *"technology facilitates easier access to material for those studying part-time"*, and item 19 that "*university degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities"* are moderately positively correlated to the agreement with item 21 that the *"study at an Open University is especially of advantage to adults who have work and family obligations"* (rho = 0.358, rho = 0.336, and rho = 0.328, respectively, with Sig. = 0.000 in all cases).

Significant results provided, we also only found moderately positively correlated answers to items in the groups *"impact of ICT on learning in general"* (items 7-16) and *"impacts of ICT on learning at open and distance universities"* (items 17-21). However, an exception was the correlation between the responses to item 16 *"educational games motivate learners and contribute to developing skills such as teamwork"* and item 19, which says that "*university degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities"*. The answers to these two items are the only moderately negatively correlated statements about the impacts of ICT among each other (rho = -0.120; Sig. = 0.029). Respondents who consider educational games as motivating rather negate the comparability of degrees awarded by open universities and traditional face-to-face universities.

Another observation related to these two item groups includes:

- The agreement to item 9 *"online communication allows increased amounts of communication between teachers and students when compared with other forms of education"* is moderately positively correlated to the agreement to item 19 "*university degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities"* (rho = 0.314; Sig. = 0.000).

Conclusions about correlations between responses to impact items and age groups need to be drawn carefully. The results according to Spearman suggest the following observation:

- The age grouping is moderately negatively correlated with the *frequency of change of the way of working due to technological developments* (item 6), i.e., older respondents showed more need for change because of technological innovations (rho = -0.221; Sig. = 0.000).
- The age grouping is moderately negatively correlated with the agreement to the idea that "*ICT has been used to support the development of higher level thinking skills"* (item 13), i.e., older respondents showed more agreement with this perspective (rho = -0.215; Sig. = 0.000).
- The age grouping is moderately positively correlated with the agreement to the idea that "*university degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities"*, i.e. younger respondents showed more agreement with this comparison (rho = -0.212; Sig. = 0.000).
- The age grouping is moderately positively correlated with the agreement to the idea that *studying at an Open University is especially of advantage to adults who have work and family obligations*, i.e., younger respondents showed more agreement with this assumption (rho = -0.203; Sig. = 0.000).

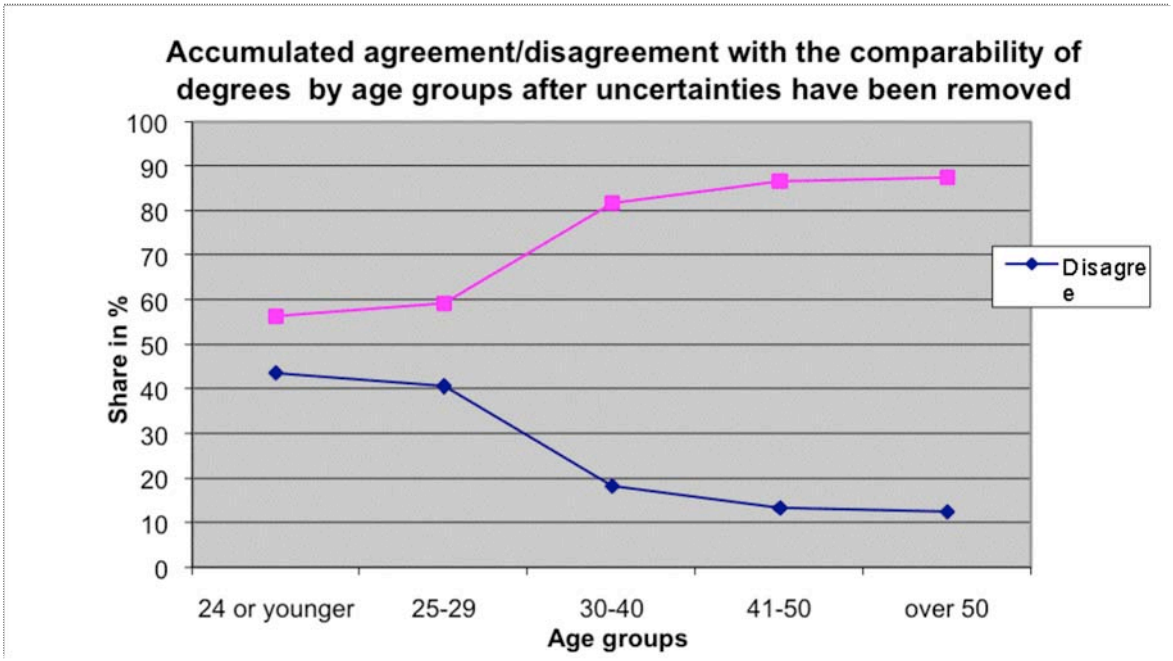


Fig. 17: Attitudes towards the comparability of degrees awarded by open universities and traditional face-to-face universities

Let us look closer at the second but last conclusion, which is also visualised in Fig. 17:

The computation of correlations according to Spearman yields the following result: the younger the respondents are, the higher is the agreement with item 19, namely that "*university degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities*. However, if we compare the relative agreement or disagreement about the comparability of degrees broken down to age groups, not considering indifferent responses, exactly the opposite result can be deduced. We presume that Spearman's rho calculation produces a different result because of a relatively high amounts of respondents beyond 50 who have no opinion to this item (more than 50% of this age group

are indifferent with just 17 participants, while the other age groups only exhibit 22.4% - 32.8% indifferent positions on this item).

Eve though Spearman's calculation suggest a significantly moderate correlation, we suspect that it is strongly influenced by the age group over 50 and we assume that other observations would result if this group would be left out in the computation.

The pure data analysis of this test is shown in Annex B.9.

7 FREQUENCIES

We have also calculated the count for each variable considering the answers of all respondents.

Figure 17 just depict the frequencies for Item 5. The complete computation result is presented in Annex B.10 including counts, percentages and further bar charts.

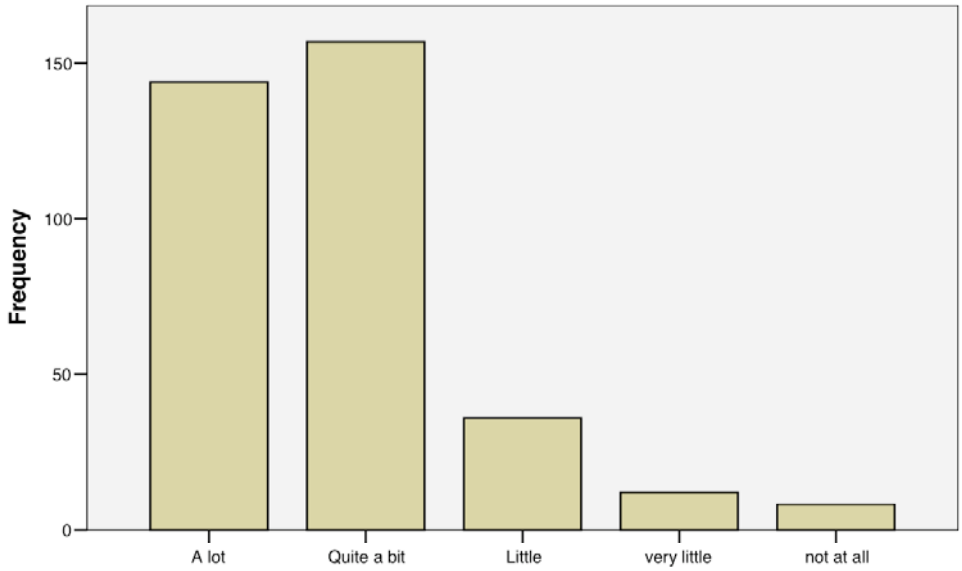


Fig. 18: To what extent have you used advanced technological equipment in your professional life?

Some insights into these data are summarised below:

- most participants (more than 80%) *frequently use advanced technological equipment in their professional life*;
- a large percentage of respondents (more than 70%) have experienced that they *needed to change their way of working because of technological advances*;
- 50% of the sample believes that *the problems of access to learning for students with disabilities have been resolved thanks to technology*, as opposed to only a small portion (around 10%) that disagrees.
- nearly 60% disagree with the claim that *contacts between students and teachers can have the same intensity in the education as in face-to-face education*, but only around 30% agree with it.
- nearly half of the sample agrees that *online communication allows increased amounts of communication between teachers and students when compared with other forms of education,* while around 30% disagree with this statement;
- nearly 60% disagree with the negative statement that *only optimistic people think that the impact of technology on learning is beneficial* and only around 20% agree;

- a large portion of samples (nearly 80%) agrees *based on personal study experiences* that *the impact of technology on learning is valuable for their personal study*.

- more than half of the population agrees that *information and communication technology has usually been used to encourage us to be active participants in learning* with only a small portion (around 15%) disagreeing;

- more than 50% agree that *ICT has been used to support the development of higher level thinking skills such as synthesis and problem solving,* while only around 20% disagree with this;

- again more than 50% agree that *ICT has been used to support more individualized learning programs tailored to our own individual needs*, around 20% disagree;

- a majority of respondents (around 80%) *agree that learning is enhanced when text and pictures are integrated in a multimedia environment*;

- around 70% agree *that educational games motivate learners and contribute to developing skills such as teamwork*;

- most users (approx. 75%) agree that *the application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education*;

- nearly all respondents (around 90%) agree that *technology facilitated easier access to material for those studying part-time;*

- around 50% agree that *university degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities;* disagreement ranges at 25%;

- no agreement can be determined on the claim: *There is no difference in learning outcomes between studying at an Open university or at a traditional face-to-face university*;

- that *the study at an Open University is especially of advantage to adults who have work and family obligations is shared,* however by an overwhelming percentage of respondents (around 90%).

8 VARIANCE ANALYSIS (ANOVA)

The analysis of variances (ANOVA) allows us to compare the mean score of an ordinal variable (with many scale points) between different groups. The analysis works by comparing the spread (variance) of the group means with the spread of values within the groups.

In ANOVA we can use one or more independent variables but they all have to be nominal or ordinal. If the independent variables have more than five groups, ANOVA quickly starts to loose its power to discriminate between them.

ANOVA uses a test (the F-test) to determine whether there are significant differences between the means of the groups. A cut off point of < 0.05 used as a rule of thumb to determine whether or not our relationship is significant. The F-test is a global test, which means that if we find a significant difference (p-value < 0.05), all we know is that overall there is a significant difference somewhere in the comparisons between the groups (Muijs, 2003, p. 185-200).

The test we used here to find out which comparisons are significantly different is the Scheffe test. A significance level (p-value) is calculated for each test. For example, in the document in Annex B.11, we have a significant p-value from the F-test for the question "*Contacts between students and teachers can have the same intensity in online education as in face-to-face education*" (value $0.015 < 0.05$). This means that we have a significant difference somewhere between the groups. As we can see in the Post Hoc Tests, in the row of the same question at the column labelled 'Sig.', we have a p-value of 0.036, which means that it is highly significant; so it is likely that the associated group (41-50) differ significantly from the age group 25-29.

Another, more significant example could be the one related to the question *"Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving"*: here the group 24 and younger is significantly different from all the others groups.

Annexes B.11-B13 presents the results of the ANOVA test applied to variables Age, Education and Occupation, respectively.

9. CONCLUSIONS

This study has confirmed that it is generally accepted that the use of technology in higher distance education is beneficial for the student population at large and for special needs students in particular. We found that there is no significant difference in the judgement of participants with or without experience in learning at an open or distance university that the use of technology in distance education can overcome several disadvantages of this study model including impeded interaction between tutors and students, indirect communication, or reduced opportunities for social interaction. A large majority of participants in the study agrees that ICT facilitates easier access to material for those studying part-time (90%) and the application of ICT to support learning and teaching and providing Internet access to student administrative processes has improved distance education (75%). Multimedia environments are considered to provide a high benefit for teaching and learning in open and distance universities. 80% of the population agrees that learning is enhanced when text and pictures are integrated in a multimedia environment. On the contrary, while still being the majority, only 50% participants agree that ICT was used to provide individualized learning programmes.

Our hypotheses that it is generally accepted that the education provided by open university compares with that of campus universities and the degrees awarded by open universities are equally well recognized as those awarded by traditional campus universities was not fully confirmed. While most participants (90%) believe that study at an Open University is especially advantageous to adults who have work and family obligations, the study quality at such institutions has not been well recognized. Among the participants, no agreement has been reached on whether there is a difference in learning outcomes between studying at an Open University or at a traditional face-to-face university. Although a small majority of participants supports the claim that university degrees awarded by open universities are comparable to degrees from traditional face-to-face universities, it is important to notice that the negative opinions mainly came from teachers and students. In particular, participants under 30 have a more negative attitude as opposed to participants in the age category 30-50. Further research would be required to ascertain if this is down to personal experience as younger people are more inclined to attend conventional universities. In any case open and distance universities seem to have a marketing problem with respect to the quality of the degrees they award.

LITERATURE

M.W. Allen (2003). *Michael Allen's Guide to E-Learning: Building Interactive, Fun, and Effective Learning Programs for Any Company*, Wiley.

P. Baumgartner, H. Häfele, K. Maier-Häfele (2002). *E-Learning Praxishandbuch: Auswahl von Lernplattformen. Marktübersicht - Funktionen - Fachbegriffe*. Innsbruck-Wien, StudienVerlag. (in German)

R. Goodman (2007). Cell Respiration: A Computer Based Laboratory, http://www.accessexcellence.org/AE/AEC/AEF/1995/goodman_respiration.html

Desmond Keegan (1990). *Foundations of distance education: Frameworks for the future*, First, London: Routledge.

Lesli Kish (1987). *Statistical Design for Research*. New York: John Wiley & Sons

V. Kumar (1996). Computer-Supported Collaborative Learning: Issues for Research, http://www.sfu.ca/~vivek/personal/papers/CSCLIssuesForResearchRevised.pdf

LAMS International (2007). Learning Activity Management System, http://www.lamsinternational.com/product/support.html

R. Schröder, D. Wankelmann (2002). *Theoretische Fundierung einer e-Learning-Didaktik und der Qualifizierung von e-Tutoren*. Leonanrdo project 112417 European e-Tutor, Universität Paderborn, http://www.rudolf-schroeder.de/download/p-etutor-1d.pdf

Daniel Muij (2003). *Doing Quantitative Research in Education with SPSS*. London: Sage

WCET (Western Cooperative for Educational Telecommunications, 2007). Edu tools: Product Reviews and Comparison, http://www.edutools.info/

Final Report of WP 3

ANNEXES

A.1 Multiple Language Version of the Questionnaire used in WP3

The original English questionnaire "***Impact of technology on learning in Open Universities, distance education systems both academic and corporate***" was translated in the languages of the intervention and control groups.

A.1 English original

Personal background

1. What is your occupation?

- ☐ Manager
- ☐ Technical
- ☐ Teacher or trainer
- ☐ Student
- ☐ Unemployed

2. What is your age grouping?

- ☐ 24 or younger
- ☐ 25-29
- ☐ 30-40
- ☐ 41-50
- ☐ over 50

3. Gender?

- ☐ Male
- ☐ Female

4. What is your level of education?

- ☐ High school matriculation
- ☐ One to three years of post-secondary education
- ☐ Four or more years of post-secondary education

5. To what extent have you used advanced technological equipment in your professional life?

- ☐ A lot
- ☐ Quite a bit
- ☐ Little
- ☐ Very little
- ☐ Not at all

6. Have you had to change your way of working because of technological developments?

- ☐ Yes. More than once
- ☐ Yes. Once
- ☐ No

Questions on the impact of information and communications technologies (ICT) on learning in general

7. Thanks to technology, the problems of access to learning for students with disabilities have been resolved

- ☐ Strongly agree
- ☐ Agree
- ☐ Uncertain
- ☐ Disagree
- ☐ Strongly disagree

8. Contacts between students and teachers can have the same intensity in online education as in face-to-face education

- ☐ Strongly agree
- ☐ Agree
- ☐ Uncertain
- ☐ Disagree
- ☐ Strongly disagree

9. Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

- ☐ Strongly agree
- ☐ Agree
- ☐ Uncertain
- ☐ Disagree
- ☐ Strongly disagree

10. Only optimistic people think that the impact of technology on learning is beneficial

- ☐ Strongly agree
- ☐ Agree
- ☐ Uncertain
- ☐ Disagree
- ☐ Strongly disagree

11. From my personal study experience I find that the impact of technology on learning is valuable

- ☐ Strongly agree
- ☐ Agree
- ☐ Uncertain
- ☐ Disagree
- ☐ Strongly disagree

12. Information and communications technology has usually been used to encourage us to be active participants in learning

- ☐ Strongly agree
- ☐ Agree
- ☐ Uncertain
- ☐ Disagree
- ☐ Strongly disagree

13. Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

- ☐ Strongly agree
- ☐ Agree

- Uncertain
- Disagree
- Strongly disagree

14. Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

15. Learning is enhanced when text and pictures are integrated in a multimedia environment

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

16 Educational games motivate learners and contribute to developing skills such as teamwork

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

Questions on the impact of information and communications technologies (ICT) on learning in Open Universities

17. The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

18. Technology facilitates easier access to material for those studying part-time

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

19. University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

20. There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

21. Study at an Open University is especially of advantage to adults who have work and family obligations

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

Работен пакет 3.

Влияние на технологията върху обучението в отворените университети в системите за дистанционно обучение, както академични, така и корпоративни

Лични данни

1	С какво се занимавате?	1	2	3	4	5

5. Мениджър; 4. Инженер или техник; 3. Преподавател или възпитател; 2. Студент; 1. Безработен

2	Възрастовата ви група?	1	2	3	4	5

5. 24 или по-млад; 4. 25-29; 3. 30-40; 2. 41-50; 1. Над 50

3	Пол?	1	2			

2. Мъж; 1. Жена

4	Ниво на образование?	1	2	3		

3. Зачислен във висше училище; 2. Една до три години след-гимназиално (следдипломно?) обучение; 1. четири и повече години след-гимназиално обучение

5	До каква степен сте използвали модерно технологично оборудване във вашия професионален живот?	1	2	3	4	5

5. Много; 4.Достатъчно; 3. Малко; 2. Много малко; 1. Съвсем не

6	Променяли ли сте вашия стил на работа поради технологичното развитие?	1	2	3		

3. Да. Повече от един път; 2. Да. Един път; 3. Не

Въпроси относно влиянието на информационните и комуникационни технологии (ICT) върху обучението изобщо

Моля, изразете до каква степен твърденията по-долу съвпадат с вашето мнение като използвате следната скала:
5 = Напълно съгласен
4 = Съгласен
3 = Нито съгласен нито несъгласен (не мога да определя)
2 = Несъгласен
1 = Напълно несъгласен

7	Благодарение на технологиите проблемът за достъпа на студенти с увреждания е напълно решен	1	2	3	4	5
8	Контактите между студенти и преподаватели може да имат същата интензивност при online (дистанционното) обучение, както и при обучението в клас	1	2	3	4	5

9	Online комуникацията позволява нарастване на обема на комуникациите между студенти и преподаватели в сравнение с останалите форми на обучение	1	2	3	4	5
10	Само оптимистично настроените хора смятат, че влиянието на технологиите върху обучението носи полза	1	2	3	4	5
11	От моя личен опит в обучението намирам, че влиянието на обучението върху технологиите е значимо	1	2	3	4	5
12	Информационните и комуникационни технологии обикновено се използват за да ни насърчават да бъдем активни участници в обучението	1	2	3	4	5
13	Информационните и комуникационни технологии се използват да поддържат развиването на високоинтелигентни умения, такива като *синтез* и *решаване на проблеми*	1	2	3	4	5
14	Информационните и комуникационни технологии се използват да поддържат по-индивидуализирани учебни програми, разработени според нашите лични нужди	1	2	3	4	5
15	Ученето се подобрява, когато текст и фигури (картинки) се интегрират в една мултимедийна среда	1	2	3	4	5
16	Обучаващите игри мотивират обучаемите и допринасят за развиване на умения за работа в екип	1	2	3	4	5

Въпроси относно влиянието на информационните и комуникационни технологии (ICT) върху обучението в отворените университети

17	Приложението на новите ICT концепции за поддръжка на ученето и преподаването и осигуряване на Интернет достъп до студентските административни процеси е подобрило дистанционното обучение	1	2	3	4	5
18	Технологиите улесняват достъпа до материалите за тези, които учат задочно	1	2	3	4	5
19	Университетските дипломи от отворените университети са сравними с тези от традиционните университети с редовно класно обучение	1	2	3	4	5
20	Няма разлика в резултатите, получени при обучение в отворен университет и традиционен университет с редовно класно обучение	1	2	3	4	5
21	Ученето в отворен университет има специално преимущество за възрастни, които имат професионални и семейни задължения	1	2	3	4	5

Final Report of WP 3

A.3 German Version

The questionnaire for the intervention group was published online.

A.3.1 Email Sent to FernUniversität Students

On behalf of the German partner May 7, 2007, FernUniversität's Student Office sent out an email to 1500 students selected from FernUniversität's student database with the following content:

Von: "Studierendensekretariat" <Studierendensekretariat@FernUni-Hagen.de>
Betreff: **Befragung zu den Auswirkungen des Einsatzes Neuer Medien und der IuK-Technik auf das Fernstudium**
Datum: 7. Mai 2007 15:06:01 Uhr MESZ
An: <stud-info@FernUni-Hagen.de>
Antwort an: <Bernd.Kraemer@FernUni-Hagen.de>

Liebe Fernstudierende,

im Rahmen eines zweijährigen EU-Projekts erforschen wir europaweit aus verschiedenen Perspektiven die Auswirkungen des Einsatzes Neuer Medien und der IuK-Technik auf das Studium an Hochschulen. Die erste Befragung untersucht das Thema aus der Perspektive von Fernstudierenden. Studierende von Präsenzuniversitäten in Bulgarien, Irland, Italien und Ungarn sind als Kontrollgruppen ebenfalls an der Befragung beteiligt.

Der Online-Fragebogen wird bis Ende Mai 2007 für Sie unter der URL

https://evu.fernuni-hagen.de/mrlWeb/mrlWeb.dll?f.Project=dvtprojekt

bereitgehalten. Ich möchte Sie herzlich bitten, den Fragebogen mit 21 Fragen auszufüllen. Sie müssen dafür etwa 10 Minuten Zeit einplanen. Um Ihr Engagement noch etwas zu beflügeln, werden unter den Teilnehmerinnen und Teilnehmern fünf amüsante Zukunftsromane des international bekannten Informatikers Prof. Hermann Maurer verlost. Wenn Sie an der Verlosung teilnehmen möchten, müssen Sie über den Fragebogen Ihre E-Mailadresse hinterlegen.

Die Ergebnisse werden nach Abschluss der europaweiten Befragung wissenschaftlich ausgewertet und in englischer Sprache bis spätestens Ende September 2007 veröffentlicht. Einen Hinweis auf die Veröffentlichung des Berichts und einen Verweis auf die PDF-Quelle können Sie dann auf der Webseite meines Lehrgebiets in der Rubrik „Aktuelles" und auch auf der Startseite finden:

http://www.dvt.fernuni-hagen.de/

Die Befragung wird freundlicherweise von der Stabsstelle für Evaluation und Qualitätssicherung der FernUniversität durchgeführt. Sie können versichert sein, dass die Vertraulichkeit Ihrer Angaben uneingeschränkt gewahrt wird und die Daten anonym bleiben. Bei Rückfragen zur Befragung wenden Sie sich bitte an den Projektleiter, Prof. Dr.-Ing. Bernd Krämer (Tel. ++49-(0)2331-987-371, E-Mail: bernd.kraemer@fernuni-hagen.de).

Mit freundlichen Grüßen

Prof. Dr. Bernd Krämer
(Lehrgebiet Datenverarbeitungstechnik, Fakultät für Mathematik und Informatik)

Antworten bitte an die Reply-To-Adresse.
Nachrichten an stud-info@fernuni-hagen.de werden nicht gelesen.

A.3.2 The Online Questionnaire

The welcome page of the German questionnaire provides information about the study, the estimated time to fill out the questionnaire and assures full anonymity and privacy.

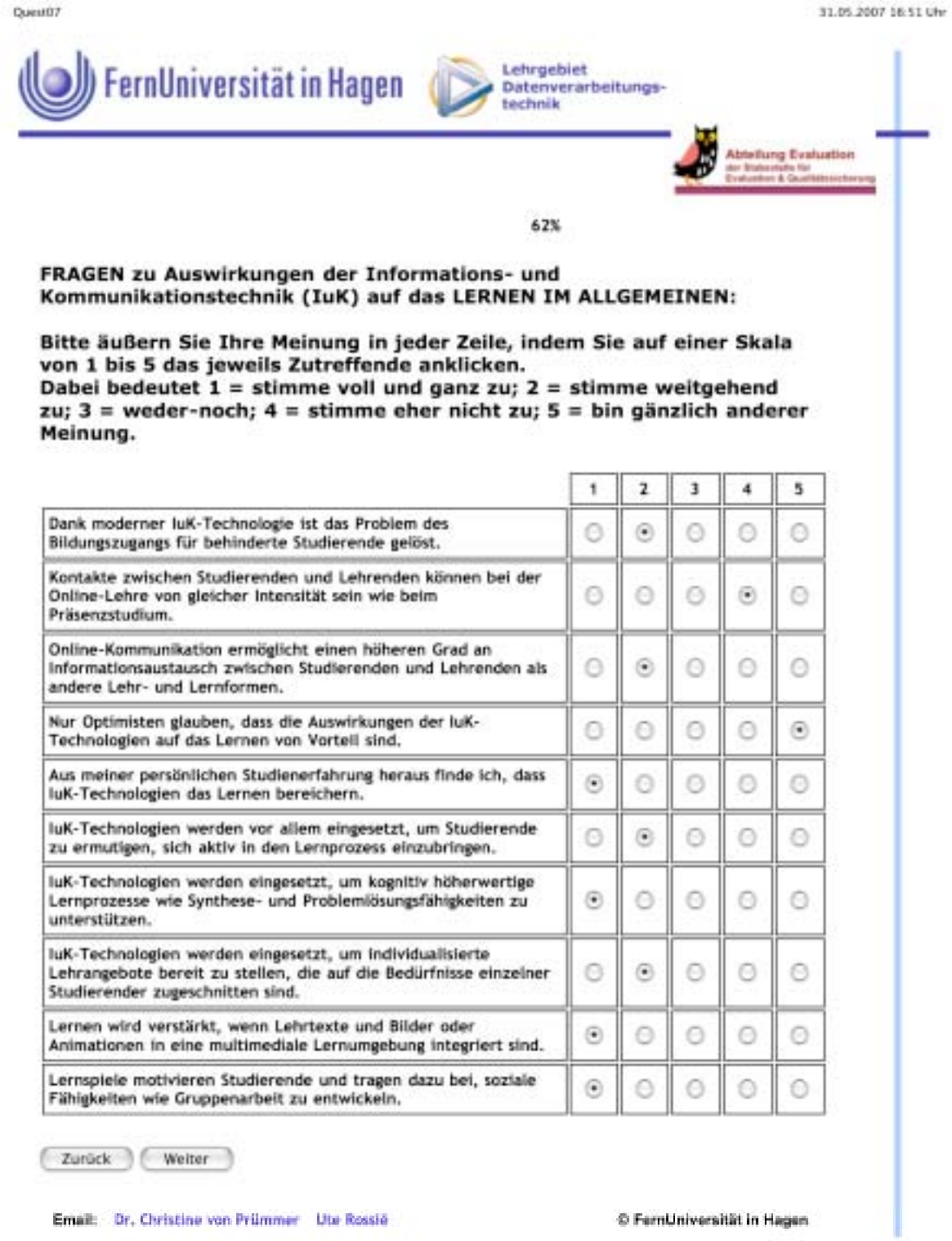
The next page announces a raffle of five science fiction books which can be entered by providing an email address. Again the user is assured that this personal information will only be used to enter the raffle and contact the winners.

Page 3 contains Item 1 about the respondent's occupation.

Item 2, 3 and 4 are covered on the next page.

The following page addresses Items 5 and 6 about personal experiences with technology innovation.

The next page shows a table with all items concerned with the impact of ICT on learning in general.



Quest07 31.05.2007 16:51 Uhr

FernUniversität in Hagen — Lehrgebiet Datenverarbeitungstechnik

Abteilung Evaluation der Stabsstelle für Evaluation & Qualitätssicherung

62%

FRAGEN zu Auswirkungen der Informations- und Kommunikationstechnik (IuK) auf das LERNEN IM ALLGEMEINEN:

Bitte äußern Sie Ihre Meinung in jeder Zeile, indem Sie auf einer Skala von 1 bis 5 das jeweils Zutreffende anklicken.
Dabei bedeutet 1 = stimme voll und ganz zu; 2 = stimme weitgehend zu; 3 = weder-noch; 4 = stimme eher nicht zu; 5 = bin gänzlich anderer Meinung.

	1	2	3	4	5
Dank moderner IuK-Technologie ist das Problem des Bildungszugangs für behinderte Studierende gelöst.	○	◉	○	○	○
Kontakte zwischen Studierenden und Lehrenden können bei der Online-Lehre von gleicher Intensität sein wie beim Präsenzstudium.	○	○	○	◉	○
Online-Kommunikation ermöglicht einen höheren Grad an Informationsaustausch zwischen Studierenden und Lehrenden als andere Lehr- und Lernformen.	○	◉	○	○	○
Nur Optimisten glauben, dass die Auswirkungen der IuK-Technologien auf das Lernen von Vorteil sind.	○	○	○	○	◉
Aus meiner persönlichen Studienerfahrung heraus finde ich, dass IuK-Technologien das Lernen bereichern.	◉	○	○	○	○
IuK-Technologien werden vor allem eingesetzt, um Studierende zu ermutigen, sich aktiv in den Lernprozess einzubringen.	○	◉	○	○	○
IuK-Technologien werden eingesetzt, um kognitiv höherwertige Lernprozesse wie Synthese- und Problemlösungsfähigkeiten zu unterstützen.	◉	○	○	○	○
IuK-Technologien werden eingesetzt, um individualisierte Lehrangebote bereit zu stellen, die auf die Bedürfnisse einzelner Studierender zugeschnitten sind.	○	◉	○	○	○
Lernen wird verstärkt, wenn Lehrtexte und Bilder oder Animationen in eine multimediale Lernumgebung integriert sind.	◉	○	○	○	○
Lernspiele motivieren Studierende und tragen dazu bei, soziale Fähigkeiten wie Gruppenarbeit zu entwickeln.	◉	○	○	○	○

Zurück Weiter

Email: Dr. Christine von Prümmer Ute Rossié © FernUniversität in Hagen

The table on the next page of the online questionnaire covers all items concerned with the impact of ICT on learning in open and distance universities.

Quest17 31.05.2007 16:52 Uhr

FernUniversität in Hagen — Lehrgebiet Datenverarbeitungstechnik

Abteilung Evaluation

75%

FRAGEN zu Auswirkungen der Informations- und Kommunikationstechnik (IuK) auf das LERNEN AN FERNUNIVERSITÄTEN:

Bitte äußern Sie Ihre Meinung in jeder Zeile, indem Sie auf einer Skala von 1 bis 5 das jeweils Zutreffende anklicken.
Dabei bedeutet 1 = stimme voll und ganz zu; 2 = stimme weitgehend zu; 3 = weder-noch; 4 = stimme eher nicht zu; 5 = bin gänzlich anderer Meinung.

	1	2	3	4	5
Der Einsatz neuer Medien und IuK-Technologien zur Unterstützung der Lehre und zur Bereitstellung von Internetzugängen für administrative Prozesse, die für Studierende von Belang sind, hat das Fernstudiensystem verbessert.	◉	○	○	○	○
IuK-Technologien erleichtern den Zugang zu Studienmaterialien für Teilzeitstudierende.	○	○	○	○	○
Universitätsabschlüsse, die von Fernuniversitäten vergeben werden, sind mit den von Präsenzuniversitäten verliehenen vergleichbar.	◉	○	○	○	○
Es gibt keinen Unterschied im Studienerfolg zwischen Absolventinnen und Absolventen von Fernuniversitäten und von Präsenzuniversitäten.	○	○	○	○	◉
Das Studium an einer Fernuniversität hat Vorteile besonders für Erwachsene, die hauptberuflich arbeiten oder Familienverpflichtungen übernehmen müssen.	◉	○	○	○	○

Zurück Weiter

Email: Dr. Christine von Prümmer Ute Rossié © FernUniversität in Hagen

The final page concludes the questionnaire and assures the respondents that the results of this study will published and be linked from our department website for access by interested students. It also states that the winners of the raffle will be informed early June, shortly after the termination of the questioning.

Info3 31.05.2007 16:52 Uhr

A.4 Hungarian Version

Impact Távoktatás kérd_ív

Ez a teszt az EU Impact projektjén belül kidolgozott, a technológia tanulásra gyakorolt hatásait vizsgáló kérd_ívsorozatának els_ része, mely a távoktatás keretein belül vizsgálja az infokommunikációs technológia szerepét.

Köszönjük a segítségét!

Általános kérdések

---

1. Mi a foglalkozása?

   - ☐ Vezet_ / menedzser
   - ☐ Alkalmazott
   - ☐ Oktató / tanár
   - ☐ Hallgató
   - ☐ Munkanélküli

2. Életkora?

   - ☐ 24 vagy fiatalabb
   - ☐ 25-29
   - ☐ 30-40
   - ☐ 41-50
   - ☐ 50 felett

3. Neme?

   - ☐ Férfi
   - ☐ N_

4. Legmagasabb iskolai végzettsége?

   - ☐ Középiskola
   - ☐ 1-3 évig tartó fels_fokú tanulmányok
   - ☐ 4 vagy több évig tartó fels_fokú tanulmányok

5. Milyen gyakran használ modern technikai eszközöket munkája/tanulása közben?

- ☐ Nagyon gyakran
- ☐ Gyakran
- ☐ Ritkán
- ☐ Nagyon ritkán
- ☐ Soha

6. Technológiaváltás miatt kellett már megváltoztatnia munkavégzési szokásait?

- ☐ Igen, többször
- ☐ Igen, egyszer
- ☐ Nem

Kérdések az infokommunikációs technológia (ICT) tanulásra gyakorolt általános hatásairól

---

7. ICT és a tanulás

	Teljesen egyetértek				Egyáltalán nem értek egyet	
	1	2	3	4	5	Nem válaszol
A technológiának köszönhet_en a fogyatékkal él_k oktatáshoz való hozzáférésének problémái megoldódtak	☐	☐	☐	☐	☐	☉
A tanár-diák érintkezések intenzítása megegyezik az internetes (on-line) oktatásnál illetve az osztálytermi oktatásnál.	☐	☐	☐	☐	☐	☉
Az On-line (internet) kommunikációval segített tanulás más oktatási formákhoz képest több interakciót tesz lehet_vé az oktatók és a hallgatók között .	☉	☐	☐	☐	☐	☐
Csak az optimista emerek gondolják, hogy a technikai fejl_dés az oktatásban haszonnal jár.	☐	☐	☐	☐	☐	☉
Saját tanulmányaim alapján úgy gondolom, hogy technikának értékes hatása van a tanulásra.	☐	☐	☐	☐	☐	☉
Az infokommunikációs technológia általában az oktatásban való aktívabb részvételre ösztönöz.	☐	☐	☐	☐	☐	☉

Az infokommunikációs technológiát a magasabb szint_ gondolkodás, mint a szintetizálás vagy a problémamegoldás, fejlesztésének támogatására használják	☐	☐	☐	☐	☐	☉
Az infokommunikációs technológiát az egyéni szükségleteink szerint személyreszabott képzési programok támogatásához használják.	☐	☐	☐	☐	☐	☉
Ha szöveget és képeket integrálunk multimédia környezetbe, akkor azzal növeljük az oktatás értékét.	☐	☐	☐	☐	☐	☉
Játékok alkalmazása motiválja a tanulókat és segíti olyan képességek kialakulását mint a csoportmunka.	☐	☐	☐	☐	☐	☉

Kérdések az ICT hatásáról a távoktatásban

8. ICT a távoktatásban

	Teljesen egyetértek			Egyáltalán nem értek egyet		
	1	2	3	4	5	Nem válaszol
Új ICT koncepciók alkalmazása a tanulásban és az oktatásban, valamint a hallgatói adminisztráció interneten való elérése javítja a távoktatást.	☐	☐	☐	☐	☐	☉
A nem nappali hallgatók számára a tananyagok elérése egyszer_bb ICT segítségével.	☐	☐	☐	☐	☐	☉
A távoktatáson keresztül szerzett diploma egyenérték_ a nappali tagozaton szerzett végzettséggel.	☐	☐	☐	☐	☐	☉
Nincs különbség a tanulás eredménye között a távoktatási illetve a nappali fels_oktatási programoknál	☐	☐	☐	☐	☐	☉
A távoktás különösen jó annak, akinek már családja illetve munkahelye van.	☐					

Informazioni personali

1. Qual è il tuo lavoro?

❑$_1$ Professionista/Dirigente
❑$_2$ Tecnico
❑$_3$ Insegnante/Istruttore
❑$_4$ Studente
❑$_5$ Disoccupato

2. Età.

❑$_1$ 24 anni o meno
❑$_2$ 25-29 anni
❑$_3$ 30-40 anni
❑$_4$ 41-50 anni
❑$_5$ oltre i 50 anni

3. Sesso.

❑$_1$ Maschio
❑$_2$ Femmina

4. Qual è il tuo livello di istruzione?

❑$_1$ Laurea o titolo equivalente
❑$_2$ Da uno a tre anni di specializzazione post lauream
❑$_3$ Quattro o più anni di specializzazione post lauream

5. In che misura utilizzi attrezzature tecnologicamente avanzate nella tua attività professionale?

❑$_1$ Molto
❑$_2$ Abbastanza
❑$_3$ Poco
❑$_4$ Molto poco
❑$_5$ Per nulla

6. Hai mai dovuto cambiare il tuo modo di lavorare a causa degli sviluppi tecnologici?

❑$_1$ Sì, più di una volta
❑$_2$ Sì, una volta
❑$_3$ No

Domande sull'impatto dell'Information and Communications Technology (ICT) sull'apprendimento in generale

Esprimi il tuo accordo o disaccordo con le affermazioni che seguono.

7. Grazie alla tecnologia sono stati risolti i problemi di accesso all'apprendimento delle persone con difficoltà percettive o motorie.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

8. I rapporti fra docenti e studenti possono avere la medesima intensità nell'educazione faccia a faccia e in quella in rete.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

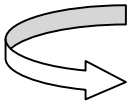
9. La comunicazione in rete consente di aumentare, rispetto ad altre soluzioni, l'intensità dei flussi di informazione fra docenti e allievi.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

10. Solo le persone ottimiste pensano che l'impatto della tecnologia sull'insegnamento sia vantaggioso.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

segue sul retro…



11. In una mia personale esperienza di studio ho riscontrato che l'impatto della tecnologia sull'insegnamento è di gran valore.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

12. L'ICT viene usata abitualmente per incoraggiarci ad essere partecipanti attivi nei processi dell'istruzione.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

13. L'ICT viene utilizzata per supportare lo sviluppo di abilità cognitive complesse di alto livello come la capacità di sintesi e la risoluzione di problemi.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

14. L'ICT viene utilizzata per supportare programmi di individualizzazione dell'istruzione in funzione dei bisogni individuali degli studenti.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

15. L'apprendimento è incentivato quando il testo e le immagini sono integrate in un ambiente multimediale.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

16 I giochi educativi motivano gli allievi e contribuiscono a sviluppare abilità come il lavoro di gruppo.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

Domande sull'impatto dell'ICT sull'istruzione nelle università a distanza

17. L'applicazione delle nuove tecnologie per il supporto all'insegnamento e l'uso di Internet ha migliorato l'istruzione a distanza.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

18. La tecnologia facilita l'accesso a materiali di studio per gli studenti lavoratori.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

19. Il livello raggiunto dalle università a distanza può essere paragonabile a quello delle università tradizionali.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

20. Non vi è differenza nei risultati dell'apprendimento ottenuti studiando in una università a distanza e in una tradizionale.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

21. Frequentare una università a distanza rappresenta un vantaggio particolarmente per gli adulti che lavorano e hanno impegni familiari.

❑$_1$ molto d'accordo ❑$_2$ d'accordo ❑$_3$ incerto ❑$_4$ in disaccordo ❑$_5$ molto in disaccordo

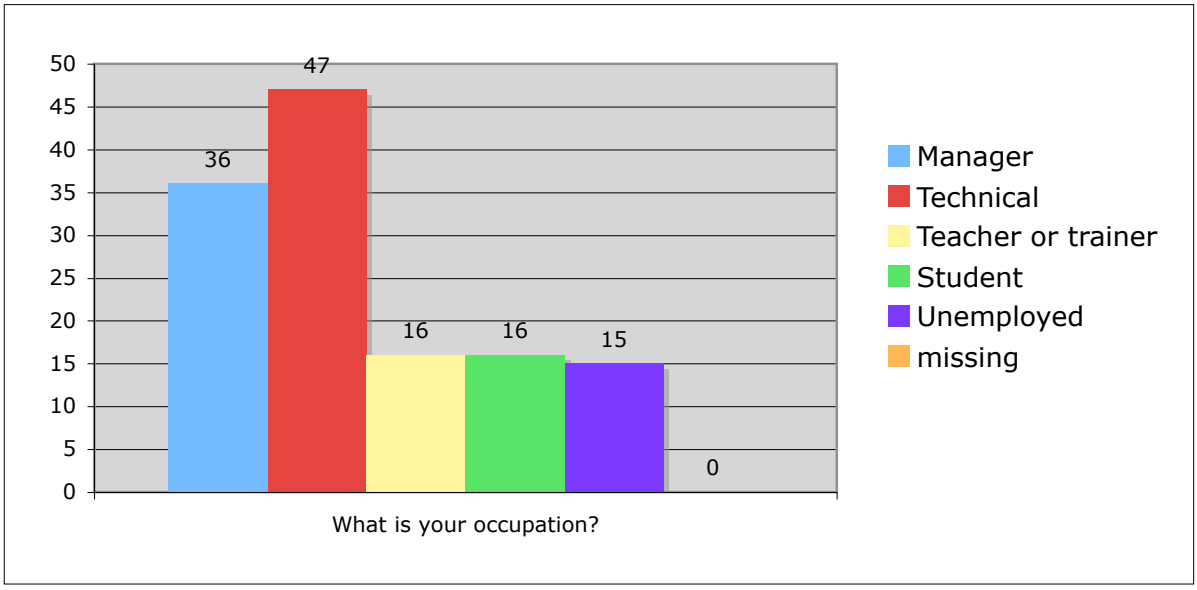
Grazie per la collaborazione!

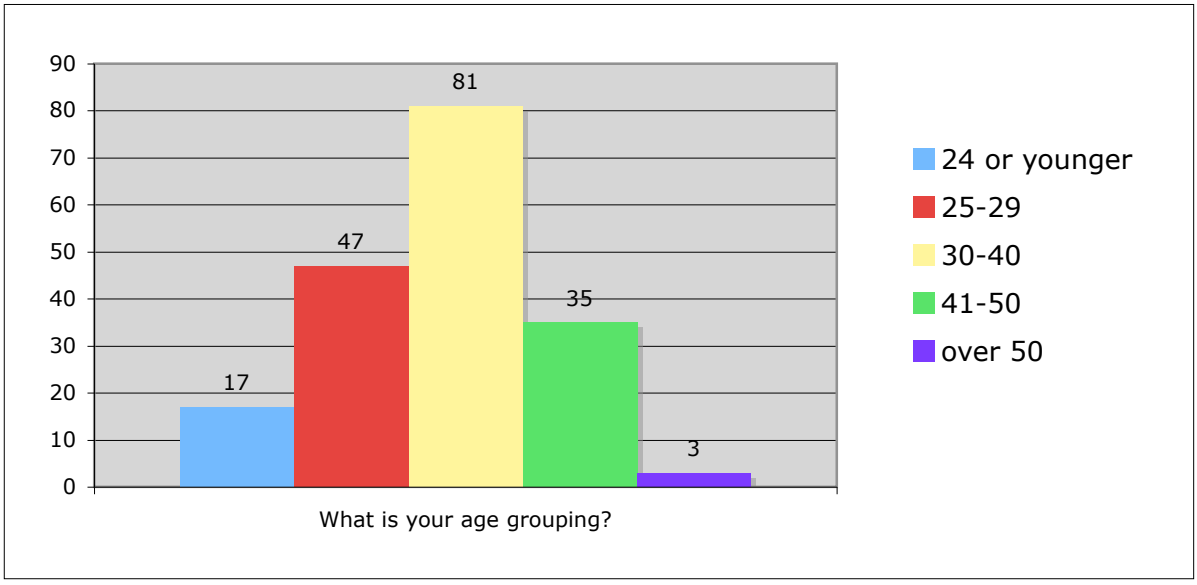
B.1 Descriptive Analysis of the Intervention Group

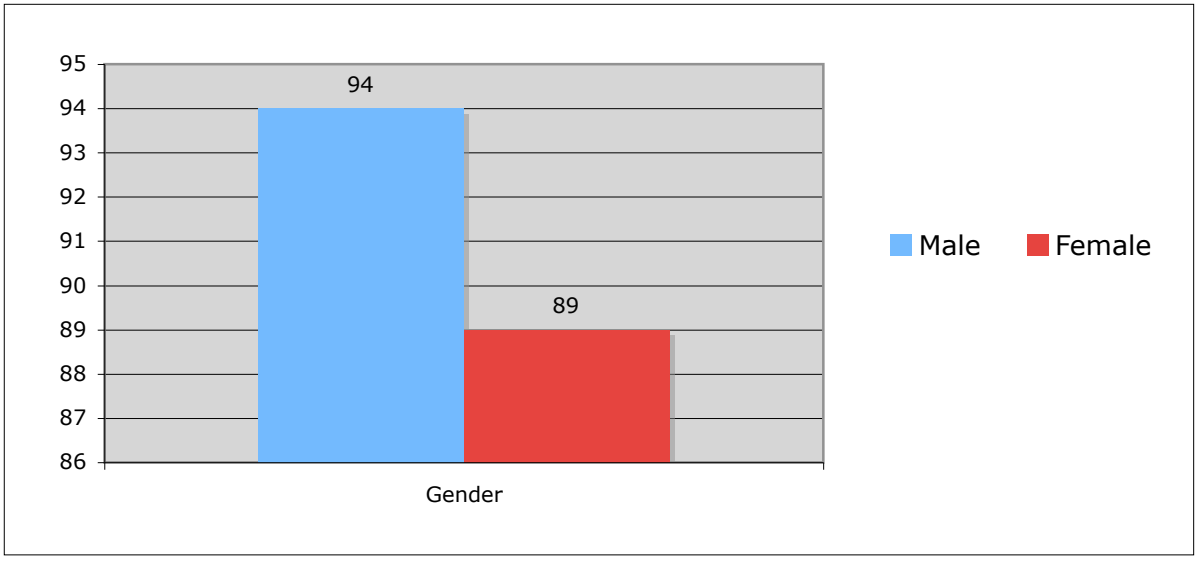
Personal Background

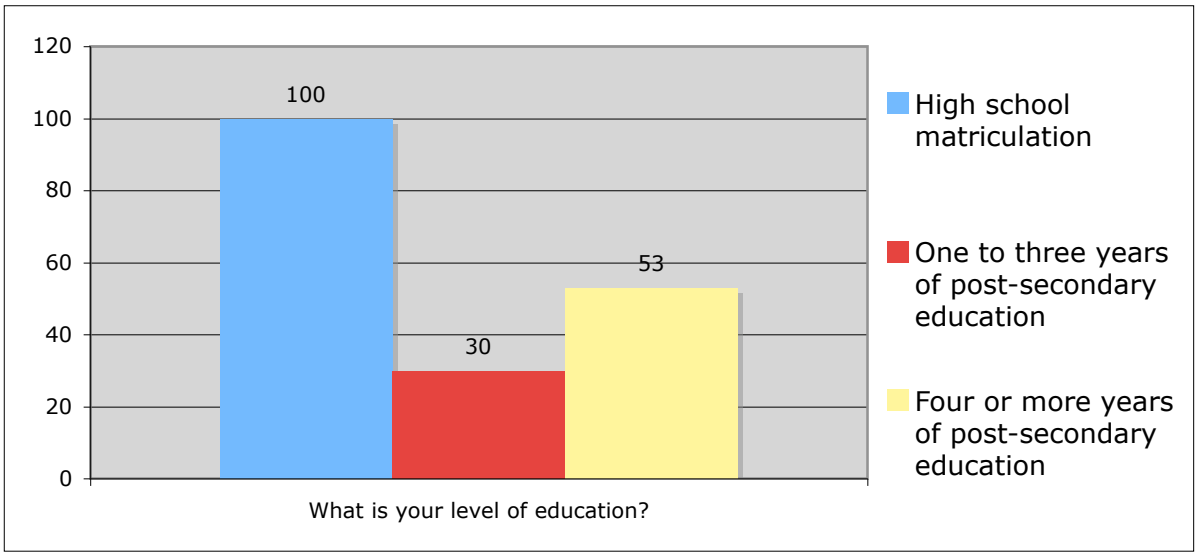
1	**What is your occupation?**	
	Manager	36
	Technical	47
	Teacher or trainer	16
	Student	16
	Unemployed	15
	missing	0
		130
2	**What is your age grouping?**	
	24 or younger	17
	25-29	47
	30-40	81
	41-50	35
	over 50	3
	missing	0
		183
3	**Gender**	
	Male	94
	Female	89
	missing	0
		183
4	**What is your level of education?**	
	High school matriculation	100
	One to three years of post-secondary education	30
	Four or more years of post-secondary education	53
	missing	0
		183
5	**To what extent have you used advanced technological equipment in your professional life?**	
	A lot	74
	Quite a bit	89
	Little	12
	Very little	4
	Not at all	4
	missing	0
		183
6	**Have you had to change your way of working because of technological developments?**	
	Yes. More than once	131
	Yes. Once	12
	No	40
	missing	0
		183

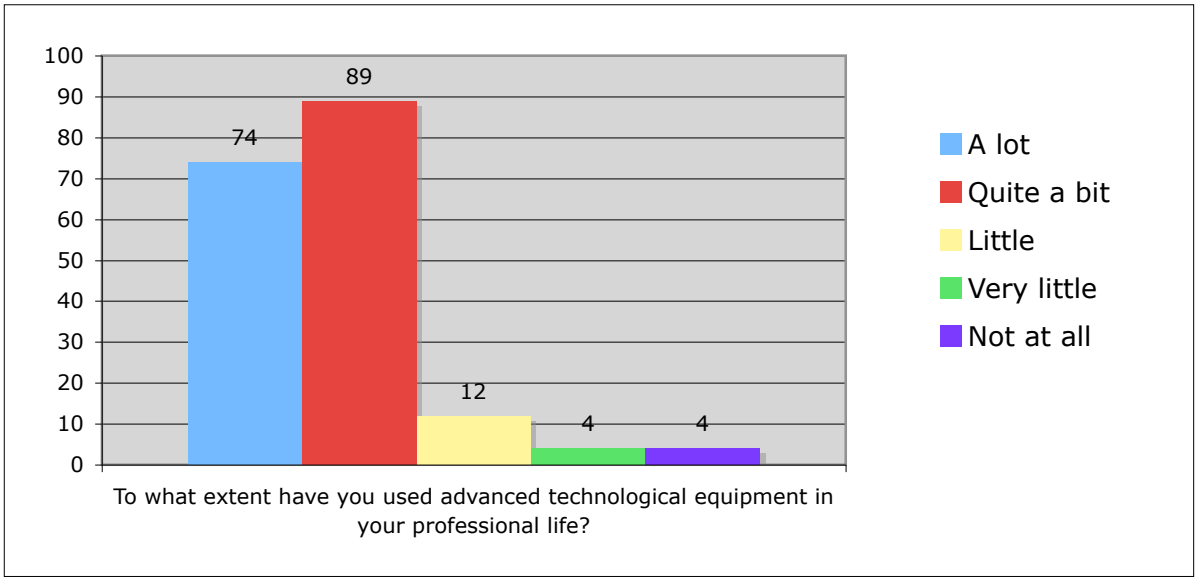
Personal Background

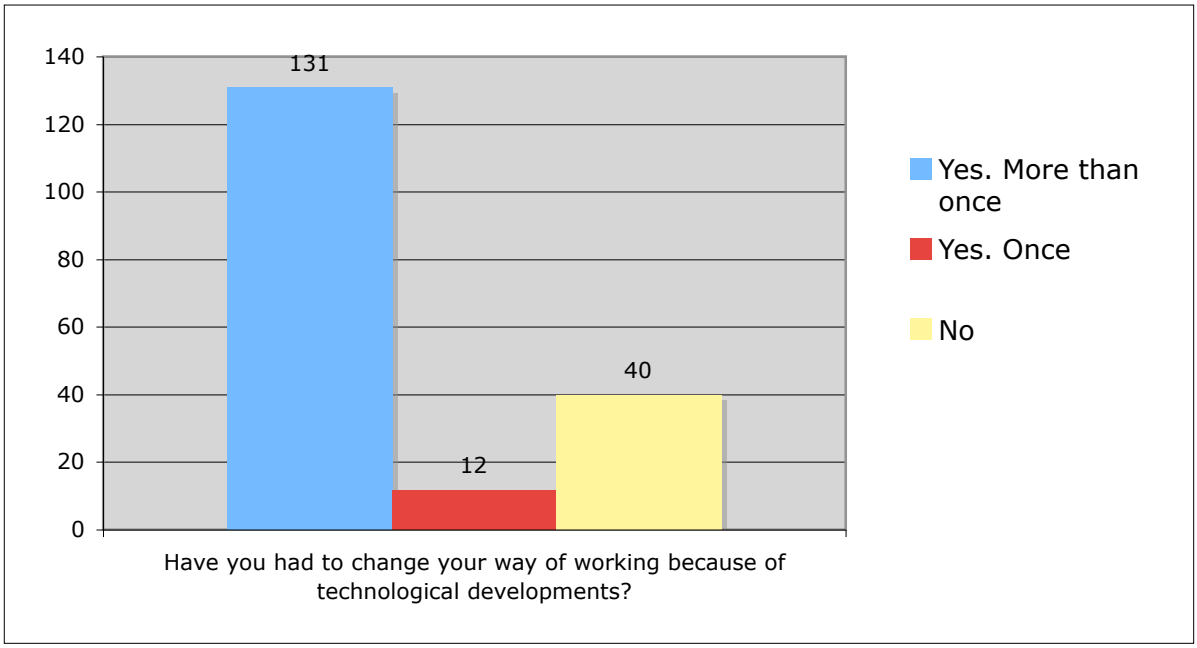







120
100
80
60
40
20
0
100
30
53
High school matriculation
One to three years of post-secondary education
Four or more years of post-secondary education
What is your level of education?


100
90
80
70
60
50
40
30
20
10
0
74
89
12
4
4
A lot
Quite a bit
Little
Very little
Not at all
To what extent have you used advanced technological equipment in your professional life?

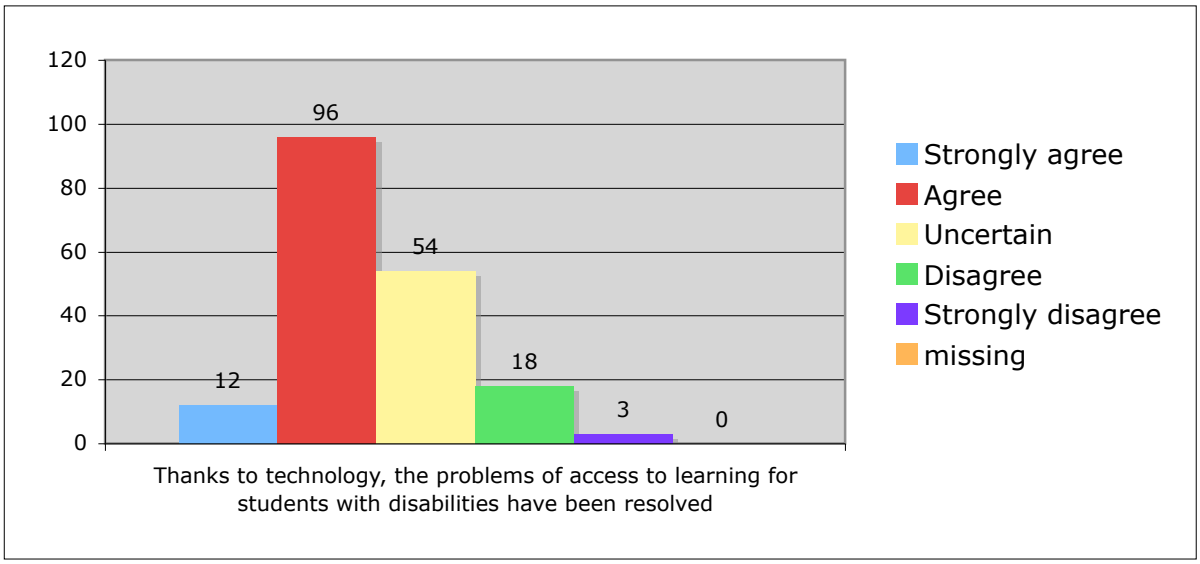

140
120
100
80
60
40
20
0
131
12
40
Yes. More than once
Yes. Once
No
Have you had to change your way of working because of technological developments?

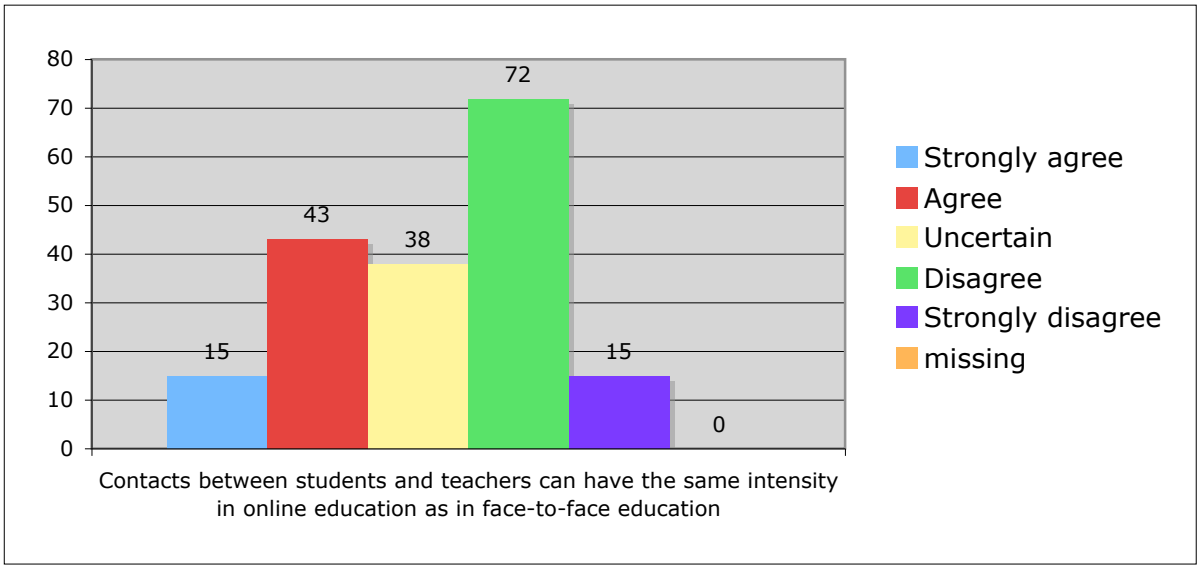
Questions on the impact of information and communications technologies (ICT) on learning in general

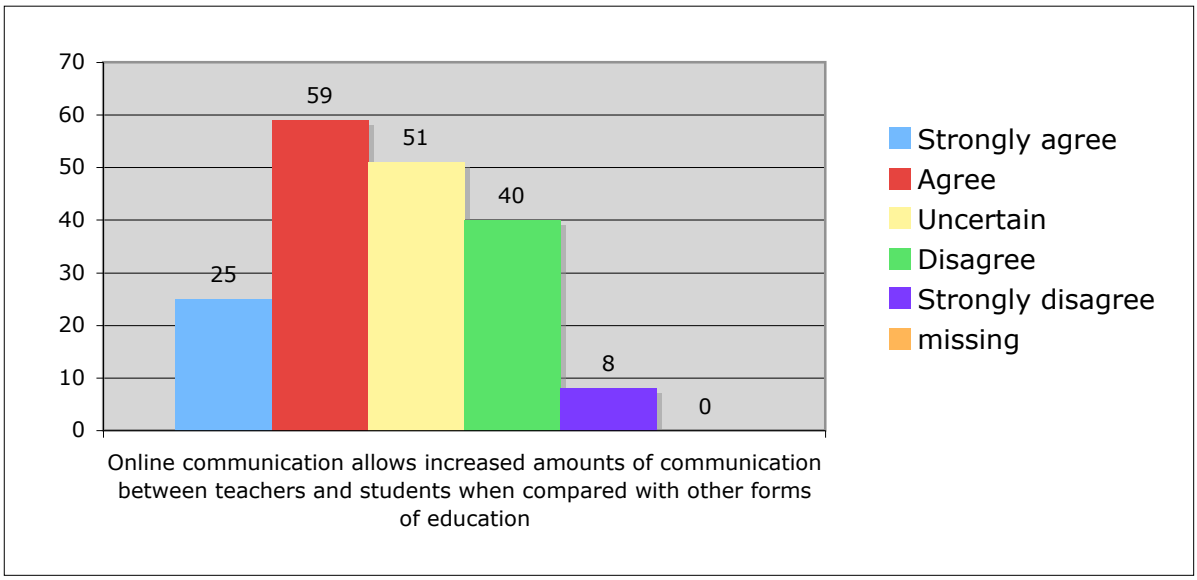
7	**Thanks to technology, the problems of access to learning for students with disabilities have been resolved**	
	Strongly agree	12
	Agree	96
	Uncertain	54
	Disagree	18
	Strongly disagree	3
	missing	0
		183
8	**Contacts between students and teachers can have the same intensity in online education as in face-to-face education**	
	Strongly agree	15
	Agree	43
	Uncertain	38
	Disagree	72
	Strongly disagree	15
	missing	0
		183
9	**Online communication allows increased amounts of communication between teachers and students when compared with other forms of education**	
	Strongly agree	25
	Agree	59
	Uncertain	51
	Disagree	40
	Strongly disagree	8
	missing	0
		183
10	**Only optimistic people think that the impact of technology on learning is beneficial**	
	Strongly agree	5
	Agree	20
	Uncertain	38
	Disagree	78
	Strongly disagree	42
	missing	0
		183
11	**From my personal study experience I find that the impact of technology on learning is valuable**	
	Strongly agree	62
	Agree	88
	Uncertain	27
	Disagree	5
	Strongly disagree	1
	missing	0
		183

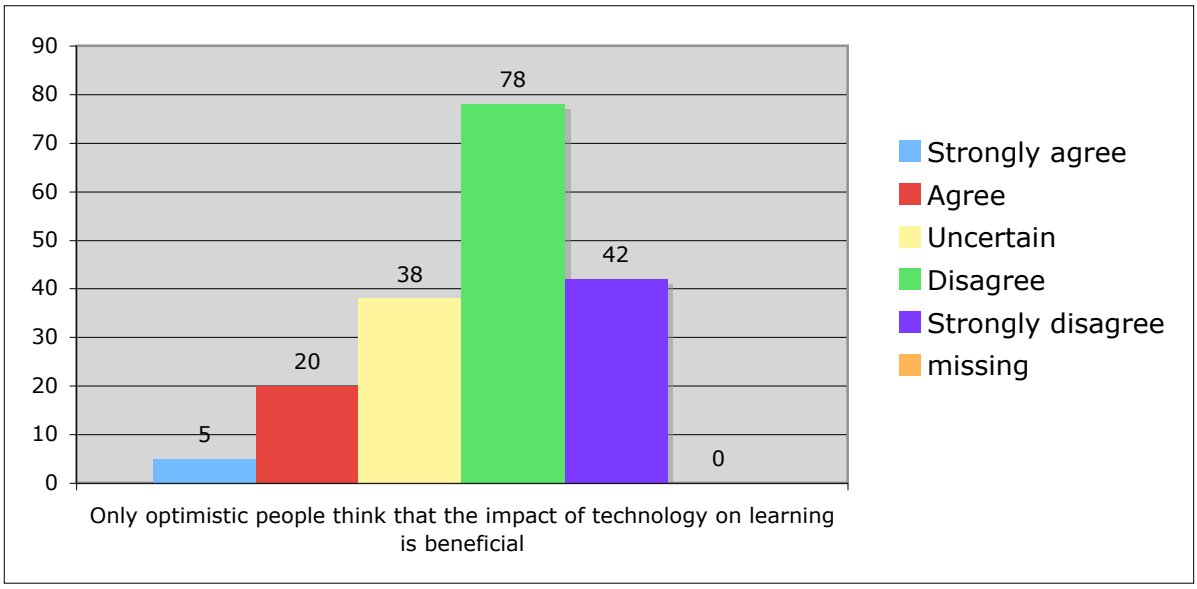
12	**Information and communications technology has usually been used to encourage us to be active participants in learning**	
	Strongly agree	14
	Agree	80
	Uncertain	64
	Disagree	22
	Strongly disagree	3
	missing	0
		183
13	**Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving**	
	Strongly agree	10
	Agree	79
	Uncertain	67
	Disagree	20
	Strongly disagree	7
	missing	0
		183
14	**Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs**	
	Strongly agree	17
	Agree	73
	Uncertain	57
	Disagree	32
	Strongly disagree	4
	missing	0
		183
15	**Learning is enhanced when text and pictures are integrated in a multimedia environment**	
	Strongly agree	64
	Agree	78
	Uncertain	28
	Disagree	12
	Strongly disagree	1
	missing	0
		183
16	**Educational games motivate learners and contribute to developing skills such as teamwork**	
	Strongly agree	25
	Agree	73
	Uncertain	52
	Disagree	28
	Strongly disagree	5
	missing	0
		183

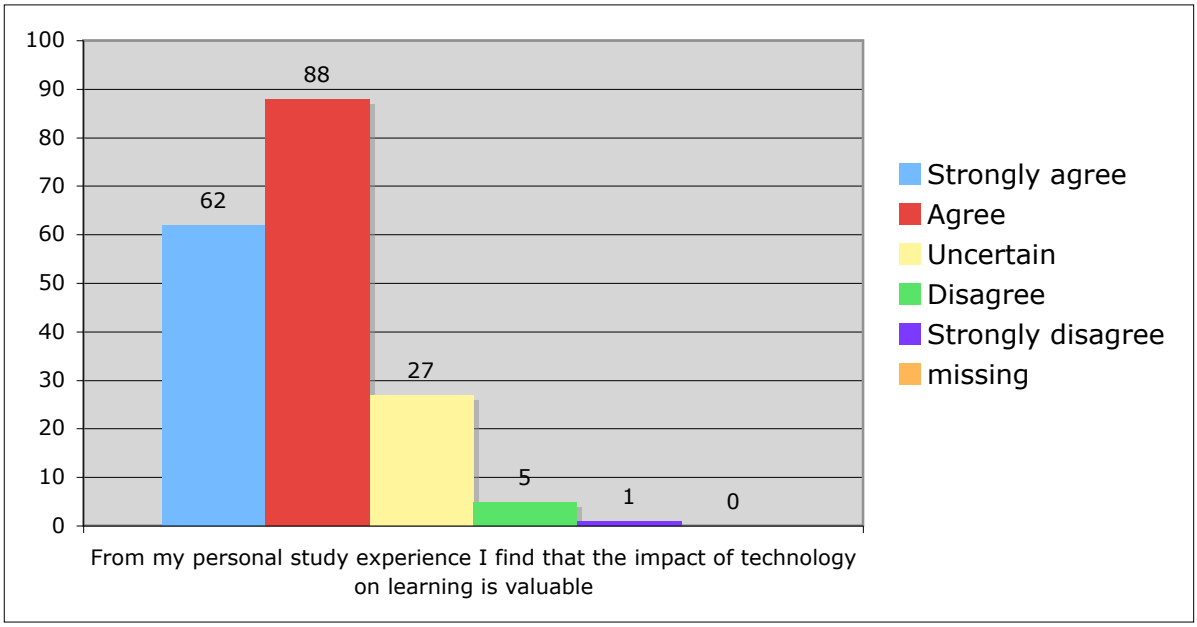
Questions on the impact of information and communications technologies (ICT) on learning in general

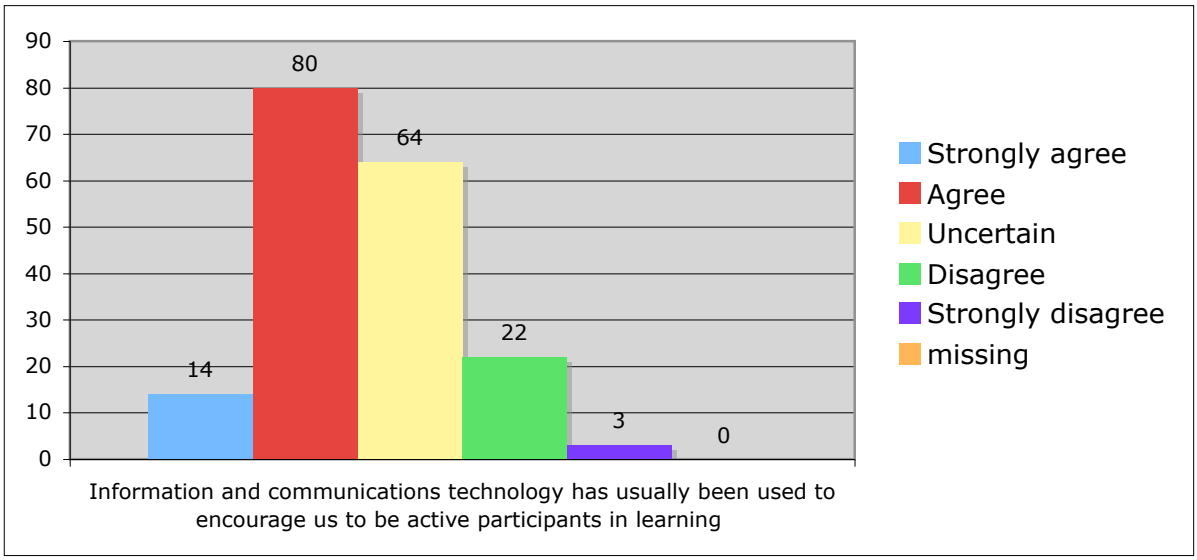


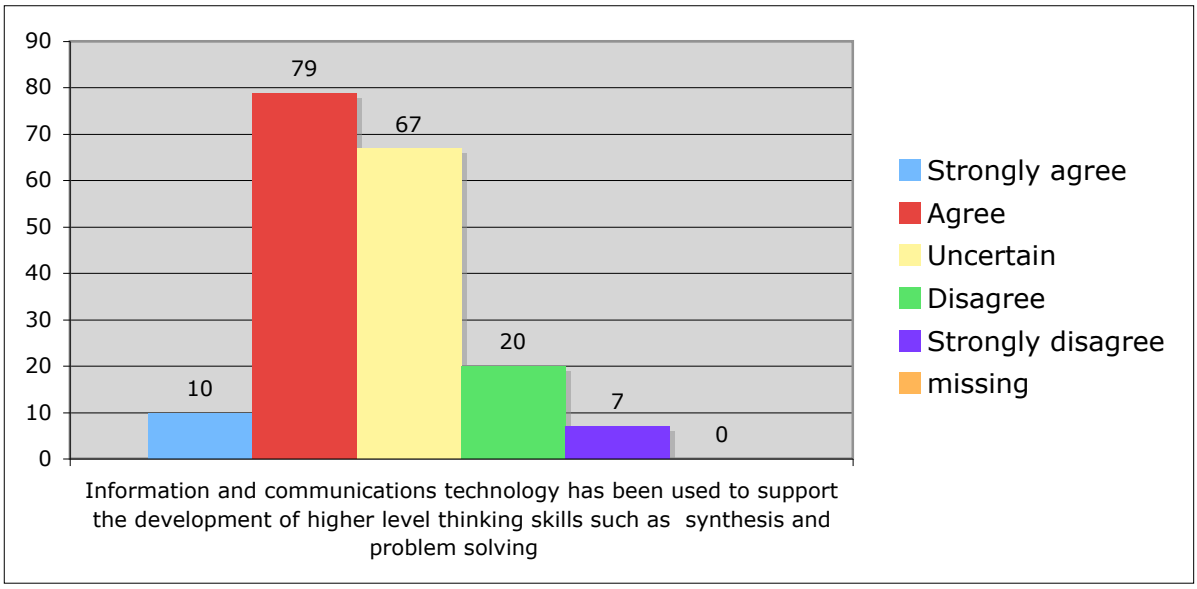


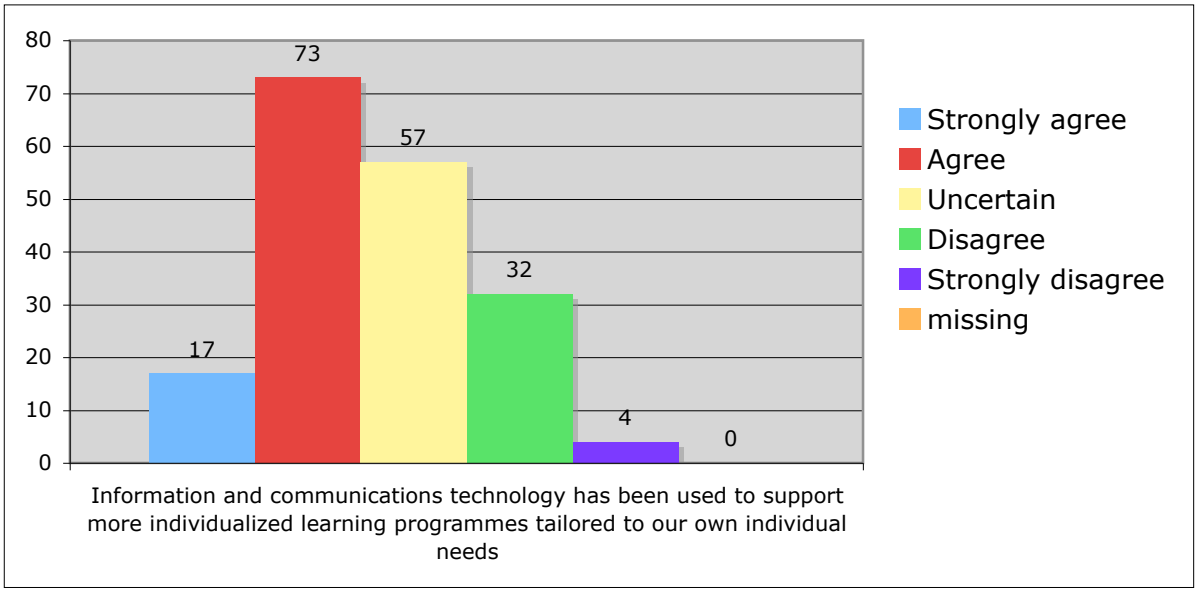


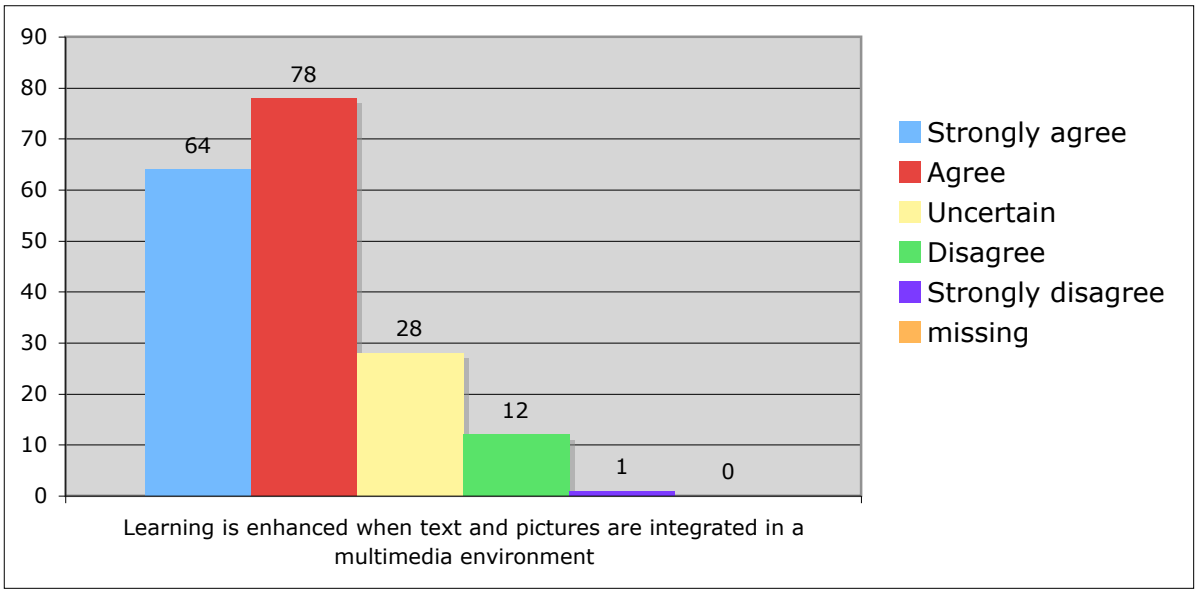

90
80
70
60
50
40
30
20
10
0
78
42
38
20
5
0
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Only optimistic people think that the impact of technology on learning is beneficial

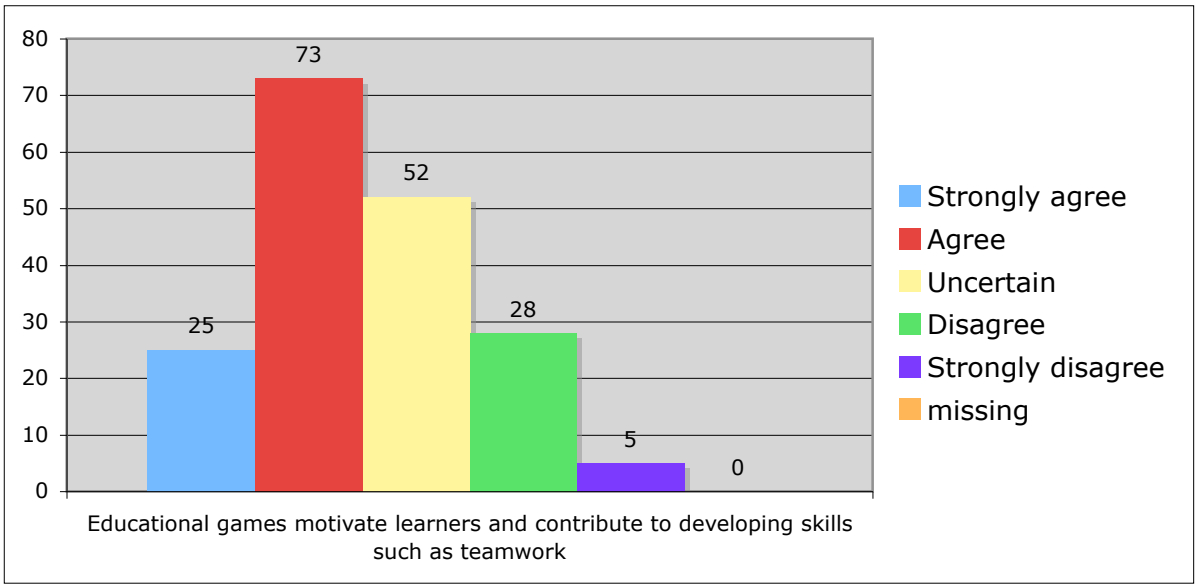

100
90
80
70
60
50
40
30
20
10
0
88
62
27
5
1
0
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
From my personal study experience I find that the impact of technology on learning is valuable


90
80
70
60
50
40
30
20
10
0
80
64
22
14
3
0
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Information and communications technology has usually been used to encourage us to be active participants in learning


90
80
70
60
50
40
30
20
10
0
79
67
20
10
7
0
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving


80
70
60
50
40
30
20
10
0
73
57
32
17
4
0
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

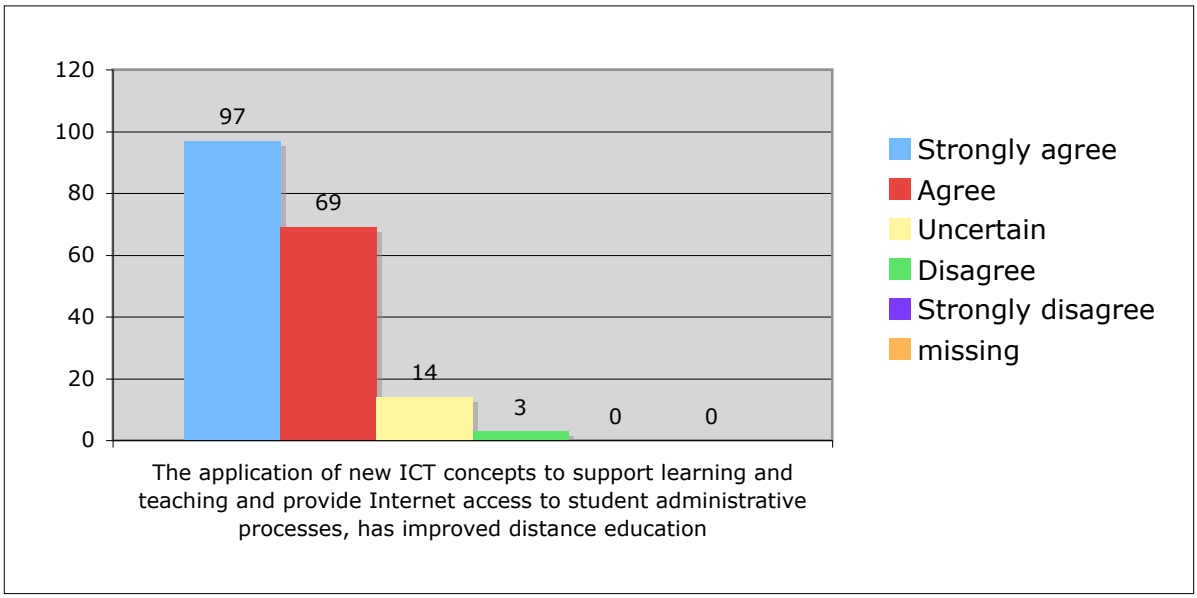

90
80
70
60
50
40
30
20
10
0
78
64
28
12
1
0
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Learning is enhanced when text and pictures are integrated in a multimedia environment

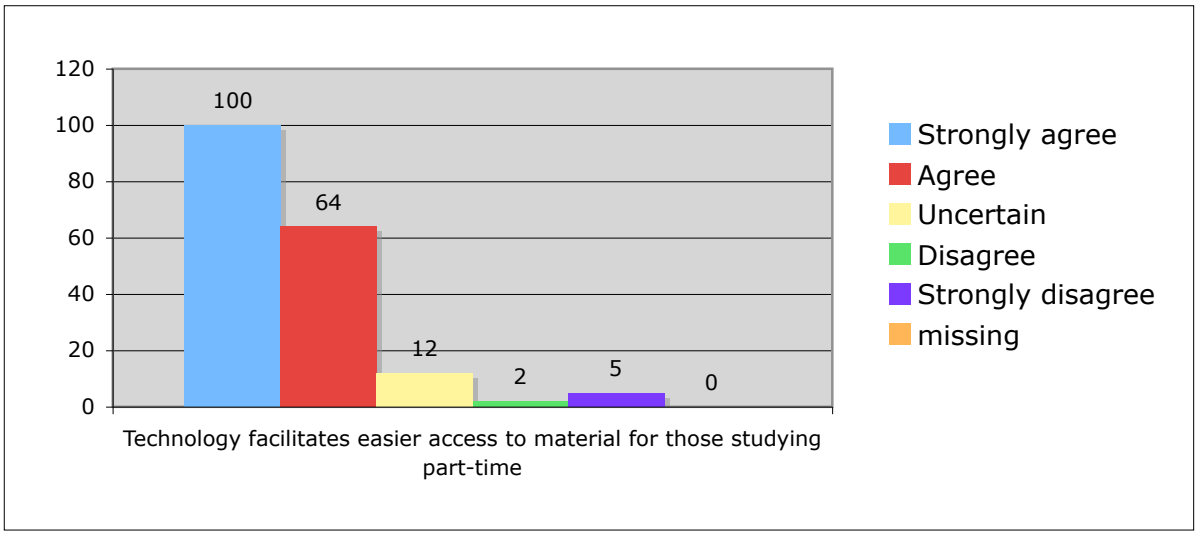

80
70
60
50
40
30
20
10
0
73
52
28
25
5
0
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Educational games motivate learners and contribute to developing skills such as teamwork

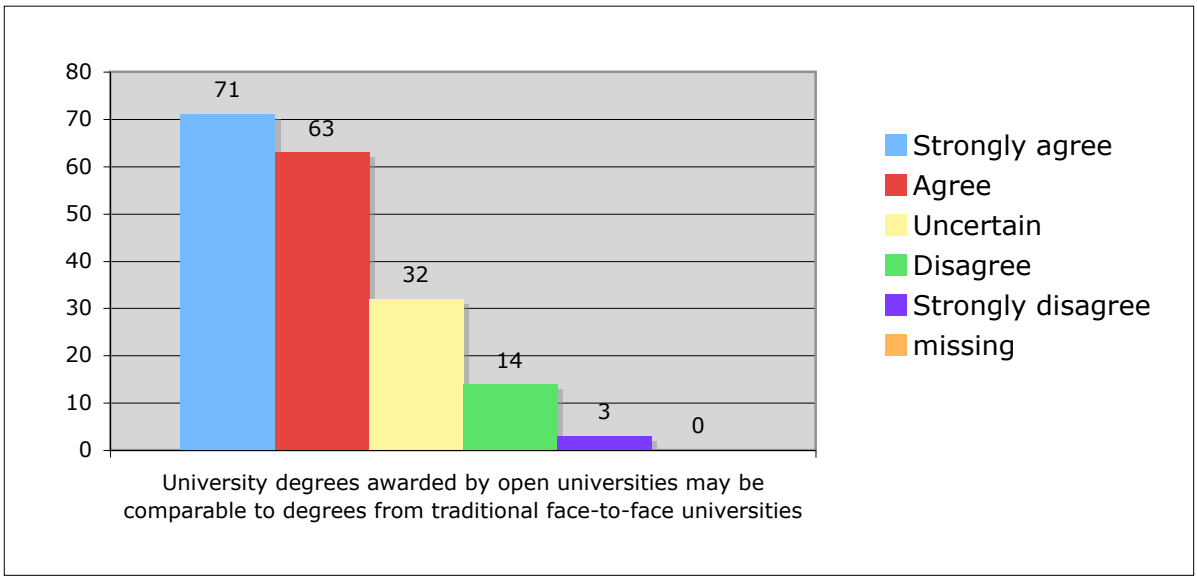
Questions on the impact of information and communications technologies (ICT) on learning in Open Universities

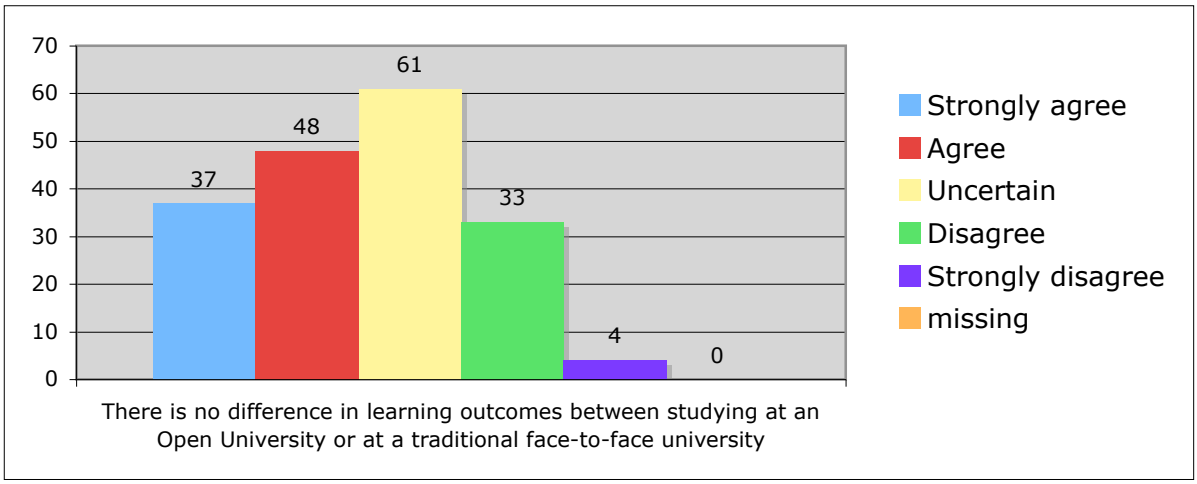
	The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has	
17	**improved distance education**	
	Strongly agree	97
	Agree	69
	Uncertain	14
	Disagree	3
	Strongly disagree	0
	missing	0
		183
	Technology facilitates easier access to material for those studying part-	
18	**time**	
	Strongly agree	100
	Agree	64
	Uncertain	12
	Disagree	2
	Strongly disagree	5
	missing	0
		183
	University degrees awarded by open universities may be comparable to	
19	**degrees from traditional face-to-face universities**	
	Strongly agree	71
	Agree	63
	Uncertain	32
	Disagree	14
	Strongly disagree	3
	missing	0
		183
	There is no difference in learning outcomes between studying at an Open	
20	**University or at a traditional face-to-face university**	
	Strongly agree	37
	Agree	48
	Uncertain	61
	Disagree	33
	Strongly disagree	4
	missing	0
		183
	Study at an Open University is especially of advantage to adults who have	
21	**work and family obligations**	
	Strongly agree	165
	Agree	14
	Uncertain	2
	Disagree	1
	Strongly disagree	1
	missing	0
		183

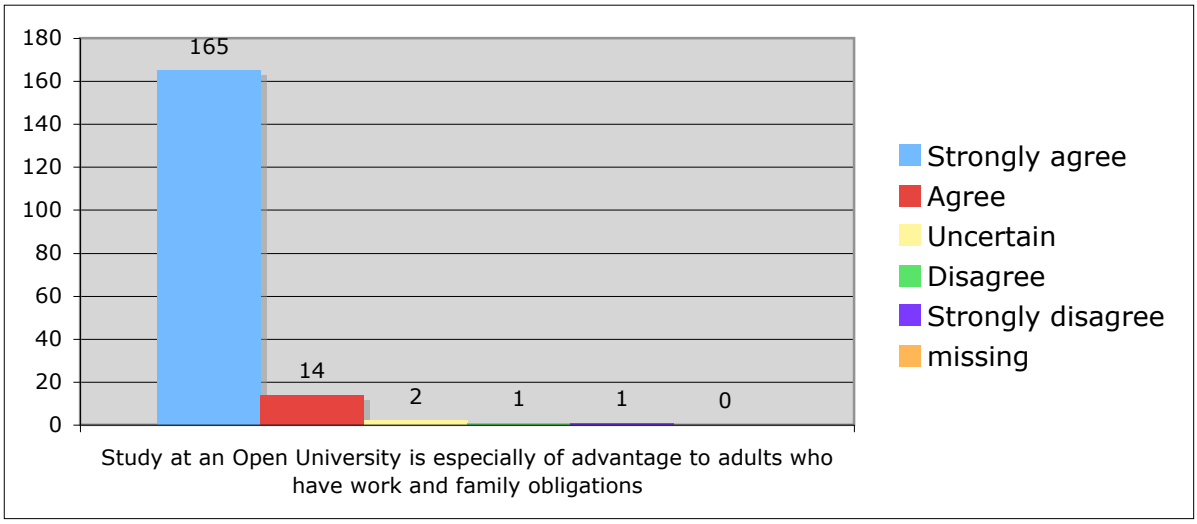
Questions on the impact of information and communications technologies (ICT) on learning in Open Universities








70
60
50
40
30
20
10
0
37
48
61
33
4
0
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

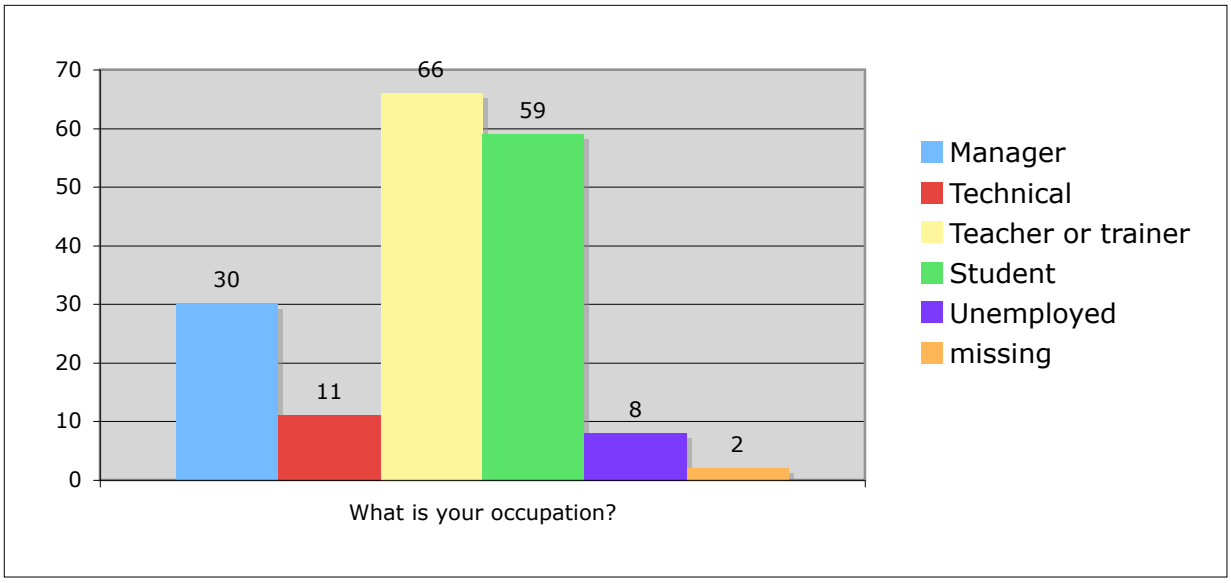

180
160
140
120
100
80
60
40
20
0
165
14
2
1
1
0
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Study at an Open University is especially of advantage to adults who have work and family obligations

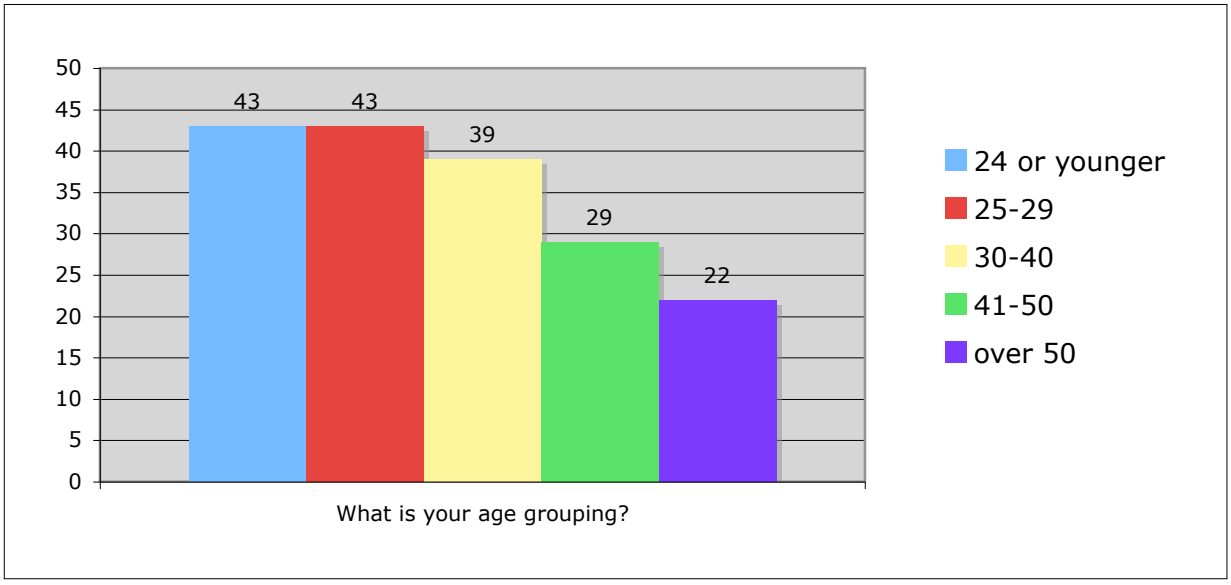
B.2 Descriptive Analysis of the Control Group

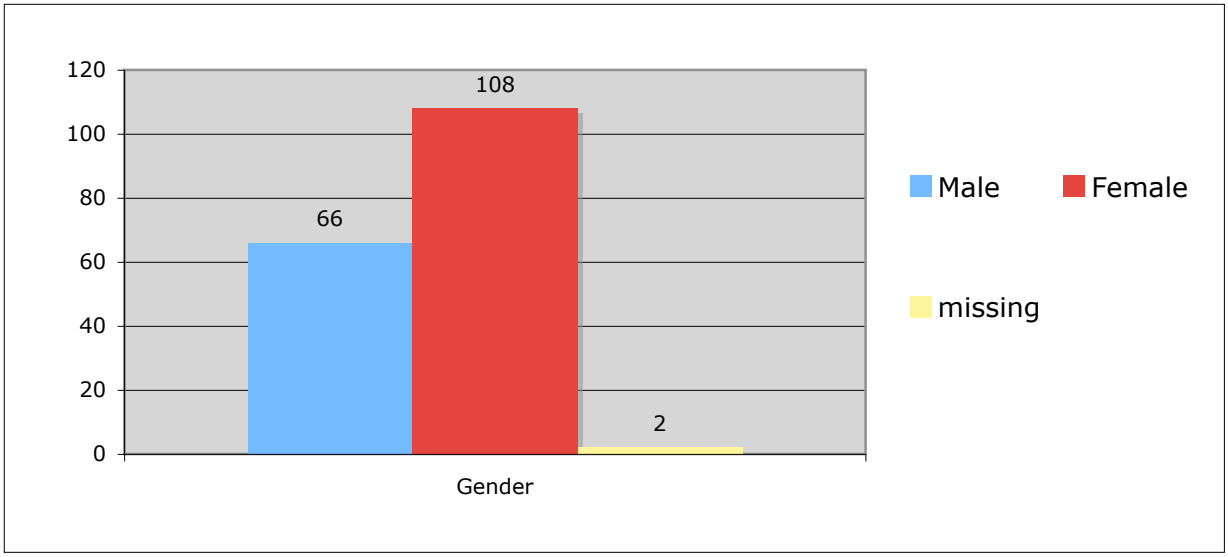
Personal Background

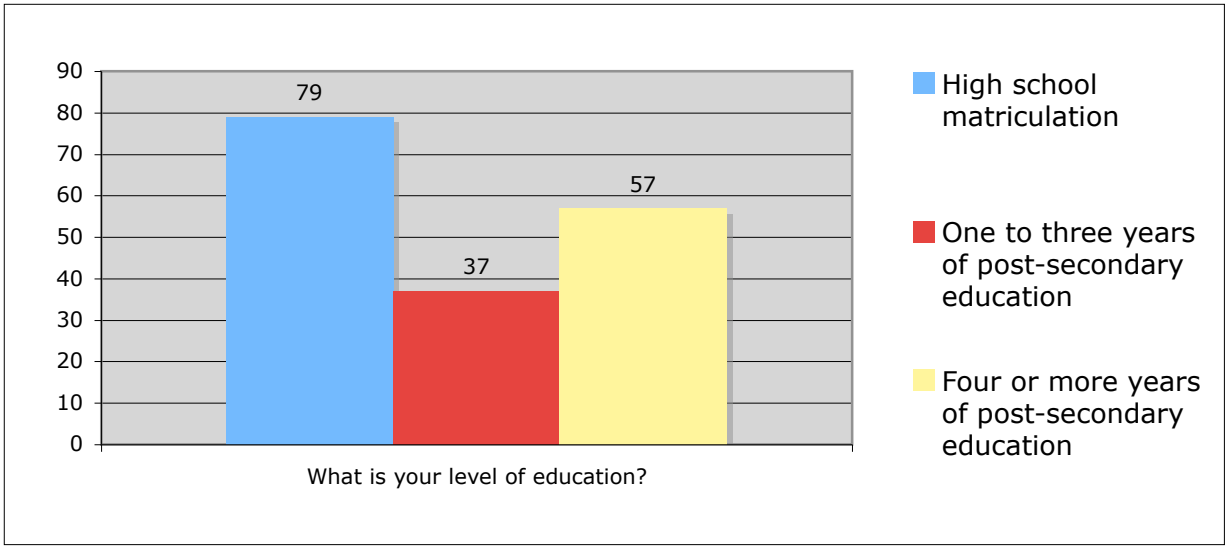
1	**What is your occupation?**	
	Manager	30
	Technical	11
	Teacher or trainer	66
	Student	59
	Unemployed	8
	missing	2
		176
2	**What is your age grouping?**	
	24 or younger	43
	25-29	43
	30-40	39
	41-50	29
	over 50	22
	missing	0
		176
3	**Gender**	
	Male	66
	Female	108
	missing	2
		176
4	**What is your level of education?**	
	High school matriculation	79
	One to three years of post-secondary education	37
	Four or more years of post-secondary education	57
	missing	1
		174
5	**To what extent have you used advanced technological equipment in your professional life?**	
	A lot	70
	Quite a bit	68
	Little	24
	Very little	8
	Not at all	4
	missing	2
		176
6	**Have you had to change your way of working because of technological developments?**	
	Yes. More than once	100
	Yes. Once	17
	No	55
	missing	4
		176

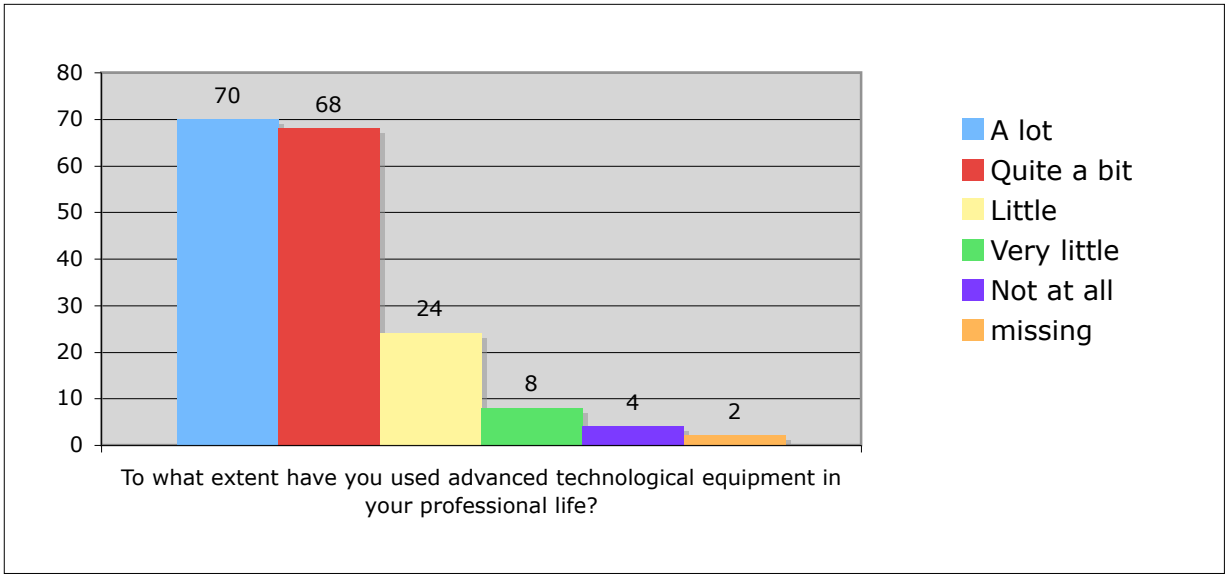
Personal Background

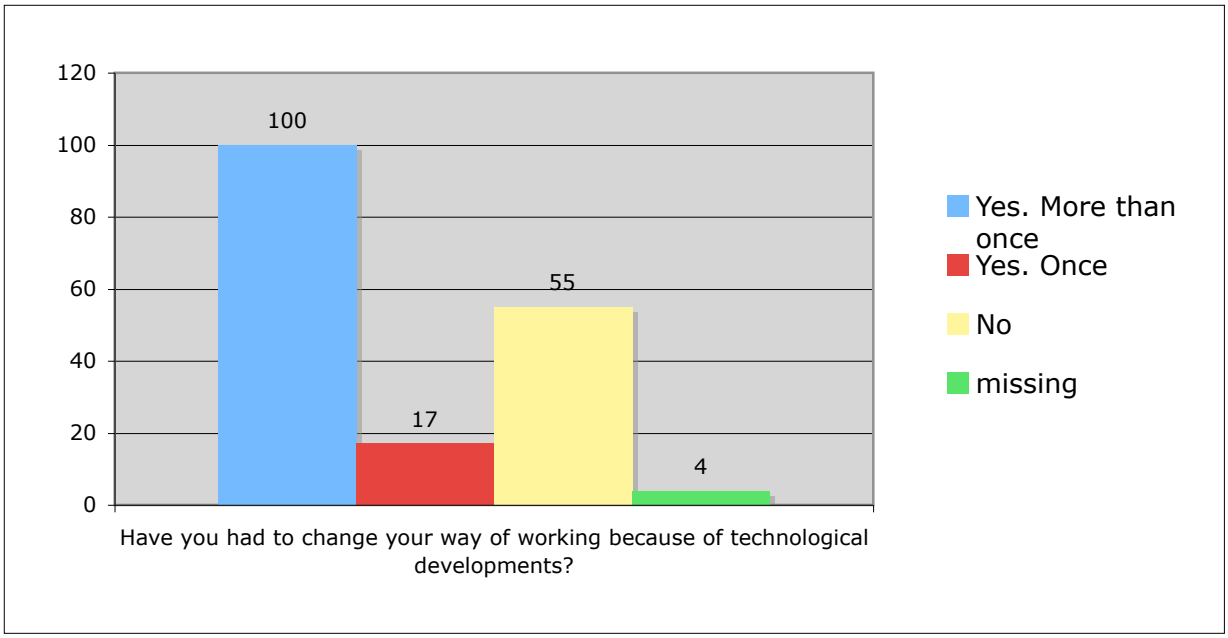







90
80
70
60
50
40
30
20
10
0
79
37
57
What is your level of education?
High school matriculation
One to three years of post-secondary education
Four or more years of post-secondary education


80
70
60
50
40
30
20
10
0
70
68
24
8
4
2
To what extent have you used advanced technological equipment in your professional life?
A lot
Quite a bit
Little
Very little
Not at all
missing

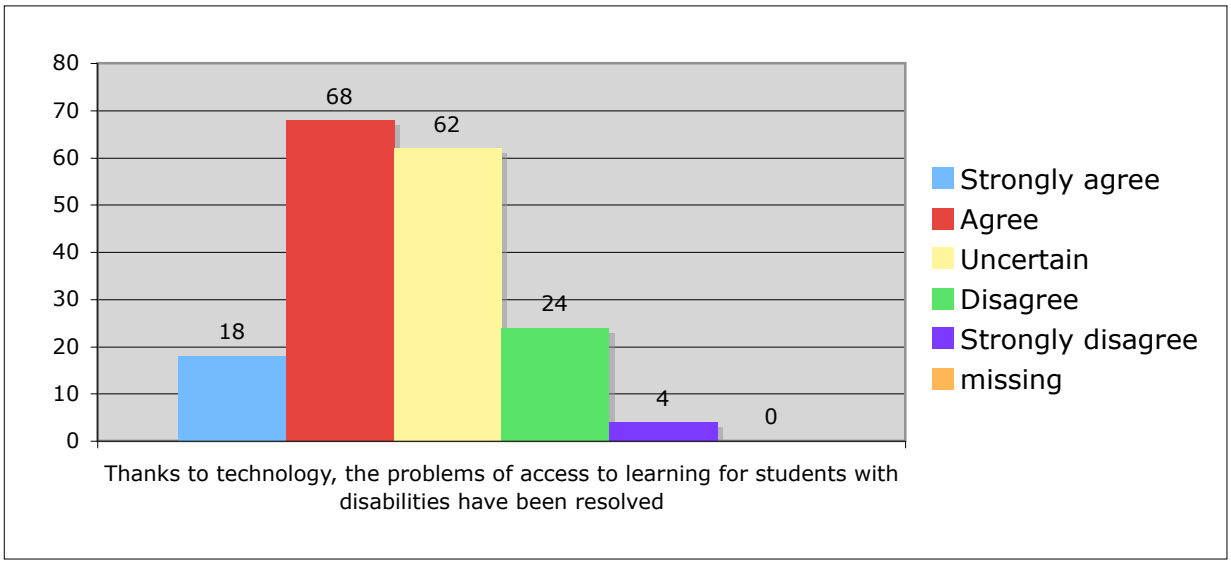

120
100
80
60
40
20
0
100
17
55
4
Have you had to change your way of working because of technological developments?
Yes. More than once
Yes. Once
No
missing

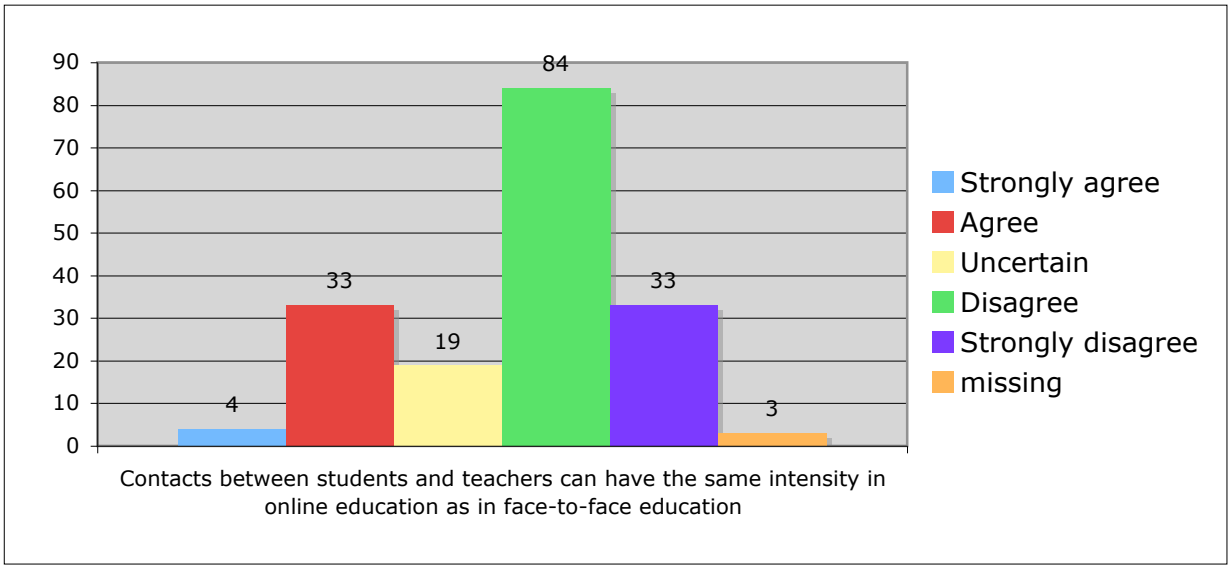
Questions on the impact of information and communications technologies (ICT) on learning in general

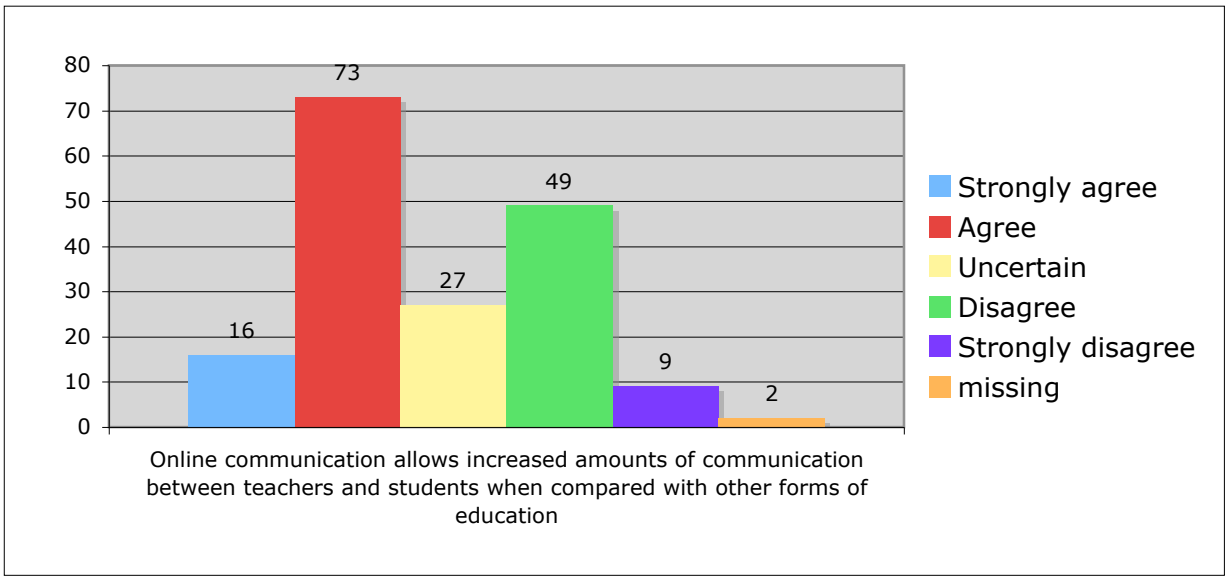
7	**Thanks to technology, the problems of access to learning for students with disabilities have been resolved**	
	Strongly agree	18
	Agree	68
	Uncertain	62
	Disagree	24
	Strongly disagree	4
	missing	0
		176
8	**Contacts between students and teachers can have the same intensity in online education as in face-to-face education**	
	Strongly agree	4
	Agree	33
	Uncertain	19
	Disagree	84
	Strongly disagree	33
	missing	3
		176
9	**Online communication allows increased amounts of communication between teachers and students when compared with other forms of education**	
	Strongly agree	16
	Agree	73
	Uncertain	27
	Disagree	49
	Strongly disagree	9
	missing	2
		176
10	**Only optimistic people think that the impact of technology on learning is beneficial**	
	Strongly agree	5
	Agree	32
	Uncertain	36
	Disagree	91
	Strongly disagree	10
	missing	2
		176
11	**From my personal study experience I find that the impact of technology on learning is valuable**	
	Strongly agree	56
	Agree	92
	Uncertain	16
	Disagree	8
	Strongly disagree	2
	missing	2
		176

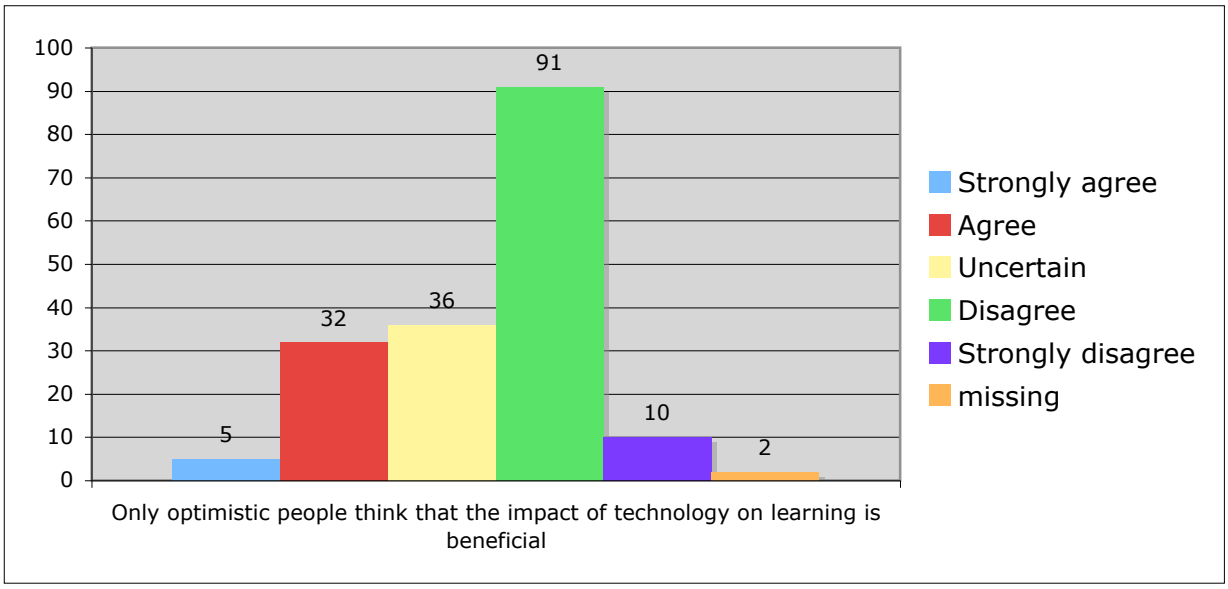
12	**Information and communications technology has usually been used to encourage us to be active participants in learning**	
	Strongly agree	17
	Agree	79
	Uncertain	50
	Disagree	26
	Strongly disagree	2
	missing	2
		176
13	**Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving**	
	Strongly agree	14
	Agree	80
	Uncertain	50
	Disagree	27
	Strongly disagree	4
	missing	1
		176
14	**Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs**	
	Strongly agree	29
	Agree	82
	Uncertain	36
	Disagree	22
	Strongly disagree	3
	missing	4
		176
15	**Learning is enhanced when text and pictures are integrated in a multimedia environment**	
	Strongly agree	57
	Agree	98
	Uncertain	14
	Disagree	4
	Strongly disagree	1
	missing	2
		176
16	**Educational games motivate learners and contribute to developing skills such as teamwork**	
	Strongly agree	60
	Agree	79
	Uncertain	22
	Disagree	8
	Strongly disagree	4
	missing	3
		176

Questions on the impact of information and communications technologies (ICT) on learning in general








100
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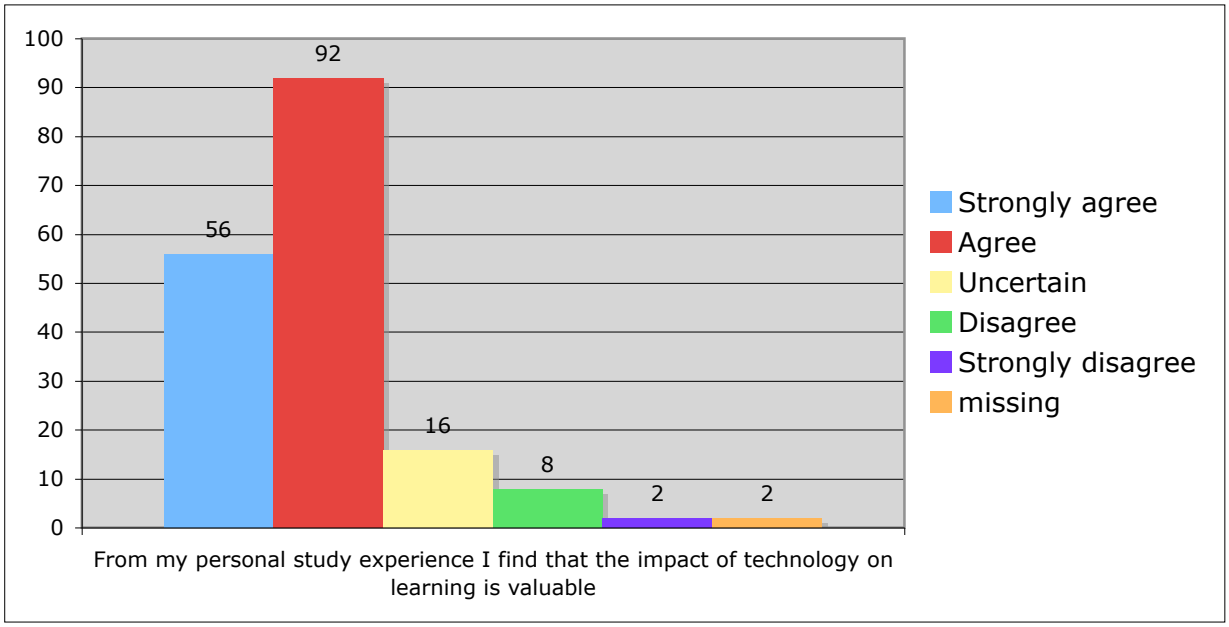
2
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Only optimistic people think that the impact of technology on learning is beneficial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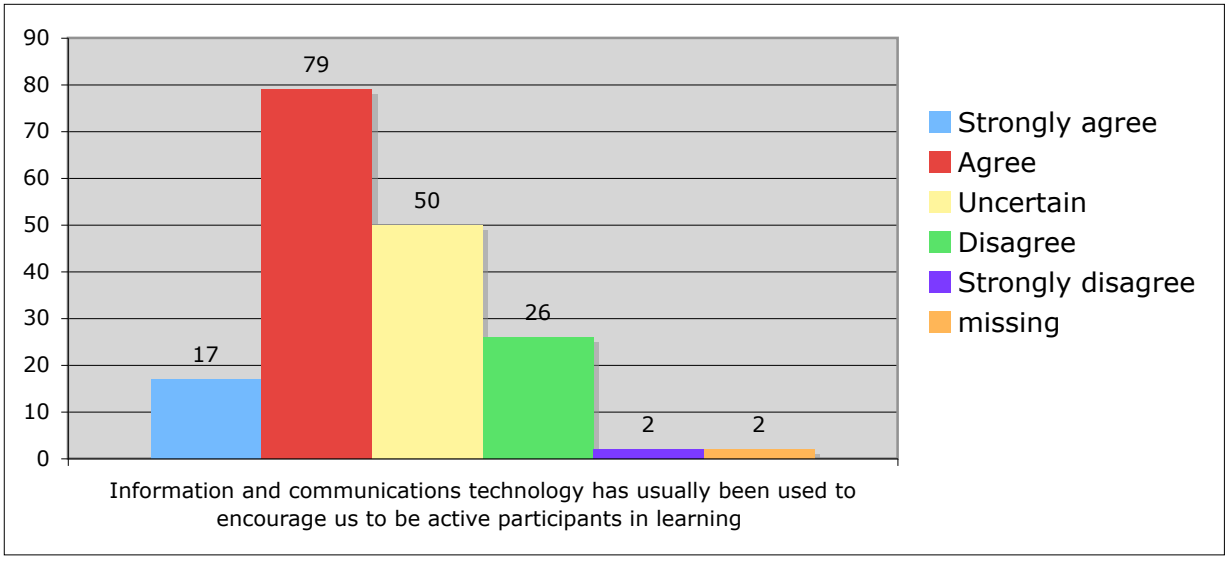
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
From my personal study experience I find that the impact of technology on learning is valuable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Strongly agree
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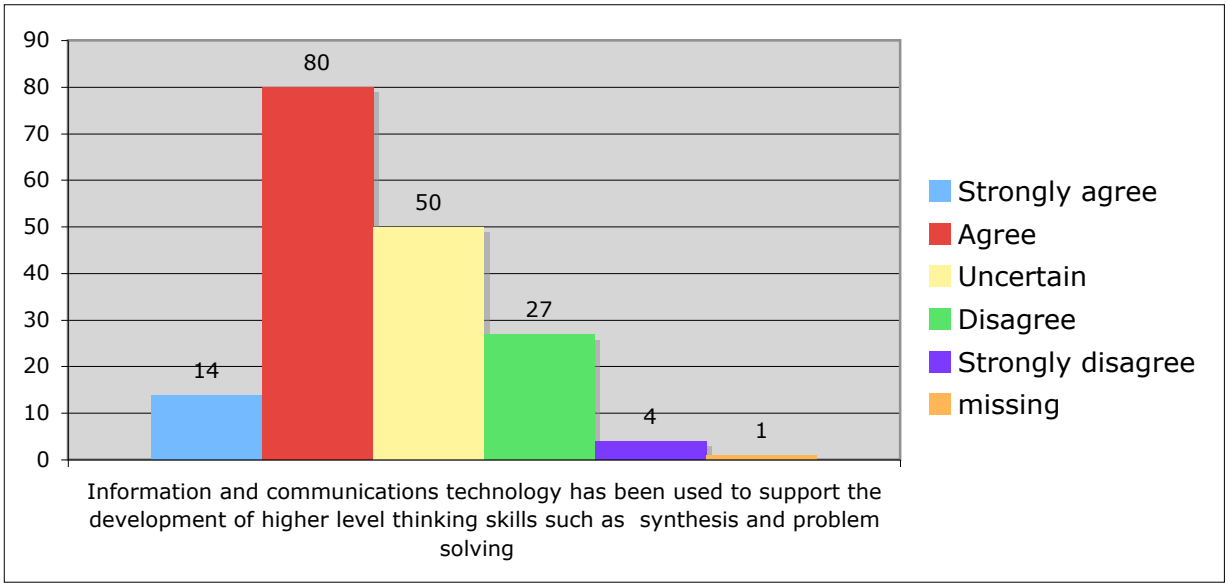
Disagree
Strongly disagree
missing
Information and communications technology has usually been used to encourage us to be active participants in learning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Strongly agree
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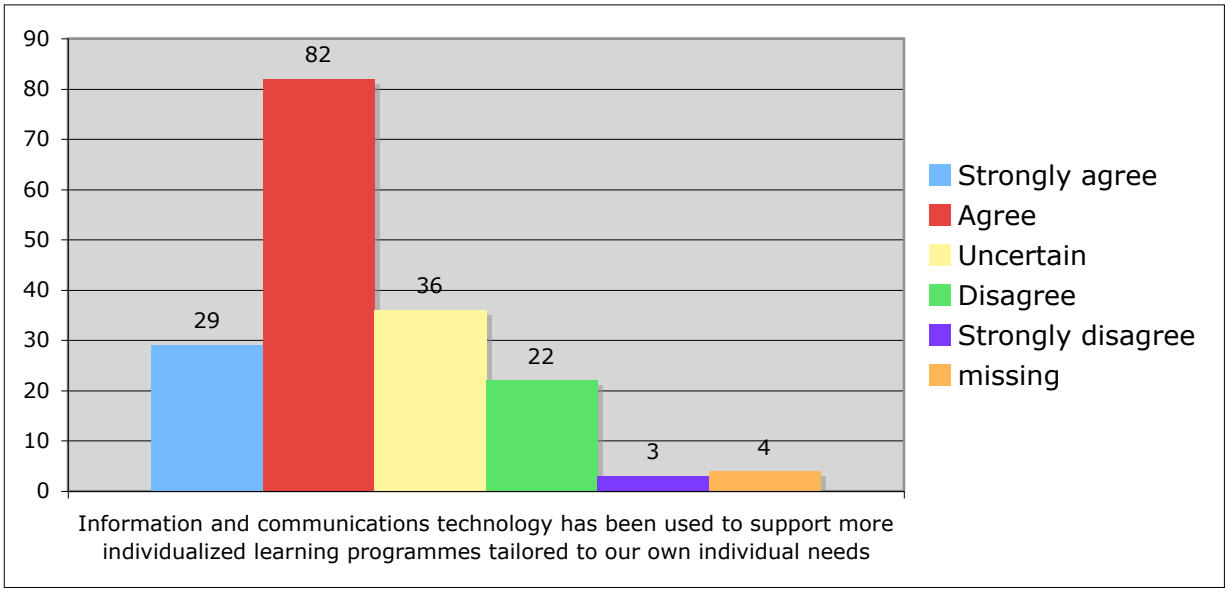
Uncertain
Disagree
Strongly disagree
missing
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving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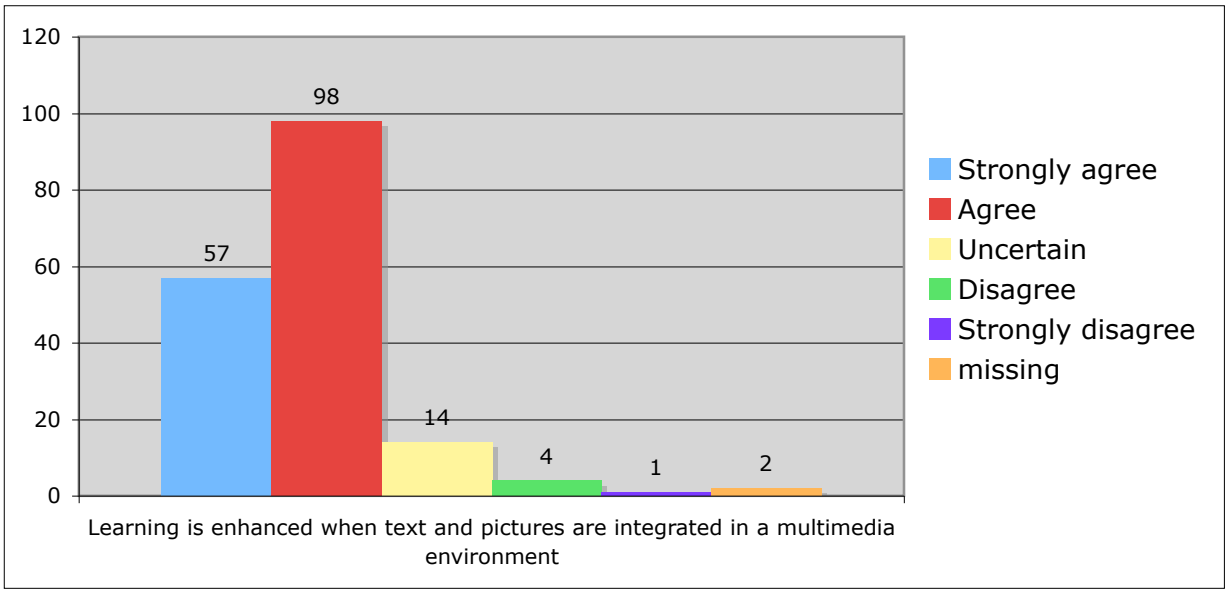
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs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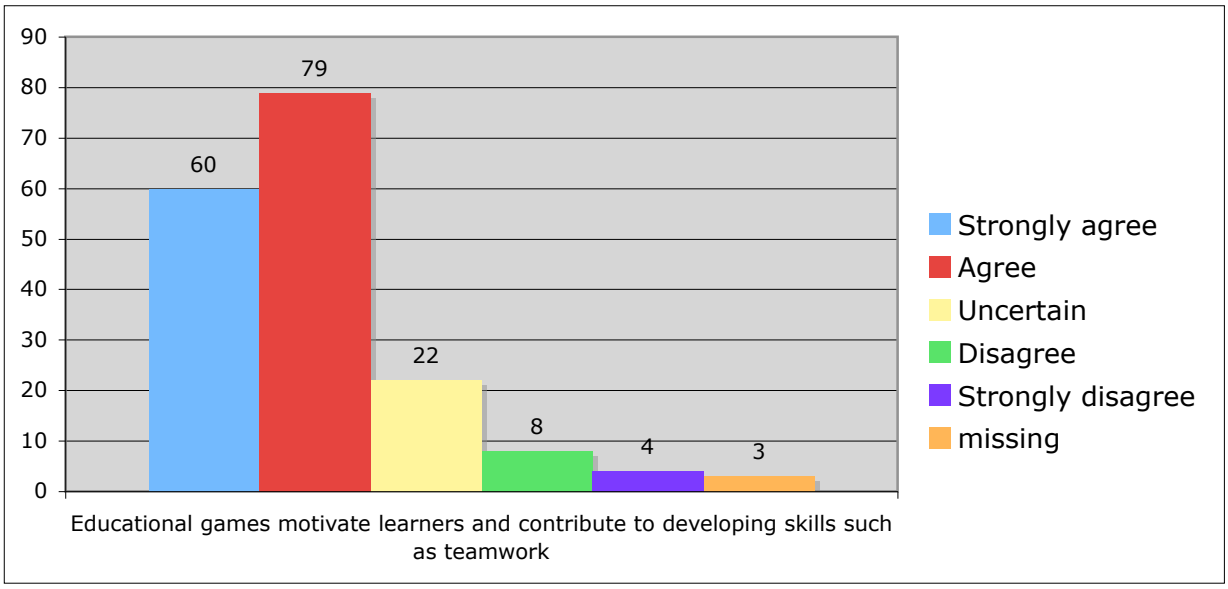
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Learning is enhanced when text and pictures are integrated in a multimedia environment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4
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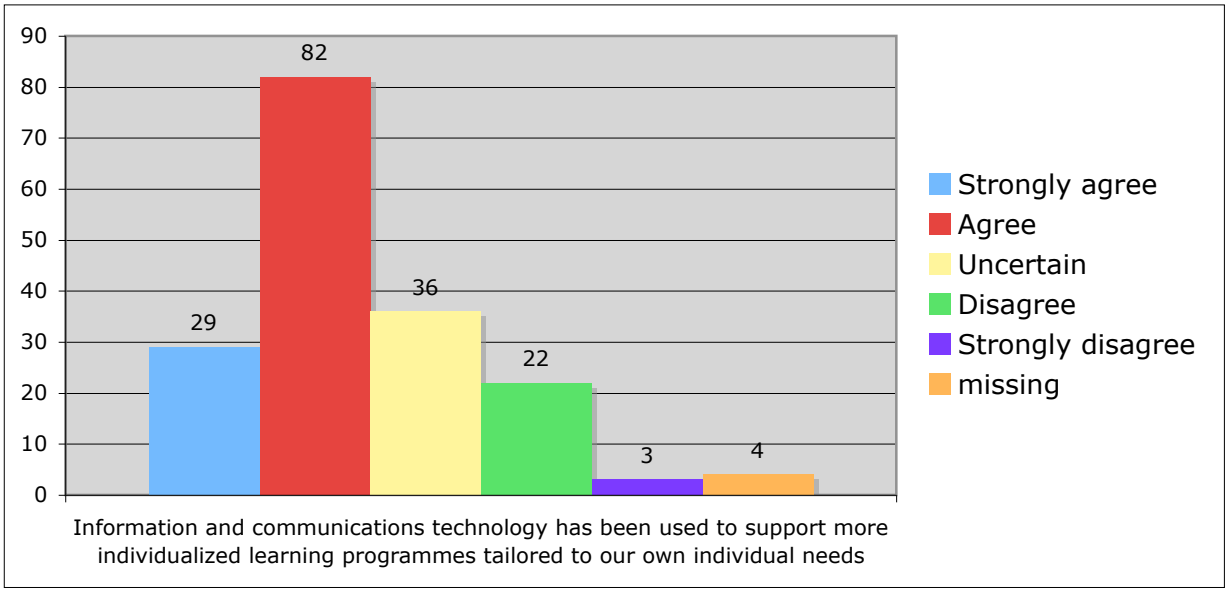
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Educational games motivate learners and contribute to developing skills such as teamwork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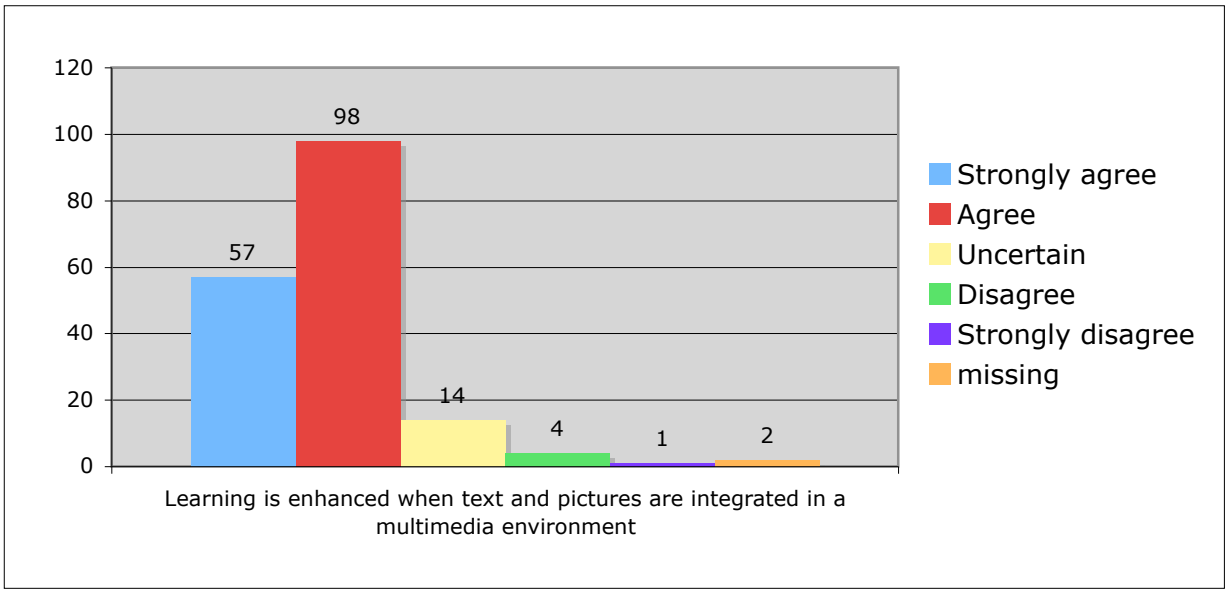
4
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs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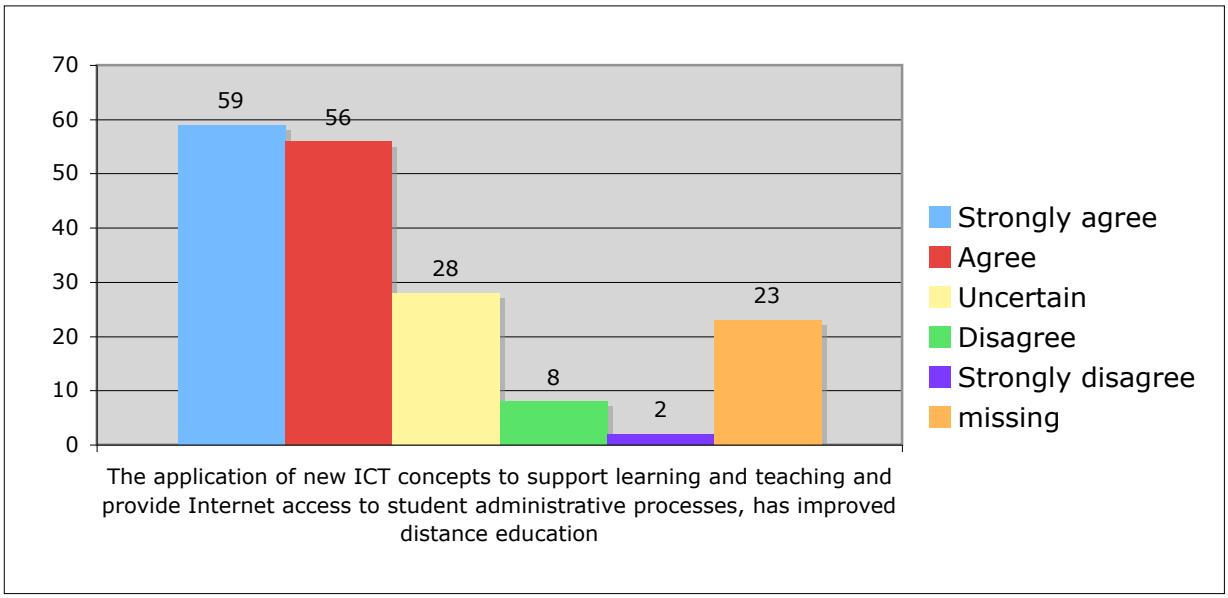
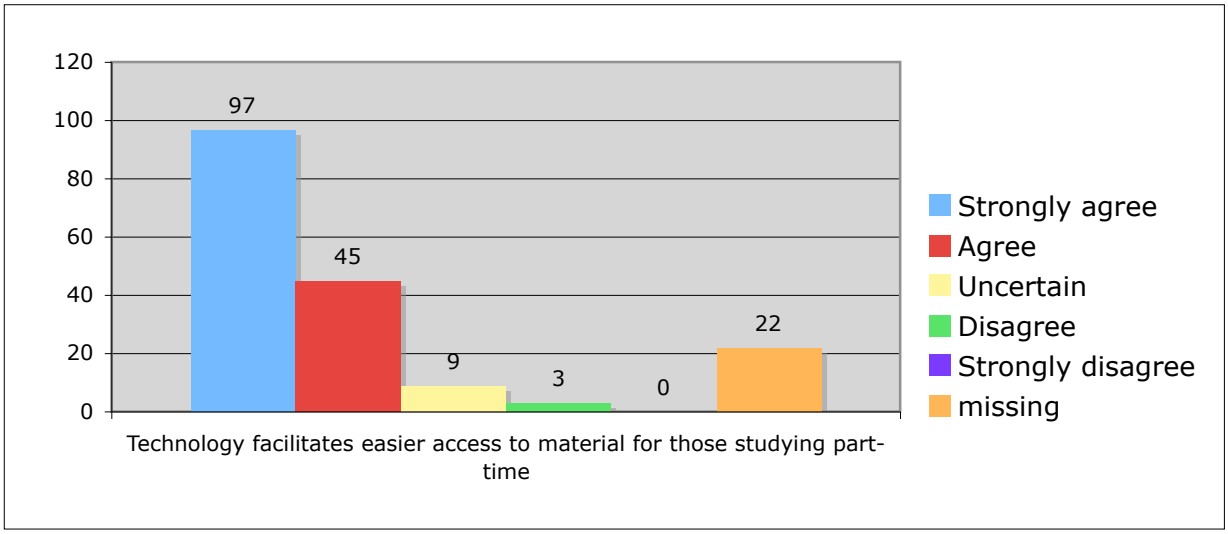
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Learning is enhanced when text and pictures are integrated in a multimedia environment

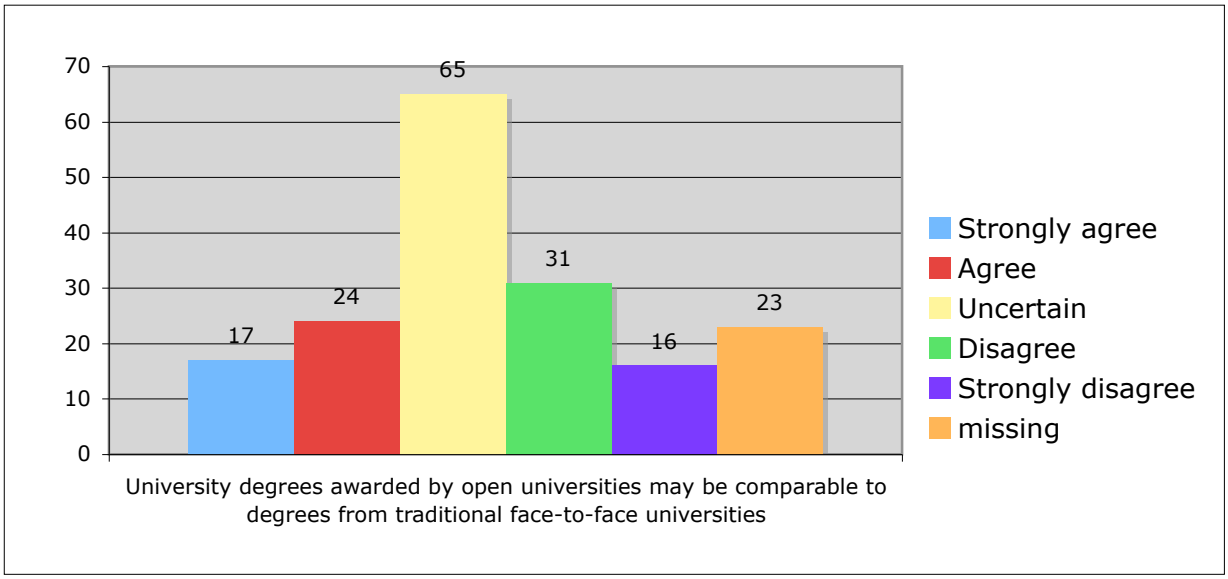
Questions on the impact of information and communications technologies (ICT) on learning in Open Universities

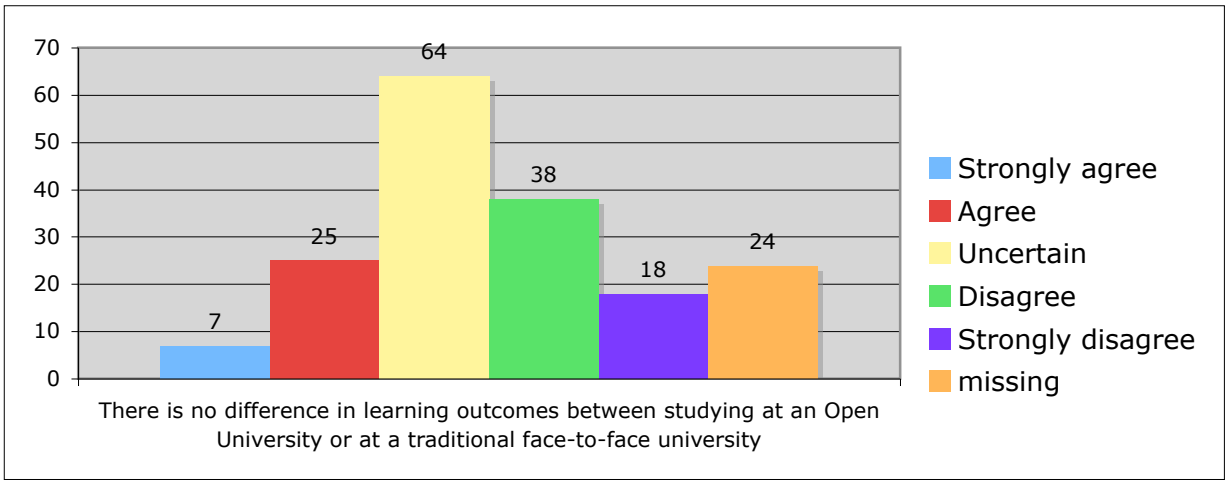
17	**The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education**	
	Strongly agree	59
	Agree	56
	Uncertain	28
	Disagree	8
	Strongly disagree	2
	missing	23
		176
18	**Technology facilitates easier access to material for those studying part-time**	
	Strongly agree	97
	Agree	45
	Uncertain	9
	Disagree	3
	Strongly disagree	0
	missing	22
		176
19	**University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities**	
	Strongly agree	17
	Agree	24
	Uncertain	65
	Disagree	31
	Strongly disagree	16
	missing	23
		176
20	**There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university**	
	Strongly agree	7
	Agree	25
	Uncertain	64
	Disagree	38
	Strongly disagree	18
	missing	24
		176
21	**Study at an Open University is especially of advantage to adults who have work and family obligations**	
	Strongly agree	95
	Agree	43
	Uncertain	8
	Disagree	4
	Strongly disagree	4
	missing	22
		176

Questions on the impact of information and communications technologies (ICT) on learning in Open Universities








70
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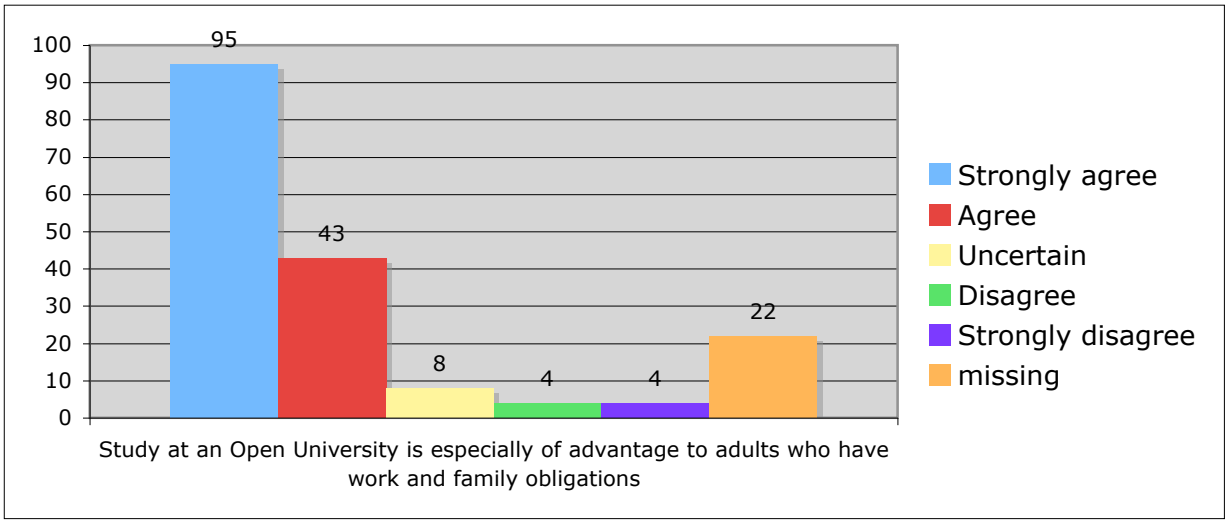
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university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20
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43
8
4
4
22
Strongly agree
Agree
Uncertain
Disagree
Strongly disagree
missing
Study at an Open University is especially of advantage to adults who have work and family obligations

B.3 Cross-Tabulation of the two Study Groups

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
What is your occupation? * Main group/Control group	357	99,4%	2	,6%	359	100,0%
What is your age grouping? * Main group/Control group	359	100,0%	0	,0%	359	100,0%
Gender * Main group/Control group	357	99,4%	2	,6%	359	100,0%
What is your level of education? * Main group/Control group	356	99,2%	3	,8%	359	100,0%
To what extent have you used advanced technological equipment in your professional life? * Main group/Control group	357	99,4%	2	,6%	359	100,0%
Have you had to change your way of working because of technological developments? * Main group/Control group	355	98,9%	4	1,1%	359	100,0%
Thanks to technology, the problems of access to learning for students with disabilities have been resolved * Main group/Control group	359	100,0%	0	,0%	359	100,0%
Contacts between students and teachers can have the same intensity in online education as in face-to-face education * Main group/Control group	356	99,2%	3	,8%	359	100,0%
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * Main group/Control group	357	99,4%	2	,6%	359	100,0%
Only optimistic people think that the impact of technology on learning is beneficial * Main group/Control group	357	99,4%	2	,6%	359	100,0%
From my personal study experience I find that the impact of technology on learning is valuable * Main group/Control group	357	99,4%	2	,6%	359	100,0%
Information and communications technology has usually been used to encourage us to be active participants in learning * Main group/Control group	357	99,4%	2	,6%	359	100,0%

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * Main group/Control group	358	99,7%	1	,3%	359	100,0%
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs * Main group/Control group	355	98,9%	4	1,1%	359	100,0%
Learning is enhanced when text and pictures are integrated in a multimedia environment * Main group/Control group	357	99,4%	2	,6%	359	100,0%
Educational games motivate learners and contribute to developing skills such as teamwork * Main group/Control group	356	99,2%	3	,8%	359	100,0%
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * Main group/Control group	336	93,6%	23	6,4%	359	100,0%
Technology facilitates easier access to material for those studying part-time * Main group/Control group	337	93,9%	22	6,1%	359	100,0%
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * Main group/Control group	336	93,6%	23	6,4%	359	100,0%
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university * Main group/Control group	335	93,3%	24	6,7%	359	100,0%
Study at an Open University is especially of advantage to adults who have work and family obligations * Main group/Control group	337	93,9%	22	6,1%	359	100,0%

What is your occupation? * Main group/Control group

Crosstab

Count

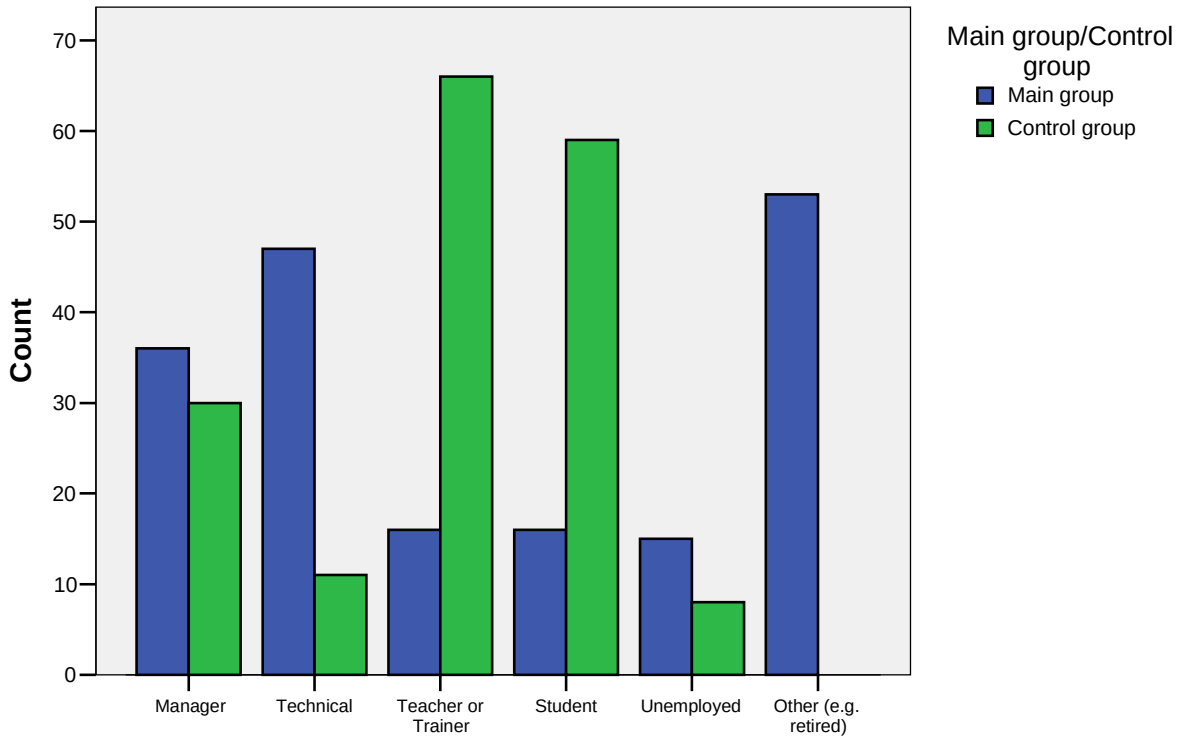
		Main group/Control group		
		Main group	Control group	Total
What is your occupation?	Manager	36	30	66
	Technical	47	11	58
	Teacher or Trainer	16	66	82
	Student	16	59	75
	Unemployed	15	8	23
	Other (e.g. retired)	53	0	53
Total		183	174	357

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	133,020[a]	5	,000
Likelihood Ratio	158,971	5	,000
Linear-by-Linear Association	6,724	1	,010
N of Valid Cases	357		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 11,21.

Bar Chart



What is your age grouping? * Main group/Control group

Crosstab

Count

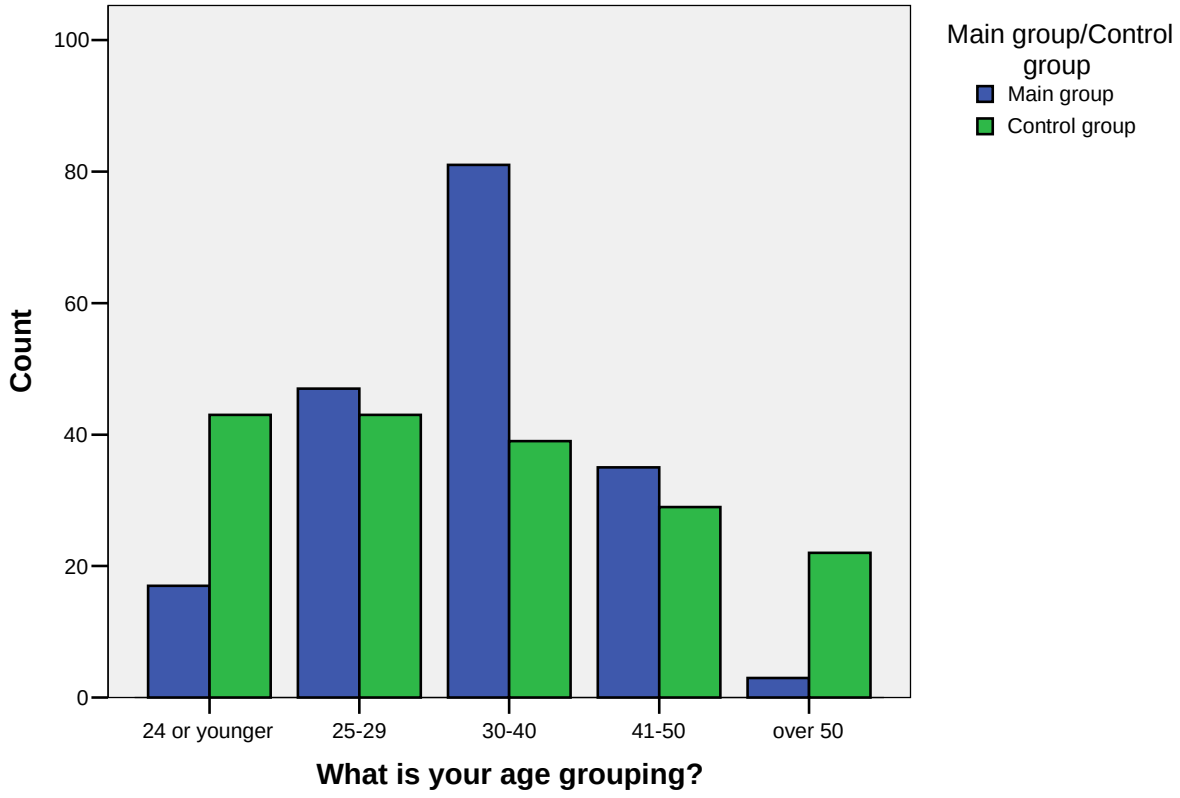
		Main group/Control group		
		Main group	Control group	Total
What is your age grouping?	24 or younger	17	43	60
	25-29	47	43	90
	30-40	81	39	120
	41-50	35	29	64
	over 50	3	22	25
Total		183	176	359

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41,026[a]	4	,000
Likelihood Ratio	43,580	4	,000
Linear-by-Linear Association	,680	1	,409
N of Valid Cases	359		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 12,26.

Bar Chart



Gender * Main group/Control group

Crosstab

Count

		Main group/Control group		
		Main group	Control group	Total
Gender	Male	94	66	160
	Female	89	108	197
Total		183	174	357

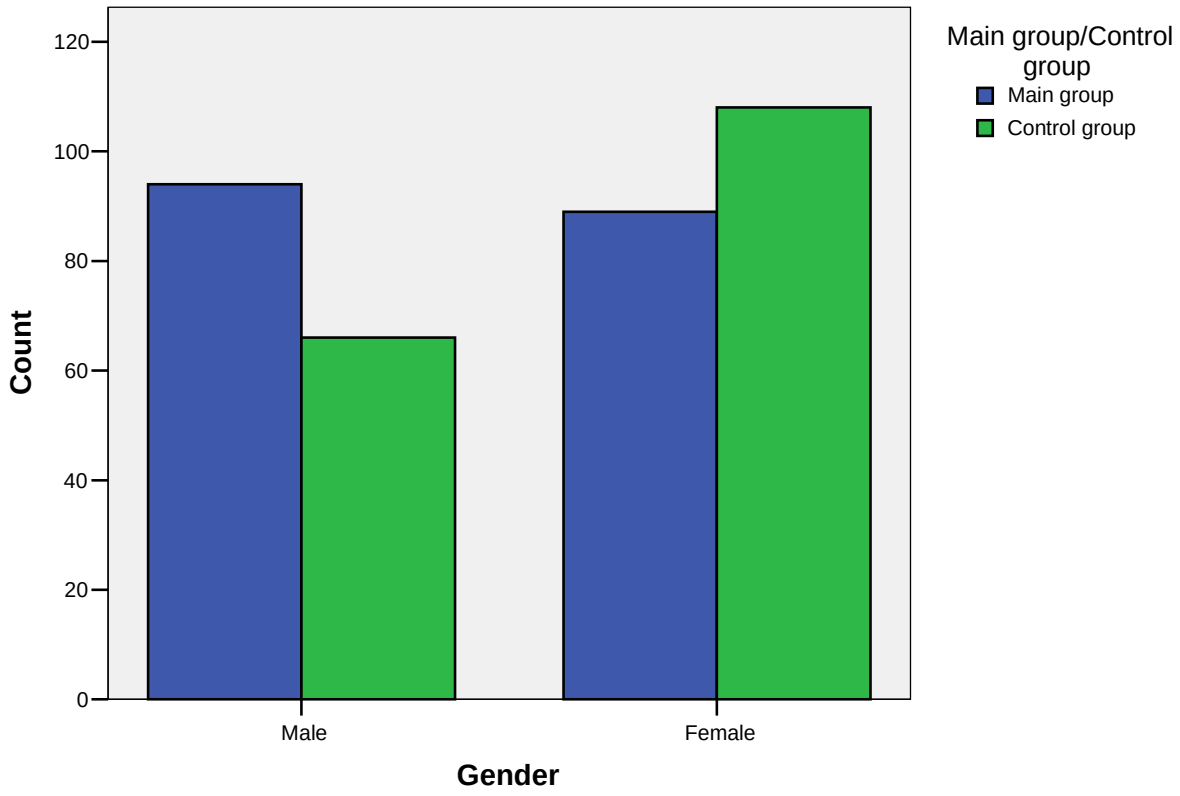
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6,510[b]	1	,011		
Continuity Correction[a]	5,978	1	,014		
Likelihood Ratio	6,534	1	,011		
Fisher's Exact Test				,014	,007
Linear-by-Linear Association	6,491	1	,011		
N of Valid Cases	357				

a. Computed only for a 2x2 table

b. 0 cells (,0%) have expected count less than 5. The minimum expected count is 77,98.

Bar Chart



What is your level of education? * Main group/Control group

Crosstab

Count

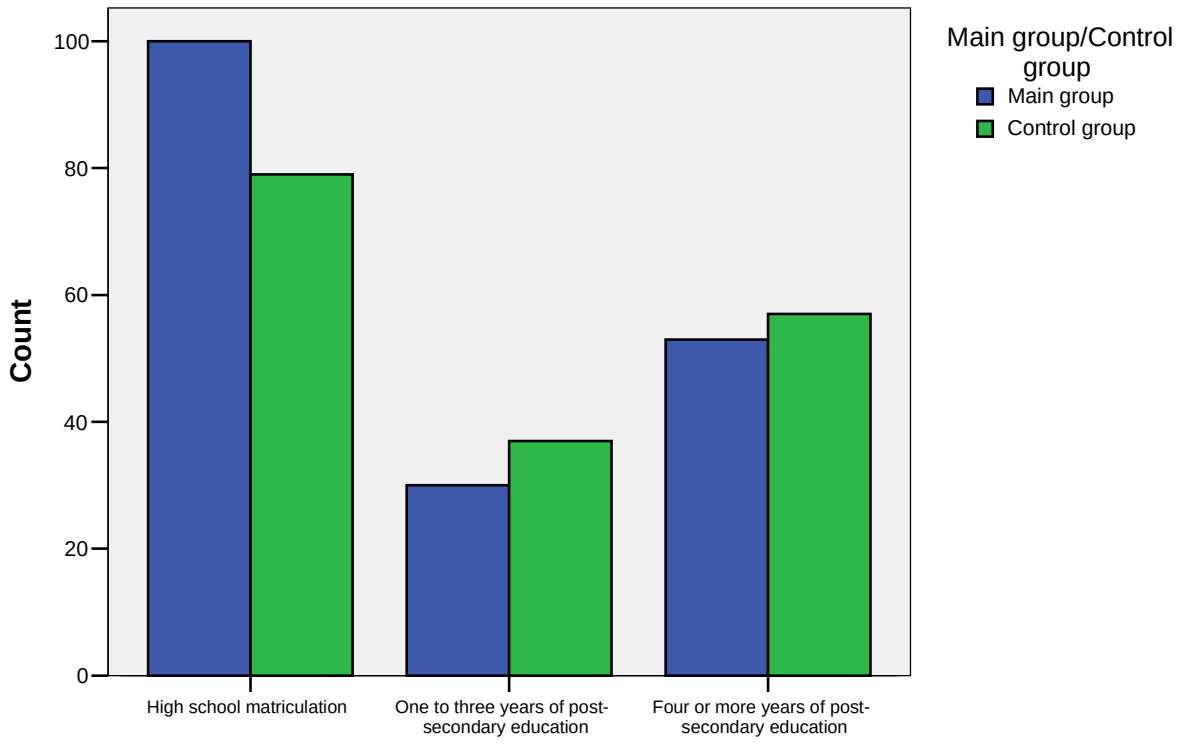
		Main group/Control group		
		Main group	Control group	Total
What is your level of education?	High school matriculation	100	79	179
	One to three years of post-secondary education	30	37	67
	Four or more years of post-secondary education	53	57	110
Total		183	173	356

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3,062[a]	2	,216
Likelihood Ratio	3,067	2	,216
Linear-by-Linear Association	1,926	1	,165
N of Valid Cases	356		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 32,56.

Bar Chart



To what extent have you used advanced technological equipment in your professional life? * Main group/Control group

Crosstab

Count

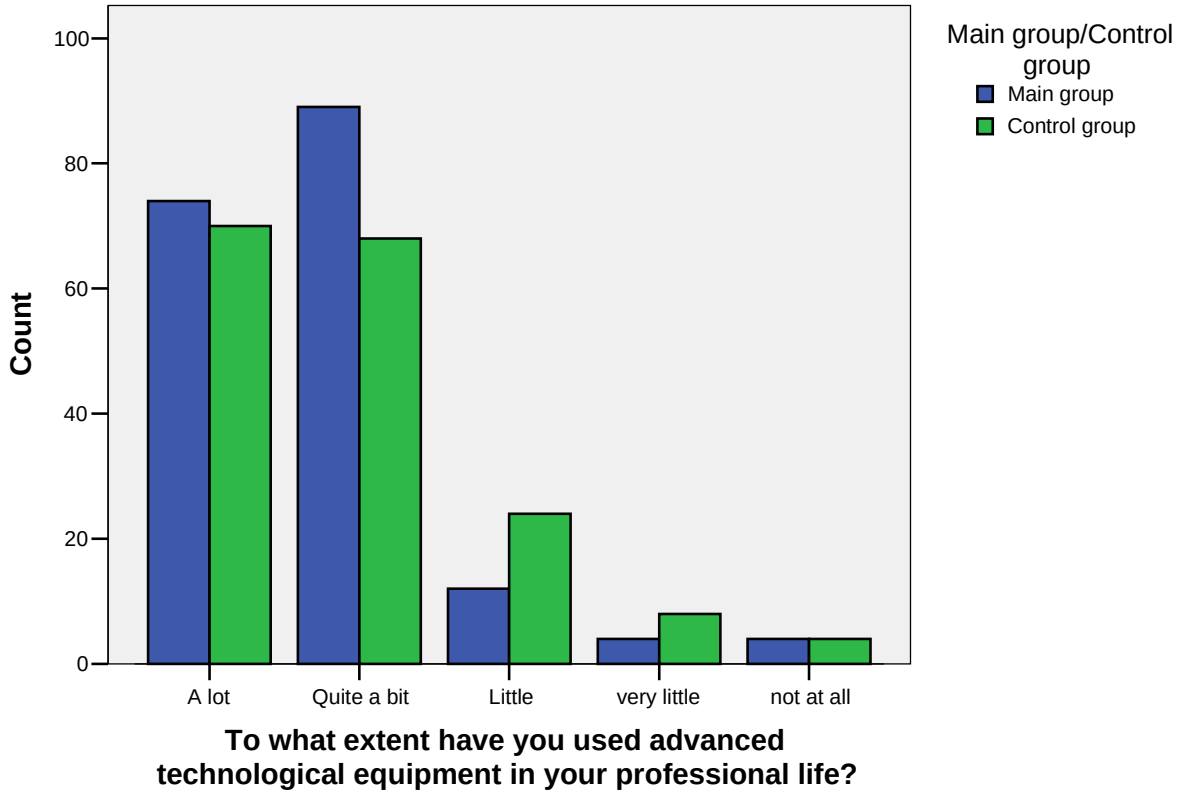
		Main group/Control group		
		Main group	Control group	Total
To what extent have you used advanced technological equipment in your professional life?	A lot	74	70	144
	Quite a bit	89	68	157
	Little	12	24	36
	very little	4	8	12
	not at all	4	4	8
Total		183	174	357

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8,032[a]	4	,090
Likelihood Ratio	8,138	4	,087
Linear-by-Linear Association	1,740	1	,187
N of Valid Cases	357		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 3,90.

Bar Chart



Have you had to change your way of working because of technological developments? * Main group/Control group

Crosstab

Count

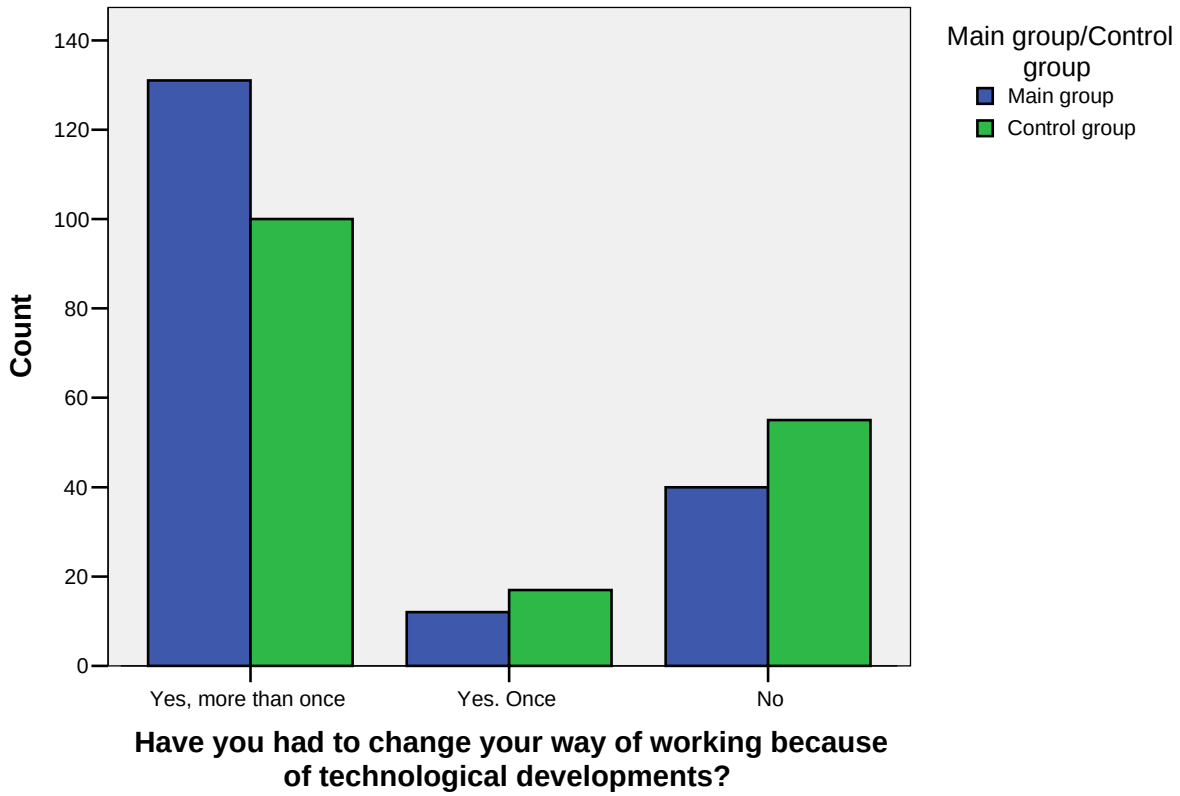
		Main group/Control group		
		Main group	Control group	Total
Have you had to change your way of working because of technological developments?	Yes, more than once	131	100	231
	Yes. Once	12	17	29
	No	40	55	95
Total		183	172	355

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7,057[a]	2	,029
Likelihood Ratio	7,077	2	,029
Linear-by-Linear Association	6,363	1	,012
N of Valid Cases	355		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 14,05.

Bar Chart



Thanks to technology, the problems of access to learning for students with disabilities have been resolved * Main group/Control group

Crosstab

Count

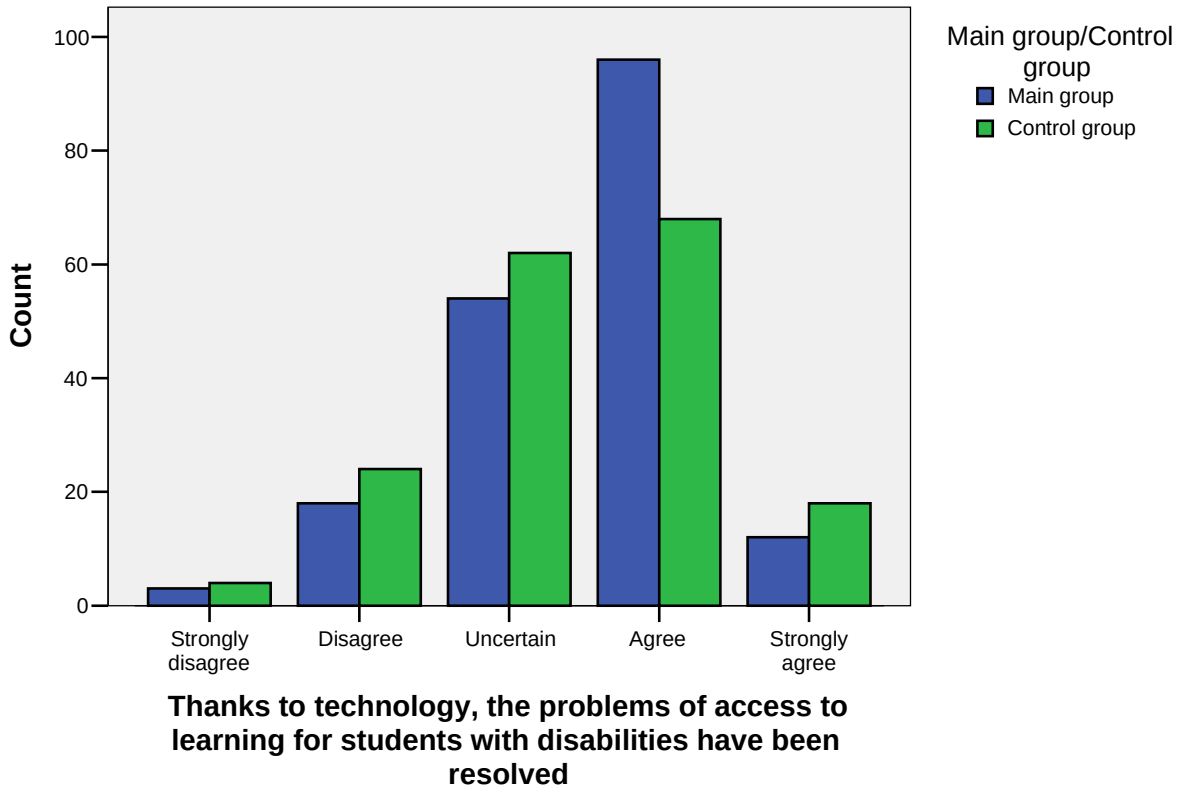
		Main group/Control group		
		Main group	Control group	Total
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Strongly disagree	3	4	7
	Disagree	18	24	42
	Uncertain	54	62	116
	Agree	96	68	164
	Strongly agree	12	18	30
Total		183	176	359

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7,399[a]	4	,116
Likelihood Ratio	7,431	4	,115
Linear-by-Linear Association	1,556	1	,212
N of Valid Cases	359		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 3,43.

Bar Chart



Contacts between students and teachers can have the same intensity in online education as in face-to-face education * Main group/Control group

Crosstab

Count

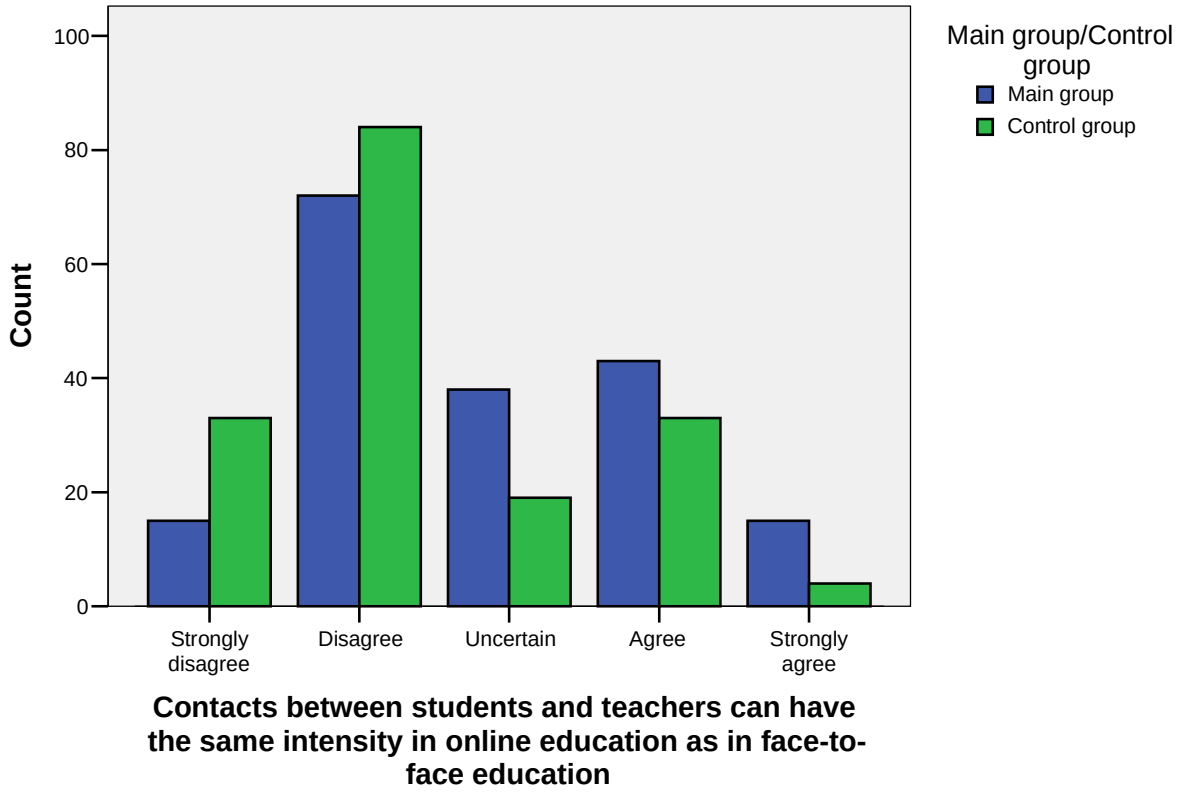
		Main group/Control group		
		Main group	Control group	Total
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Strongly disagree	15	33	48
	Disagree	72	84	156
	Uncertain	38	19	57
	Agree	43	33	76
	Strongly agree	15	4	19
Total		183	173	356

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21,427[a]	4	,000
Likelihood Ratio	22,119	4	,000
Linear-by-Linear Association	15,724	1	,000
N of Valid Cases	356		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 9,23.

Bar Chart



Contacts between students and teachers can have the same intensity in online education as in face-to-face education

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * Main group/Control group

Crosstab

Count

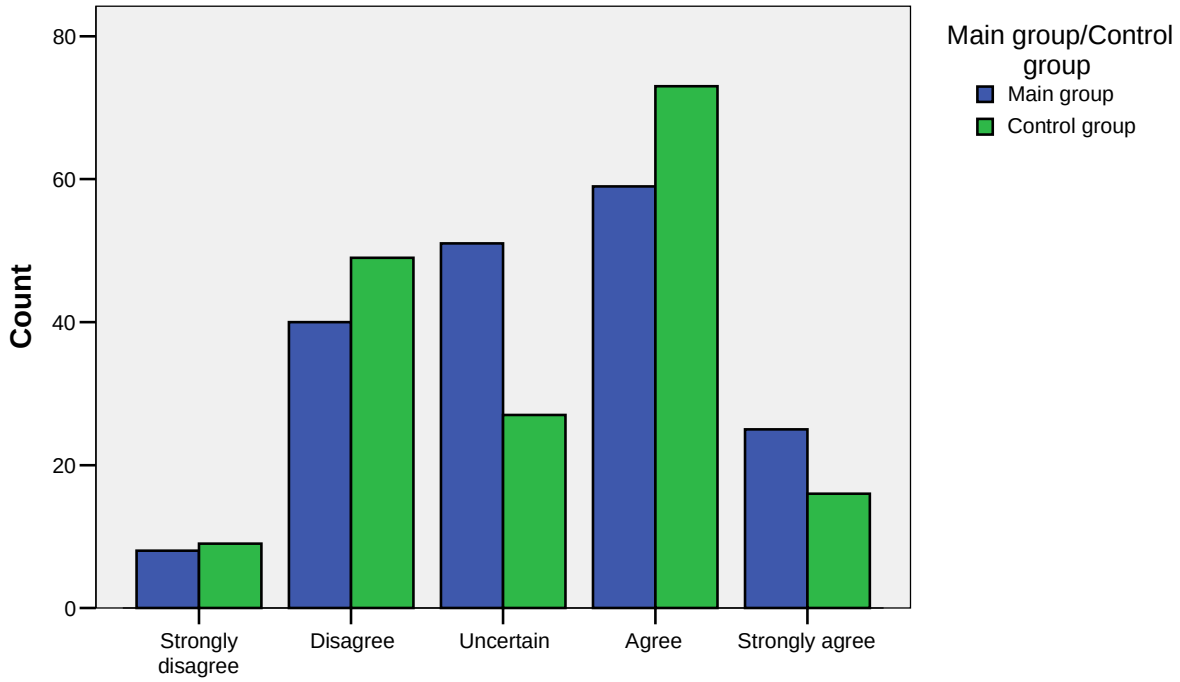
		Main group/Control group		
		Main group	Control group	Total
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Strongly disagree	8	9	17
	Disagree	40	49	89
	Uncertain	51	27	78
	Agree	59	73	132
	Strongly agree	25	16	41
Total		183	174	357

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11,594[a]	4	,021
Likelihood Ratio	11,729	4	,019
Linear-by-Linear Association	,375	1	,540
N of Valid Cases	357		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 8,29.

Bar Chart



Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

Only optimistic people think that the impact of technology on learning is beneficial * Main group/Control group

Crosstab

Count

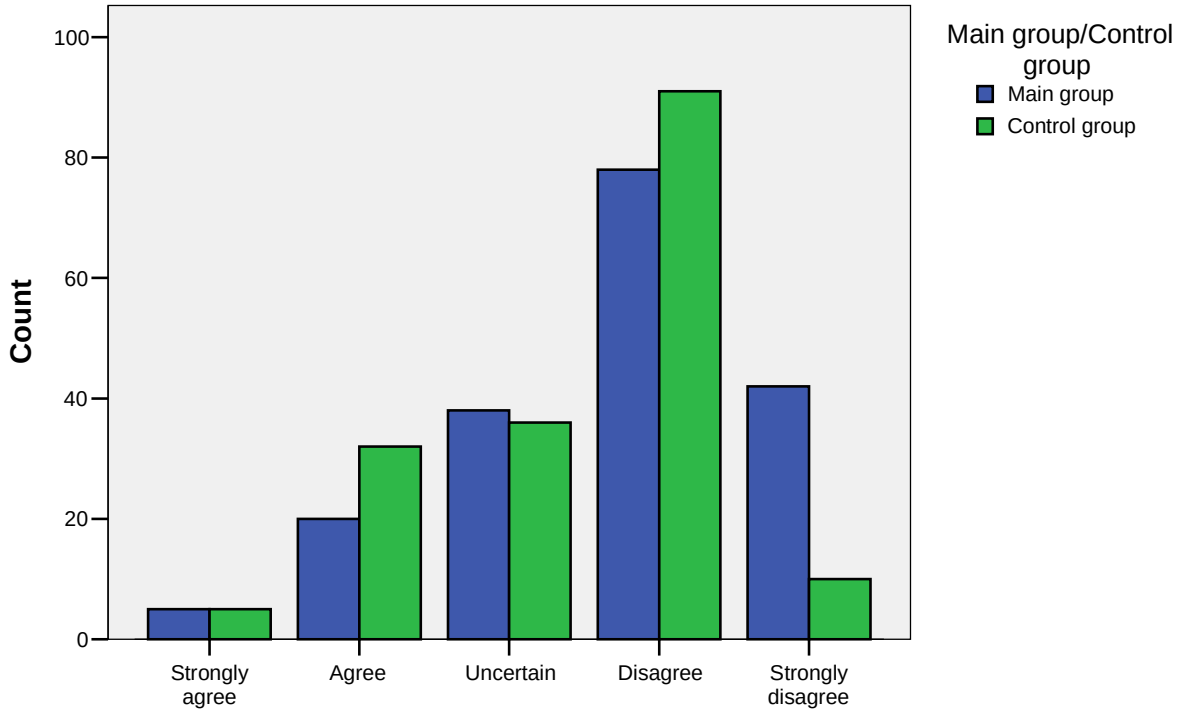
		Main group/Control group		
		Main group	Control group	Total
Only optimistic people think that the impact of technology on learning is beneficial	Strongly agree	5	5	10
	Agree	20	32	52
	Uncertain	38	36	74
	Disagree	78	91	169
	Strongly disagree	42	10	52
Total		183	174	357

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23,304[a]	4	,000
Likelihood Ratio	24,796	4	,000
Linear-by-Linear Association	9,412	1	,002
N of Valid Cases	357		

a. 1 cells (10,0%) have expected count less than 5. The minimum expected count is 4,87.

Bar Chart



Only optimistic people think that the impact of technology on learning is beneficial

From my personal study experience I find that the impact of technology on learning is valuable * Main group/Control group

Crosstab

Count

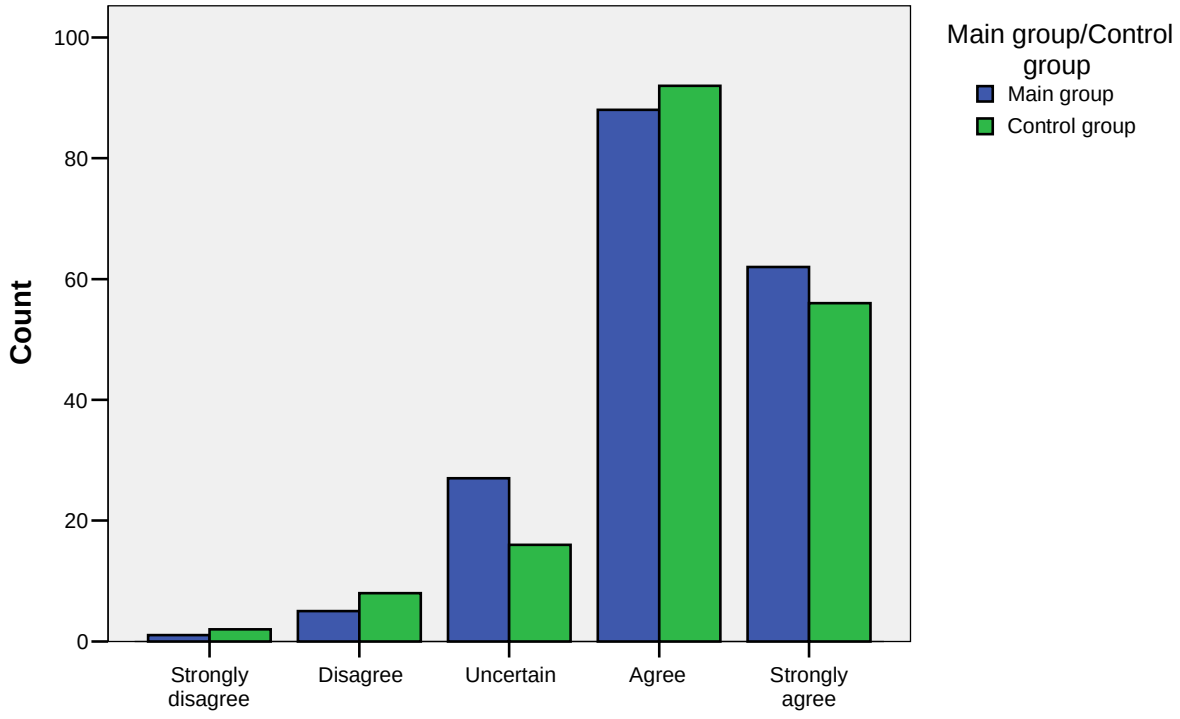
		Main group/Control group		
		Main group	Control group	Total
From my personal study experience I find that the impact of technology on learning is valuable	Strongly disagree	1	2	3
	Disagree	5	8	13
	Uncertain	27	16	43
	Agree	88	92	180
	Strongly agree	62	56	118
Total		183	174	357

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4,009[a]	4	,405
Likelihood Ratio	4,051	4	,399
Linear-by-Linear Association	,038	1	,846
N of Valid Cases	357		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 1,46.

Bar Chart



From my personal study experience I find that the impact of technology on learning is valuable

Information and communications technology has usually been used to encourage us to be active participants in learning * Main group/Control group

Crosstab

Count

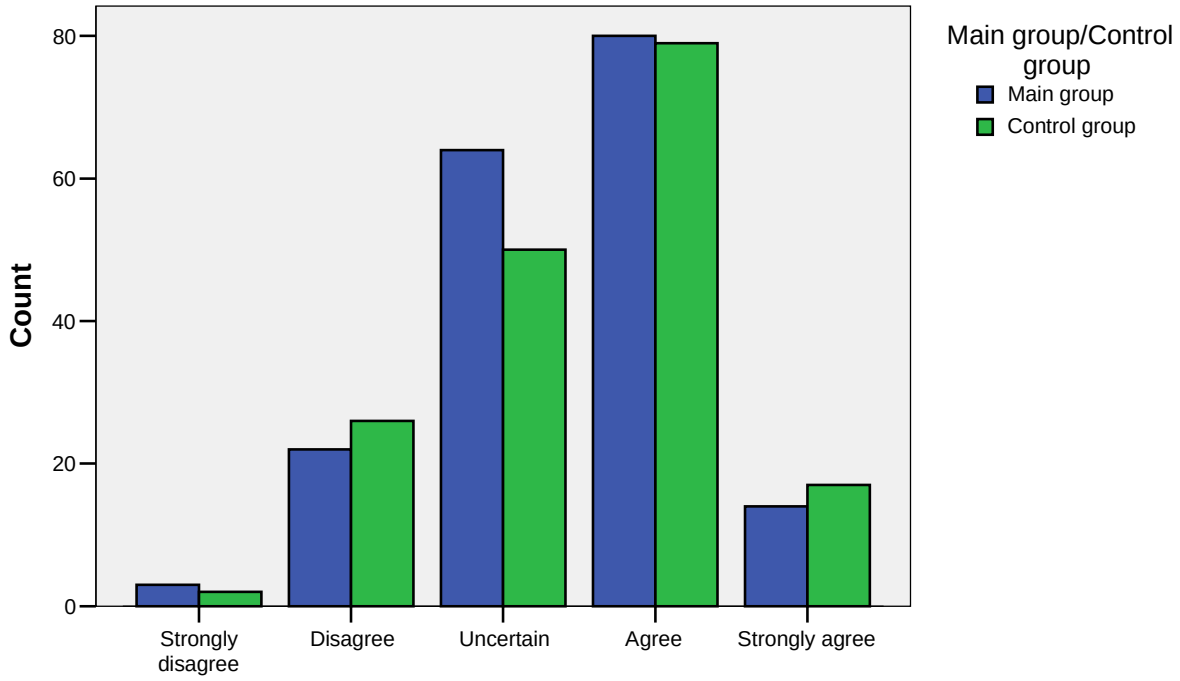
		Main group/Control group		
		Main group	Control group	Total
Information and communications technology has usually been used to encourage us to be active participants in learning	Strongly disagree	3	2	5
	Disagree	22	26	48
	Uncertain	64	50	114
	Agree	80	79	159
	Strongly agree	14	17	31
Total		183	174	357

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2,324[a]	4	,676
Likelihood Ratio	2,329	4	,676
Linear-by-Linear Association	,182	1	,669
N of Valid Cases	357		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 2,44.

Bar Chart



Information and communications technology has usually been used to encourage us to be active participants in learning

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * Main group/Control group

Crosstab

Count

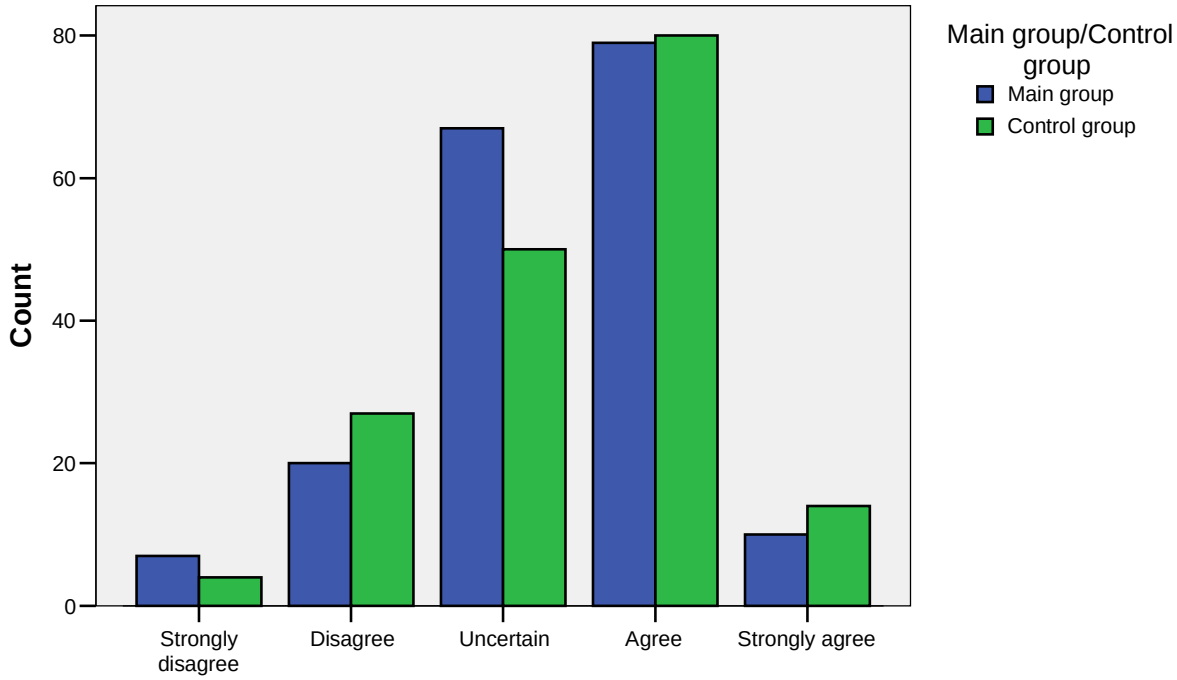
		Main group/Control group		
		Main group	Control group	Total
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Strongly disagree	7	4	11
	Disagree	20	27	47
	Uncertain	67	50	117
	Agree	79	80	159
	Strongly agree	10	14	24
Total		183	175	358

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4,827[a]	4	,305
Likelihood Ratio	4,851	4	,303
Linear-by-Linear Association	,419	1	,518
N of Valid Cases	358		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 5,38.

Bar Chart



Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs *

Main group/Control group

Crosstab

Count

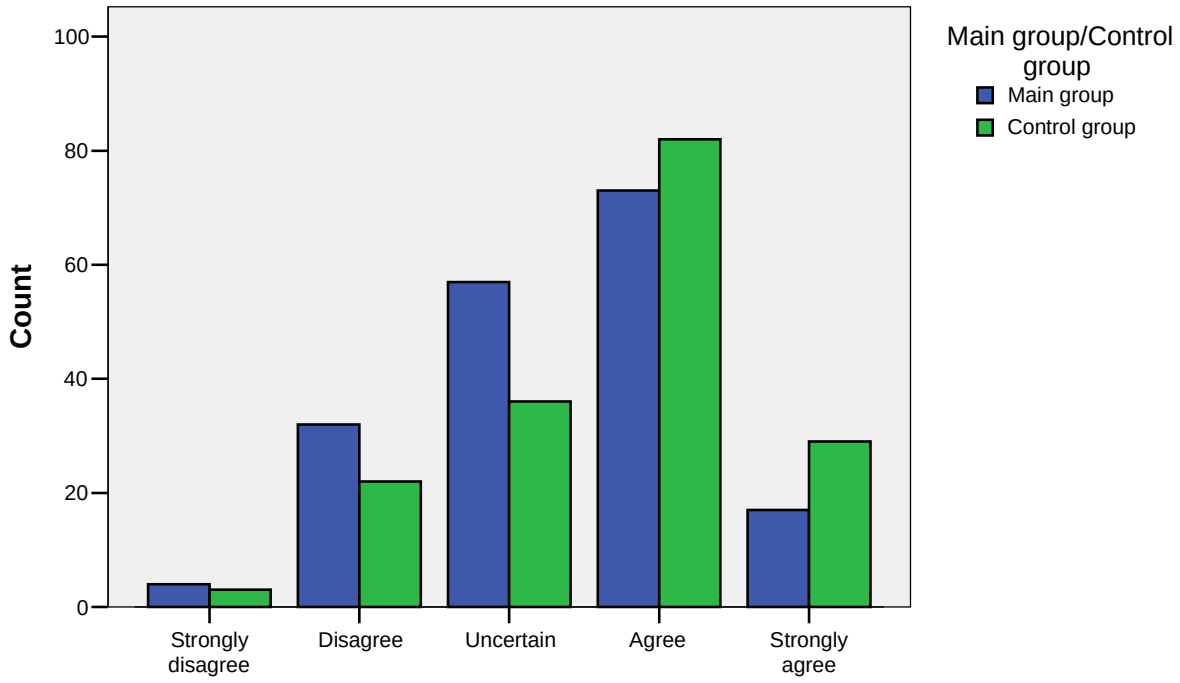
		Main group/Control group		
		Main group	Control group	Total
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Strongly disagree	4	3	7
	Disagree	32	22	54
	Uncertain	57	36	93
	Agree	73	82	155
	Strongly agree	17	29	46
Total		183	172	355

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10,058[a]	4	,039
Likelihood Ratio	10,138	4	,038
Linear-by-Linear Association	7,710	1	,005
N of Valid Cases	355		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 3,39.

Bar Chart



Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

Learning is enhanced when text and pictures are integrated in a multimedia

environment * Main group/Control group

Crosstab

Count

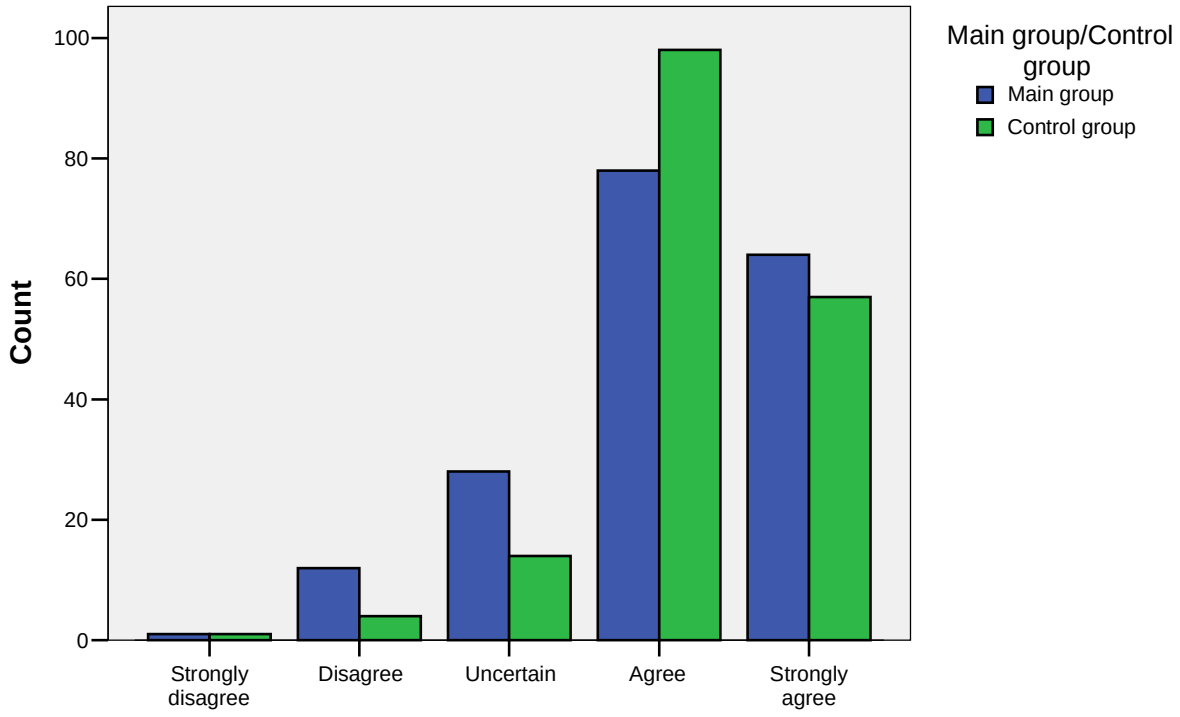
		Main group/Control group		
		Main group	Control group	Total
Learning is enhanced when text and pictures are integrated in a multimedia environment	Strongly disagree	1	1	2
	Disagree	12	4	16
	Uncertain	28	14	42
	Agree	78	98	176
	Strongly agree	64	57	121
Total		183	174	357

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11,125[a]	4	,025
Likelihood Ratio	11,399	4	,022
Linear-by-Linear Association	2,399	1	,121
N of Valid Cases	357		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is ,97.

Bar Chart



Learning is enhanced when text and pictures are integrated in a multimedia environment

Educational games motivate learners and contribute to developing skills such as teamwork * Main group/Control group

Crosstab

Count

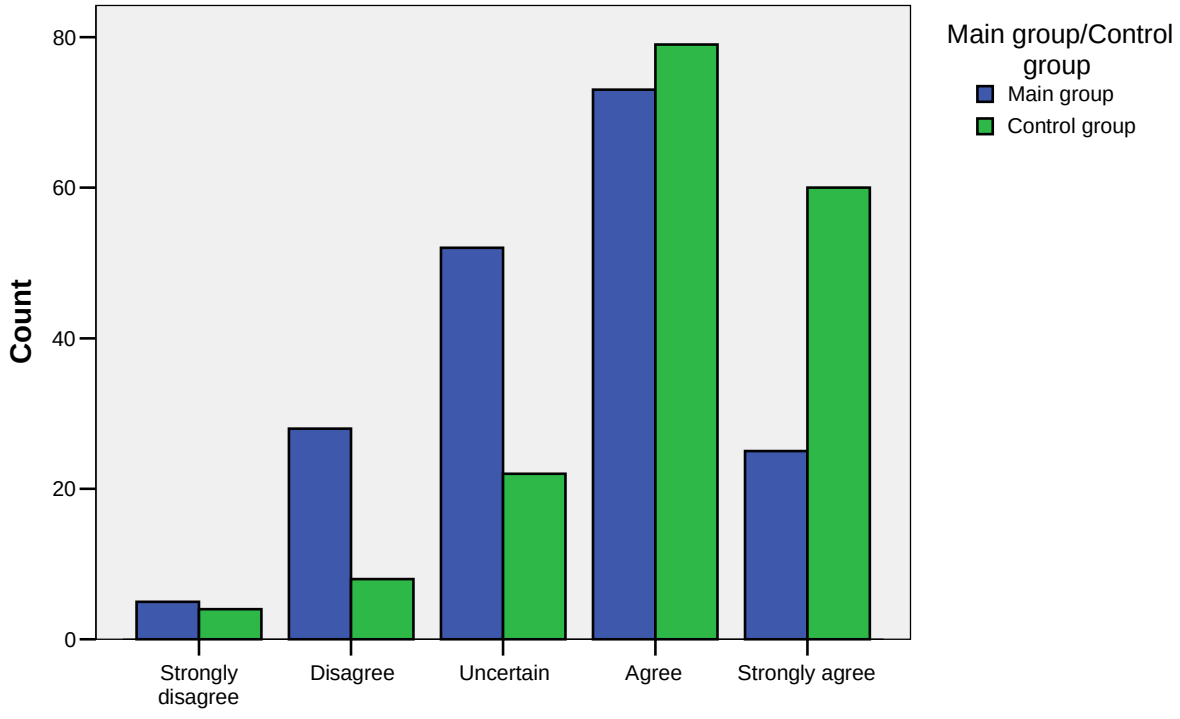
		Main group/Control group		
		Main group	Control group	Total
Educational games motivate learners and contribute to developing skills such as teamwork	Strongly disagree	5	4	9
	Disagree	28	8	36
	Uncertain	52	22	74
	Agree	73	79	152
	Strongly agree	25	60	85
Total		183	173	356

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37,782[a]	4	,000
Likelihood Ratio	39,204	4	,000
Linear-by-Linear Association	30,680	1	,000
N of Valid Cases	356		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 4,37.

Bar Chart



Educational games motivate learners and contribute to developing skills such as teamwork

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * Main group/Control group

Crosstab

Count

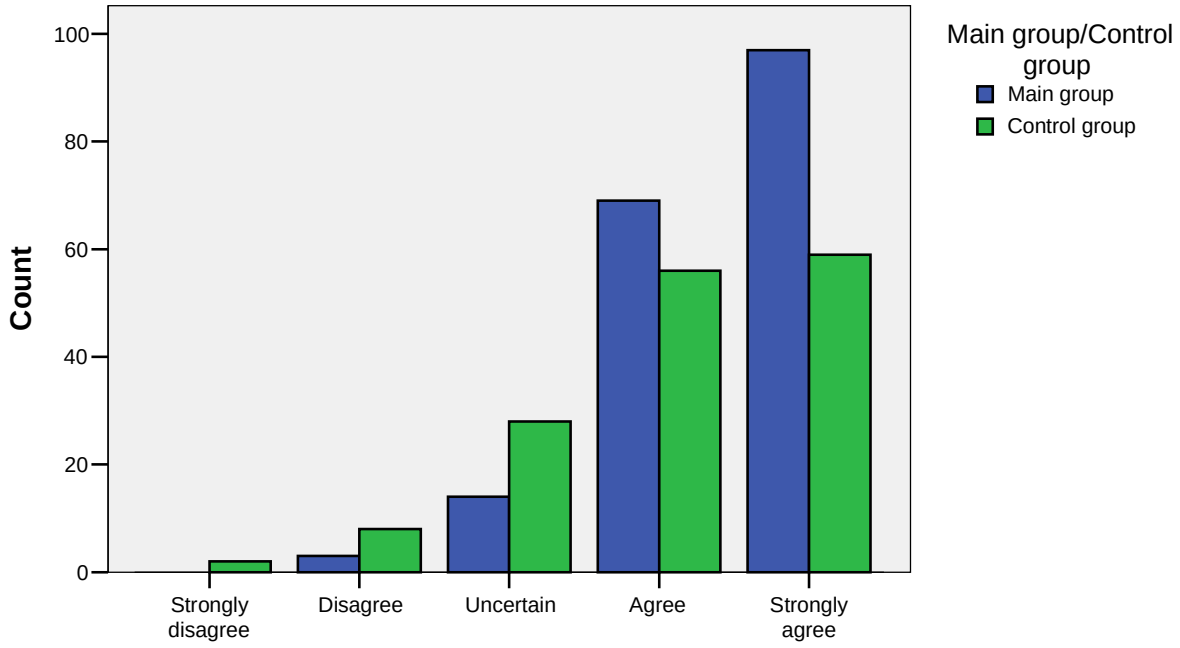
		Main group/Control group		
		Main group	Control group	Total
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Strongly disagree	0	2	2
	Disagree	3	8	11
	Uncertain	14	28	42
	Agree	69	56	125
	Strongly agree	97	59	156
Total		183	153	336

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17,005[a]	4	,002
Likelihood Ratio	17,911	4	,001
Linear-by-Linear Association	15,366	1	,000
N of Valid Cases	336		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is ,91.

Bar Chart



The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Technology facilitates easier access to material for those studying part-time * Main group/Control group

Crosstab

Count

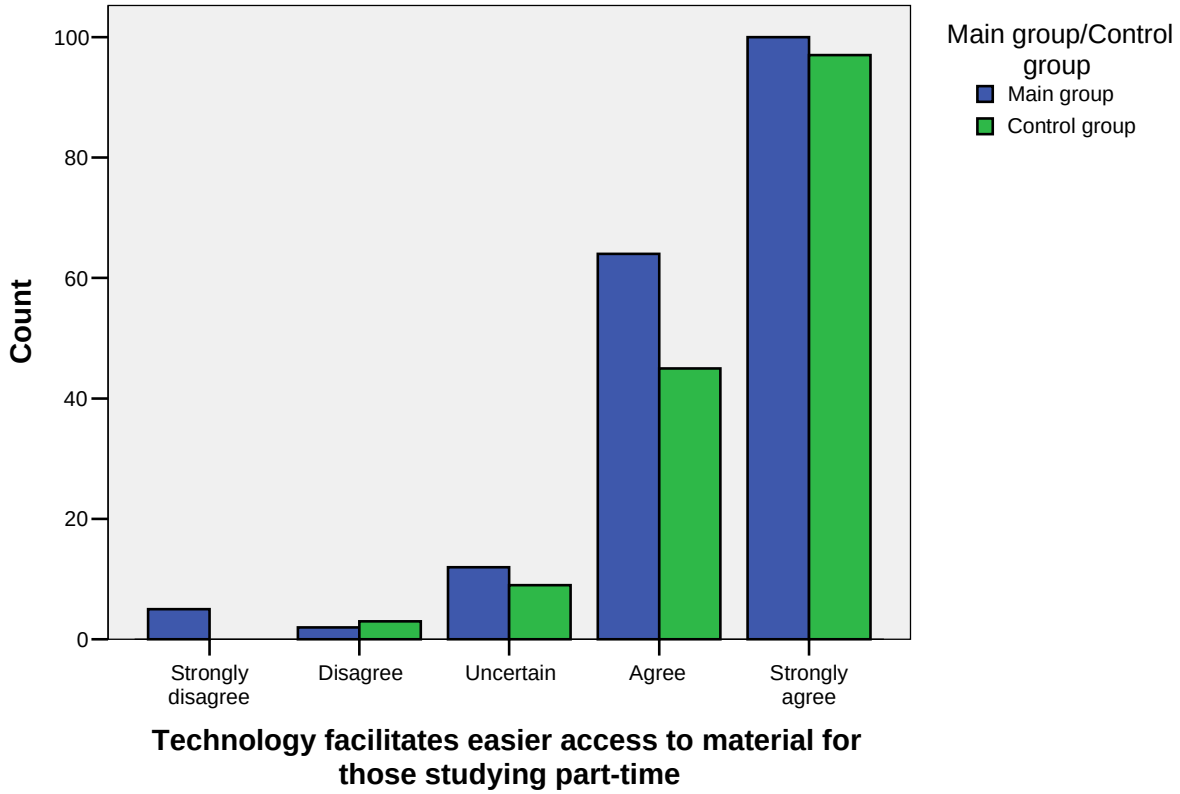
		Main group/Control group		
		Main group	Control group	Total
Technology facilitates easier access to material for those studying part-time	Strongly disagree	5	0	5
	Disagree	2	3	5
	Uncertain	12	9	21
	Agree	64	45	109
	Strongly agree	100	97	197
Total		183	154	337

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6,539[a]	4	,162
Likelihood Ratio	8,439	4	,077
Linear-by-Linear Association	3,152	1	,076
N of Valid Cases	337		

a. 4 cells (40,0%) have expected count less than 5. The minimum expected count is 2,28.

Bar Chart



University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * Main group/Control group

Crosstab

Count

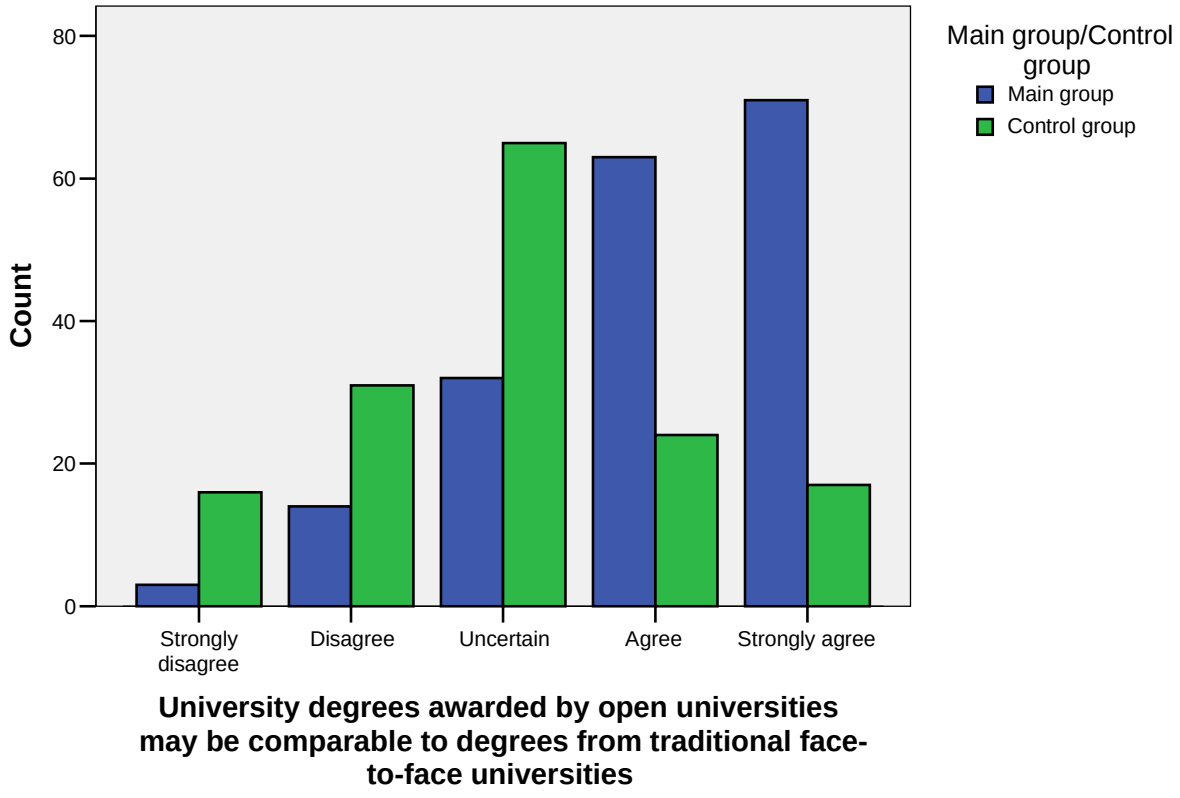
		Main group/Control group		
		Main group	Control group	Total
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Strongly disagree	3	16	19
	Disagree	14	31	45
	Uncertain	32	65	97
	Agree	63	24	87
	Strongly agree	71	17	88
Total		183	153	336

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	75,083[a]	4	,000
Likelihood Ratio	78,855	4	,000
Linear-by-Linear Association	65,585	1	,000
N of Valid Cases	336		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 8,65.

Bar Chart



There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university * Main group/Control group

Crosstab

Count

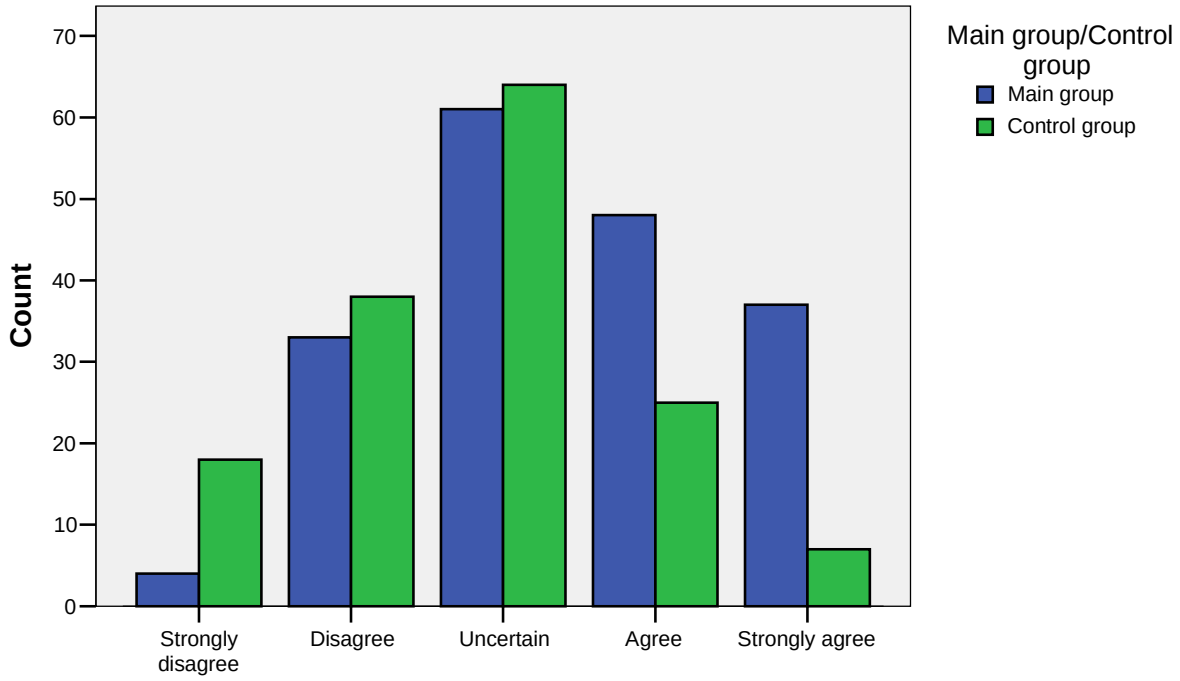
		Main group/Control group		
		Main group	Control group	Total
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Strongly disagree	4	18	22
	Disagree	33	38	71
	Uncertain	61	64	125
	Agree	48	25	73
	Strongly agree	37	7	44
Total		183	152	335

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34,461[a]	4	,000
Likelihood Ratio	36,998	4	,000
Linear-by-Linear Association	31,260	1	,000
N of Valid Cases	335		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 9,98.

Bar Chart



Study at an Open University is especially of advantage to adults who have work and family obligations * Main group/Control group

Crosstab

Count

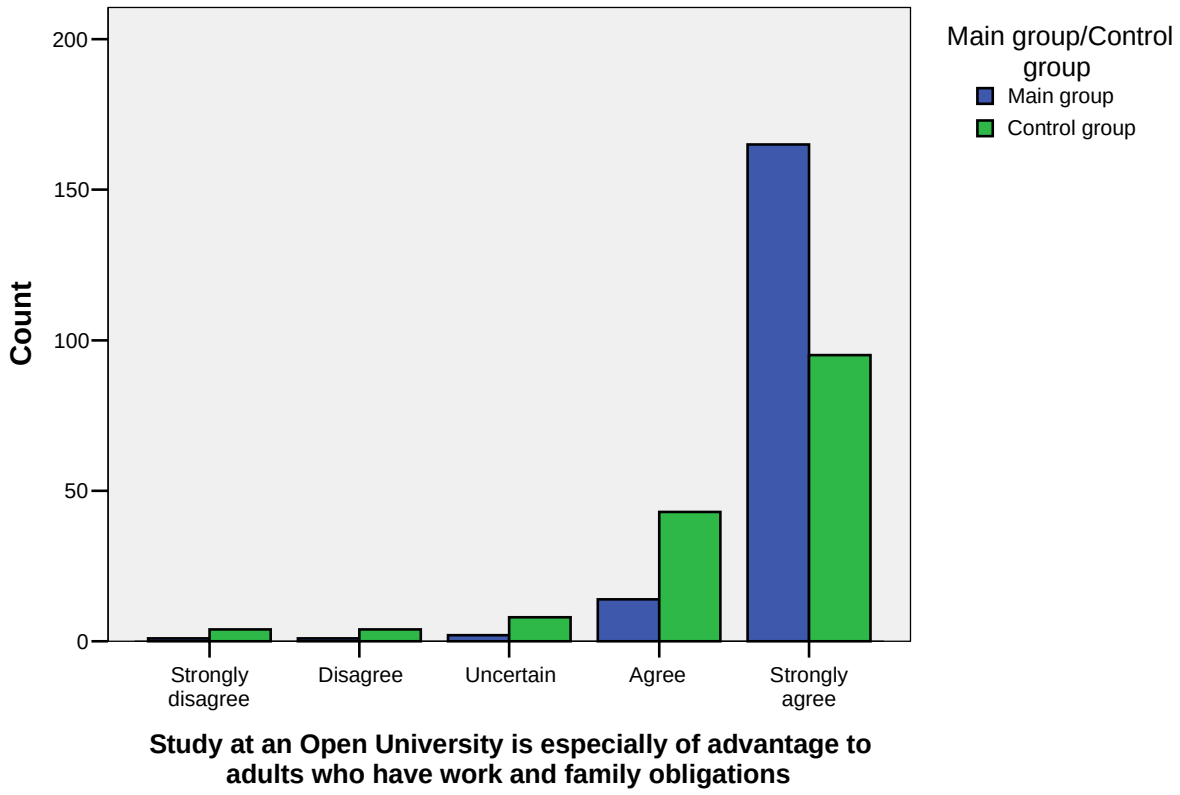
		Main group/Control group		
		Main group	Control group	Total
Study at an Open University is especially of advantage to adults who have work and family obligations	Strongly disagree	1	4	5
	Disagree	1	4	5
	Uncertain	2	8	10
	Agree	14	43	57
	Strongly agree	165	95	260
Total		183	154	337

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38,591[a]	4	,000
Likelihood Ratio	39,760	4	,000
Linear-by-Linear Association	27,898	1	,000
N of Valid Cases	337		

a. 5 cells (50,0%) have expected count less than 5. The minimum expected count is 2,28.

Bar Chart



B.4 T-Test

Main Group and Control Group differences in means

	Main group				Control group			
Item	*Valid*	*Missing*	*Mean*	*Range*	*Valid*	*Missing*	*Mean*	*Range*
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	183	0	3,52	4	176	0	3,41	4
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	183	0	2,84	4	173	3	2,37	4
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	183	0	3,29	4	174	2	3,22	4
Only optimistic people think that the impact of technology on learning is beneficial	183	0	3,72	4	174	2	3,4	4
From my personal study experience I find that the impact of technology on learning is valuable	183	0	4,12	4	174	2	4,1	4
Information and communications technology has usually been used to encourage us to be active participants in learning	183	0	3,44	4	174	2	3,48	4
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	183	0	3,36	4	175	1	3,42	4
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	183	0	3,37	4	172	4	3,65	4
Learning is enhanced when text and pictures are integrated in a multimedia environment	183	0	4,05	4	174	2	4,18	4
Educational games motivate learners and contribute to developing skills such as teamwork	183	0	3,46	4	173	3	4,06	4
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	183	0	4,42	3	153	23	4,06	4
Technology facilitates easier access to material for those studying part-time	183	0	4,38	4	154	22	4,53	3
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	183	0	4,01	4	153	23	2,97	4
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	183	0	3,44	4	152	24	2,77	4
Study at an Open University is especially of advantage to adults who have work and family obligations	183	0	4,86	4	154	22	4,44	4

Higher values in the row are in red colour.

Green rows indicate variables where, using the t-test for independent samples, we found a significant difference between main group and control group (see values in the next table).

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Thanks to technology, the problems of access to learning for students with disabilities have been	Equal variances assumed	3,271	,071	1,248	357	,213	,115	,093	-,066	,297
	Equal variances not assumed			1,245	348,483	,214	,115	,093	-,067	,298
Contacts between students and teachers can have the same intensity in online	Equal variances assumed	1,742	,188	4,051	354	,000	,472	,116	,243	,701
	Equal variances not assumed			4,056	353,993	,000	,472	,116	,243	,700
Online communication allows increased amounts of communication between	Equal variances assumed	1,025	,312	,612	355	,541	,071	,116	-,158	,300
	Equal variances not assumed			,611	353,201	,541	,071	,117	-,158	,300
Only optimistic people think that the impact of technology on learning is beneficial	Equal variances assumed	,024	,876	3,105	355	,002	,325	,105	,119	,530
	Equal variances not assumed			3,111	354,763	,002	,325	,104	,119	,530
From my personal study experience I find that the impact of technology on learning is valuable	Equal variances assumed	,102	,750	,194	355	,846	,017	,086	-,153	,186
	Equal variances not assumed			,194	351,748	,846	,017	,086	-,153	,187
Information and communications technology has usually been used to encourage	Equal variances assumed	,721	,396	-,427	355	,670	-,040	,093	-,224	,144
	Equal variances not assumed			-,426	351,561	,670	-,040	,094	-,224	,144
Information and communications technology has been used to support the	Equal variances assumed	,924	,337	-,646	356	,518	-,062	,096	-,250	,127
	Equal variances not assumed			-,646	353,559	,519	-,062	,096	-,251	,127
Information and communications technology has been used to support more	Equal variances assumed	,154	,695	-2,804	353	,005	-,285	,102	-,485	-,085
	Equal variances not assumed			-2,802	350,939	,005	-,285	,102	-,485	-,085
Learning is enhanced when text and pictures are integrated in a multimedia environment	Equal variances assumed	4,984	,026	-1,552	355	,122	-,135	,087	-,305	,036
	Equal variances not assumed			-1,560	344,860	,120	-,135	,086	-,305	,035
Educational games motivate learners and contribute to developing skills such as teamwork	Equal variances assumed	9,342	,002	-5,787	354	,000	-,593	,103	-,795	-,392
	Equal variances not assumed			-5,798	353,943	,000	-,593	,102	-,795	-,392
The application of new ICT concepts to support learning and teaching and provide Internet access to	Equal variances assumed	4,493	,035	4,007	334	,000	,362	,090	,184	,540
	Equal variances not assumed			3,906	276,045	,000	,362	,093	,180	,544
Technology facilitates easier access to material for those studying part-time	Equal variances assumed	3,148	,077	-1,781	335	,076	-,155	,087	-,327	,016
	Equal variances not assumed			-1,816	334,078	,070	-,155	,086	-,324	,013
University degrees awarded by open universities may be comparable to degrees	Equal variances assumed	,217	,642	9,017	334	,000	1,044	,116	,816	1,271
	Equal variances not assumed			8,943	311,176	,000	1,044	,117	,814	1,273
There is no difference in learning outcomes between studying at an Open University or at a	Equal variances assumed	3,501	,062	5,864	333	,000	,673	,115	,447	,899
	Equal variances not assumed			5,895	327,482	,000	,673	,114	,448	,897
Study at an Open University is especially of advantage to adults who have work and family	Equal variances assumed	68,123	,000	5,508	335	,000	,428	,078	,275	,581
	Equal variances not assumed			5,252	225,762	,000	,428	,082	,268	,589

B.5 Cross-Table for Variable Age

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
To what extent have you used advanced technological equipment in your professional life? * What is your age grouping?	357	99,4%	2	,6%	359	100,0%
Have you had to change your way of working because of technological developments? * What is your age grouping?	355	98,9%	4	1,1%	359	100,0%
Thanks to technology, the problems of access to learning for students with disabilities have been resolved * What is your age grouping?	359	100,0%	0	,0%	359	100,0%
Contacts between students and teachers can have the same intensity in online education as in face-to-face education * What is your age grouping?	356	99,2%	3	,8%	359	100,0%
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * What is your age grouping?	357	99,4%	2	,6%	359	100,0%
Only optimistic people think that the impact of technology on learning is beneficial * What is your age grouping?	357	99,4%	2	,6%	359	100,0%
From my personal study experience I find that the impact of technology on learning is valuable * What is your age grouping?	357	99,4%	2	,6%	359	100,0%
Information and communications technology has usually been used to encourage us to be active participants in learning * What is your age grouping?	357	99,4%	2	,6%	359	100,0%
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * What is your age grouping?	358	99,7%	1	,3%	359	100,0%

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs * What is your age grouping?	355	98,9%	4	1,1%	359	100,0%
Learning is enhanced when text and pictures are integrated in a multimedia environment * What is your age grouping?	357	99,4%	2	,6%	359	100,0%
Educational games motivate learners and contribute to developing skills such as teamwork * What is your age grouping?	356	99,2%	3	,8%	359	100,0%
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * What is your age grouping?	336	93,6%	23	6,4%	359	100,0%
Technology facilitates easier access to material for those studying part-time * What is your age grouping?	337	93,9%	22	6,1%	359	100,0%
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * What is your age grouping?	336	93,6%	23	6,4%	359	100,0%
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university * What is your age grouping?	335	93,3%	24	6,7%	359	100,0%
Study at an Open University is especially of advantage to adults who have work and family obligations * What is your age grouping?	337	93,9%	22	6,1%	359	100,0%

To what extent have you used advanced technological equipment in your professional life? * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
To what extent have you used advanced technological equipment in your professional life?	A lot	Count	20	36	51
		Expected Count	24,2	36,3	48,0
	Quite a bit	Count	21	45	54
		Expected Count	26,4	39,6	52,3
	Little	Count	12	6	10
		Expected Count	6,1	9,1	12,0
	very little	Count	3	3	2
		Expected Count	2,0	3,0	4,0
	not at all	Count	4	0	2
		Expected Count	1,3	2,0	2,7
Total		Count	60	90	119
		Expected Count	60,0	90,0	119,0

Crosstab

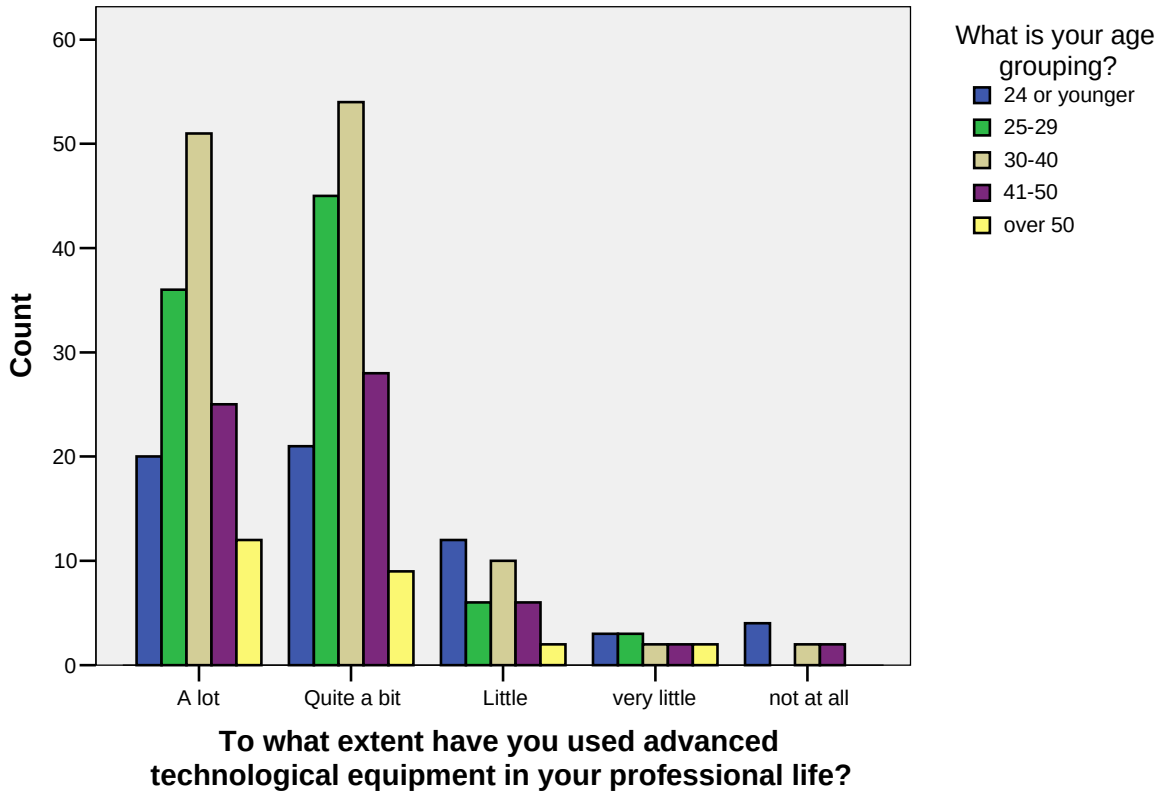
			What is your age		
			41-50	over 50	Total
To what extent have you used advanced technological equipment in your professional life?	A lot	Count	25	12	144
		Expected Count	25,4	10,1	144,0
	Quite a bit	Count	28	9	157
		Expected Count	27,7	11,0	157,0
	Little	Count	6	2	36
		Expected Count	6,4	2,5	36,0
	very little	Count	2	2	12
		Expected Count	2,1	,8	12,0
	not at all	Count	2	0	8
		Expected Count	1,4	,6	8,0
Total		Count	63	25	357
		Expected Count	63,0	25,0	357,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22,223[a]	16	,136
Likelihood Ratio	21,621	16	,156
Linear-by-Linear Association	2,918	1	,088
N of Valid Cases	357		

a. 11 cells (44,0%) have expected count less than 5. The minimum expected count is ,56.

Bar Chart



Have you had to change your way of working because of technological developments? * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Have you had to change your way of working because of technological developments?	Yes, more than once	Count	31	51	81
		Expected Count	39,0	58,6	76,8
	Yes. Once	Count	3	9	8
		Expected Count	4,9	7,4	9,6
	No	Count	26	30	29
		Expected Count	16,1	24,1	31,6
Total		Count	60	90	118
		Expected Count	60,0	90,0	118,0

Crosstab

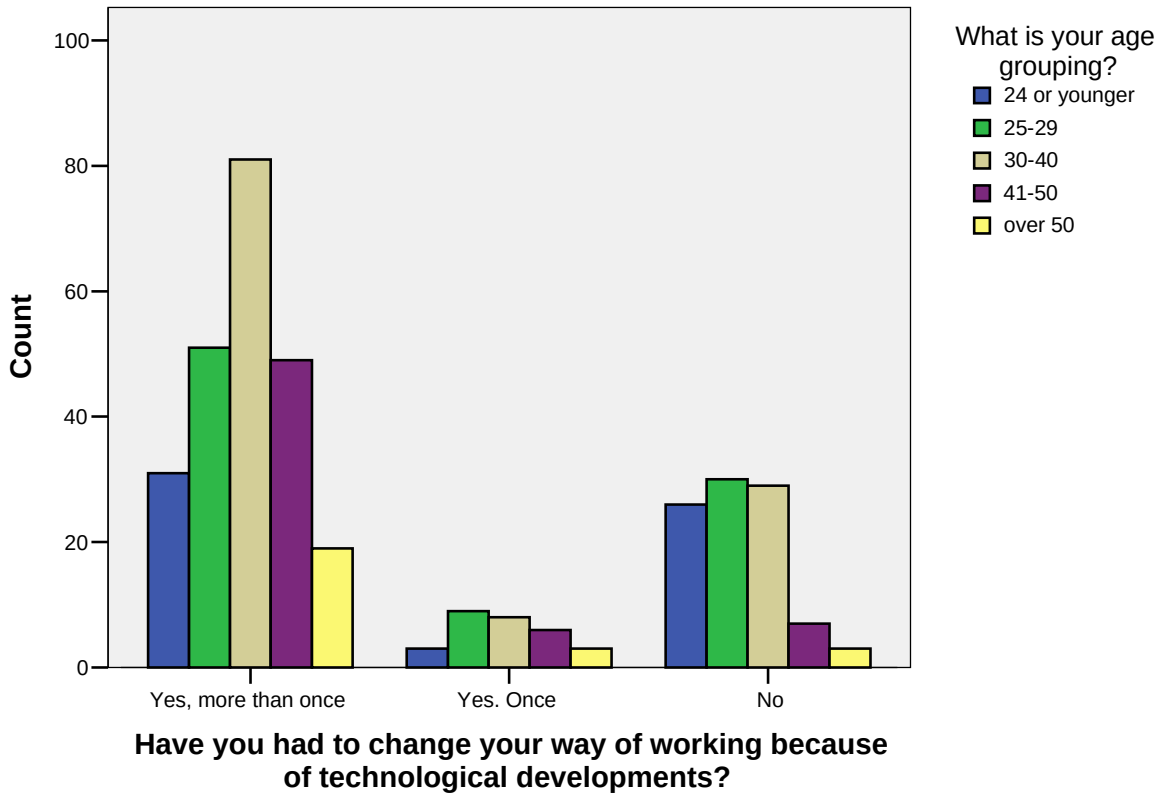
			What is your age		
			41-50	over 50	Total
Have you had to change your way of working because of technological developments?	Yes, more than once	Count	49	19	231
		Expected Count	40,3	16,3	231,0
	Yes. Once	Count	6	3	29
		Expected Count	5,1	2,0	29,0
	No	Count	7	3	95
		Expected Count	16,6	6,7	95,0
Total		Count	62	25	355
		Expected Count	62,0	25,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22,591[a]	8	,004
Likelihood Ratio	23,667	8	,003
Linear-by-Linear Association	18,033	1	,000
N of Valid Cases	355		

a. 2 cells (13,3%) have expected count less than 5. The minimum expected count is 2,04.

Bar Chart



Thanks to technology, the problems of access to learning for students with disabilities have been resolved * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Strongly disagree	Count	2	0	2
		Expected Count	1,2	1,8	2,3
	Disagree	Count	14	4	16
		Expected Count	7,0	10,5	14,0
	Uncertain	Count	13	35	35
		Expected Count	19,4	29,1	38,8
	Agree	Count	28	44	56
		Expected Count	27,4	41,1	54,8
	Strongly agree	Count	3	7	11
		Expected Count	5,0	7,5	10,0
Total		Count	60	90	120
		Expected Count	60,0	90,0	120,0

Crosstab

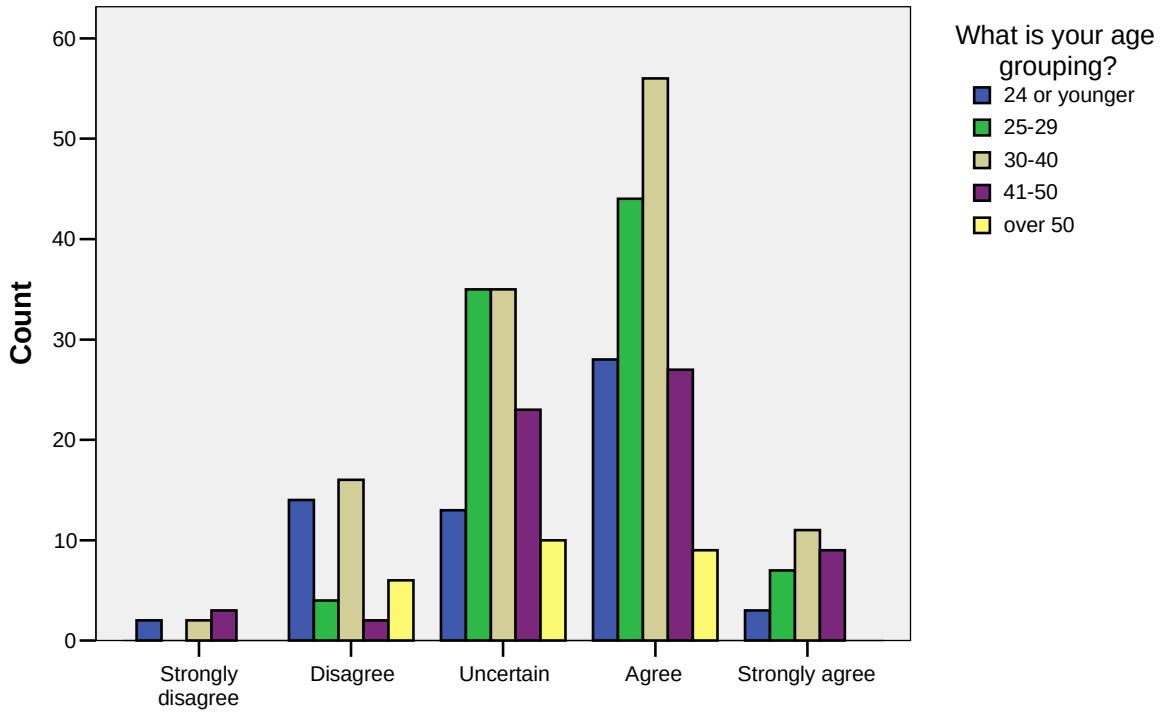
			What is your age		
			41-50	over 50	Total
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Strongly disagree	Count	3	0	7
		Expected Count	1,2	,5	7,0
	Disagree	Count	2	6	42
		Expected Count	7,5	2,9	42,0
	Uncertain	Count	23	10	116
		Expected Count	20,7	8,1	116,0
	Agree	Count	27	9	164
		Expected Count	29,2	11,4	164,0
	Strongly agree	Count	9	0	30
		Expected Count	5,3	2,1	30,0
Total		Count	64	25	359
		Expected Count	64,0	25,0	359,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34,701[a]	16	,004
Likelihood Ratio	38,746	16	,001
Linear-by-Linear Association	,010	1	,919
N of Valid Cases	359		

a. 7 cells (28,0%) have expected count less than 5. The minimum expected count is ,49.

Bar Chart



Contacts between students and teachers can have the same intensity in online education as in face-to-face education * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Strongly disagree	Count	10	16	13
		Expected Count	8,0	12,0	16,0
	Disagree	Count	24	44	52
		Expected Count	25,9	39,0	52,1
	Uncertain	Count	8	13	22
		Expected Count	9,4	14,3	19,1
	Agree	Count	14	11	26
		Expected Count	12,6	19,0	25,4
	Strongly agree	Count	3	5	6
		Expected Count	3,1	4,8	6,4
Total		Count	59	89	119
		Expected Count	59,0	89,0	119,0

Crosstab

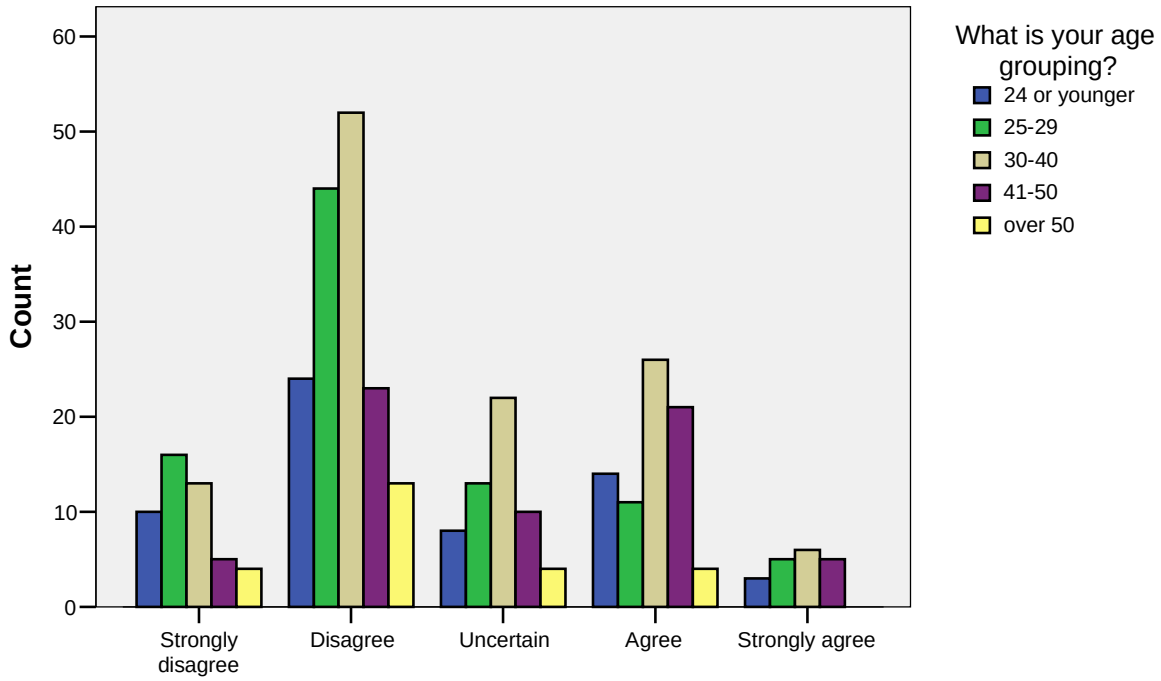
			What is your age		
			41-50	over 50	Total
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Strongly disagree	Count	5	4	48
		Expected Count	8,6	3,4	48,0
	Disagree	Count	23	13	156
		Expected Count	28,0	11,0	156,0
	Uncertain	Count	10	4	57
		Expected Count	10,2	4,0	57,0
	Agree	Count	21	4	76
		Expected Count	13,7	5,3	76,0
	Strongly agree	Count	5	0	19
		Expected Count	3,4	1,3	19,0
Total		Count	64	25	356
		Expected Count	64,0	25,0	356,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16,860[a]	16	,395
Likelihood Ratio	18,325	16	,305
Linear-by-Linear Association	1,639	1	,200
N of Valid Cases	356		

a. 6 cells (24,0%) have expected count less than 5. The minimum expected count is 1,33.

Bar Chart



Contacts between students and teachers can have the same intensity in online education as in face-to-face education

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Strongly disagree	Count	3	6	5
		Expected Count	2,9	4,2	5,7
	Disagree	Count	20	24	27
		Expected Count	15,0	21,9	29,9
	Uncertain	Count	12	19	28
		Expected Count	13,1	19,2	26,2
	Agree	Count	14	28	49
		Expected Count	22,2	32,5	44,4
	Strongly agree	Count	11	11	11
		Expected Count	6,9	10,1	13,8
Total		Count	60	88	120
		Expected Count	60,0	88,0	120,0

Crosstab

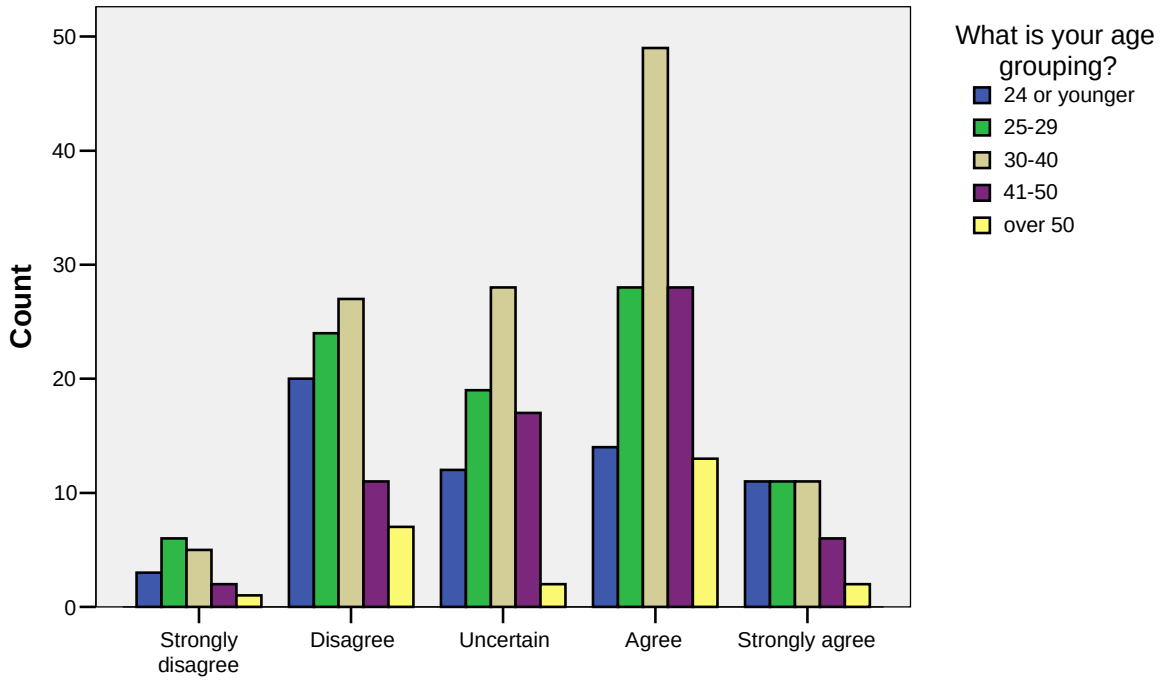
			What is your age		
			41-50	over 50	Total
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Strongly disagree	Count	2	1	17
		Expected Count	3,0	1,2	17,0
	Disagree	Count	11	7	89
		Expected Count	16,0	6,2	89,0
	Uncertain	Count	17	2	78
		Expected Count	14,0	5,5	78,0
	Agree	Count	28	13	132
		Expected Count	23,7	9,2	132,0
	Strongly agree	Count	6	2	41
		Expected Count	7,4	2,9	41,0
Total		Count	64	25	357
		Expected Count	64,0	25,0	357,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18,202[a]	16	,312
Likelihood Ratio	18,828	16	,278
Linear-by-Linear Association	1,699	1	,192
N of Valid Cases	357		

a. 5 cells (20,0%) have expected count less than 5. The minimum expected count is 1,19.

Bar Chart



Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

Only optimistic people think that the impact of technology on learning is beneficial * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Only optimistic people think that the impact of technology on learning is beneficial	Strongly agree	Count	3	1	2
		Expected Count	1,7	2,5	3,4
	Agree	Count	13	10	16
		Expected Count	8,7	13,0	17,5
	Uncertain	Count	6	28	21
		Expected Count	12,4	18,4	24,9
	Disagree	Count	27	42	58
		Expected Count	28,4	42,1	56,8
	Strongly disagree	Count	11	8	23
		Expected Count	8,7	13,0	17,5
Total		Count	60	89	120
		Expected Count	60,0	89,0	120,0

Crosstab

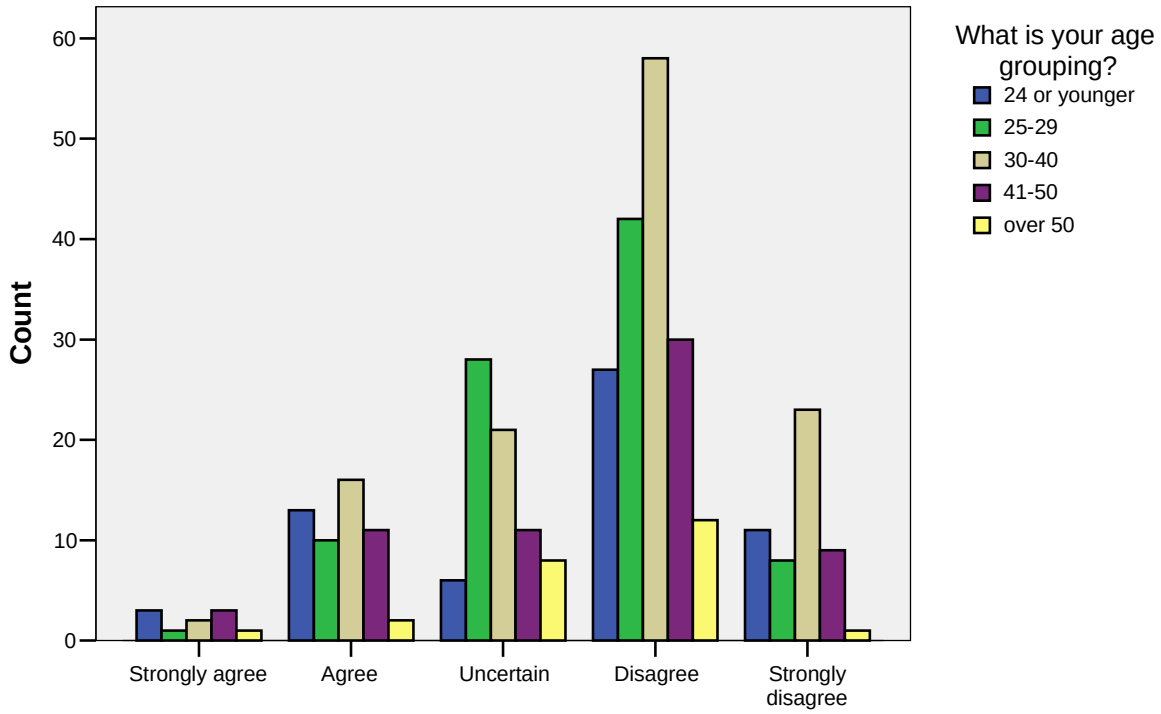
			What is your age		
			41-50	over 50	Total
Only optimistic people think that the impact of technology on learning is beneficial	Strongly agree	Count	3	1	10
		Expected Count	1,8	,7	10,0
	Agree	Count	11	2	52
		Expected Count	9,3	3,5	52,0
	Uncertain	Count	11	8	74
		Expected Count	13,3	5,0	74,0
	Disagree	Count	30	12	169
		Expected Count	30,3	11,4	169,0
	Strongly disagree	Count	9	1	52
		Expected Count	9,3	3,5	52,0
Total		Count	64	24	357
		Expected Count	64,0	24,0	357,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24,539[a]	16	,078
Likelihood Ratio	25,118	16	,068
Linear-by-Linear Association	,000	1	,986
N of Valid Cases	357		

a. 8 cells (32,0%) have expected count less than 5. The minimum expected count is ,67.

Bar Chart



Only optimistic people think that the impact of technology on learning is beneficial

From my personal study experience I find that the impact of technology on learning is valuable * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
From my personal study experience I find that the impact of technology on learning is valuable	Strongly disagree	Count	2	0	0
		Expected Count	,5	,8	1,0
	Disagree	Count	3	4	3
		Expected Count	2,2	3,3	4,3
	Uncertain	Count	8	16	13
		Expected Count	7,2	10,8	14,2
	Agree	Count	25	41	61
		Expected Count	30,3	45,4	59,5
	Strongly agree	Count	22	29	41
		Expected Count	19,8	29,7	39,0
Total		Count	60	90	118
		Expected Count	60,0	90,0	118,0

Crosstab

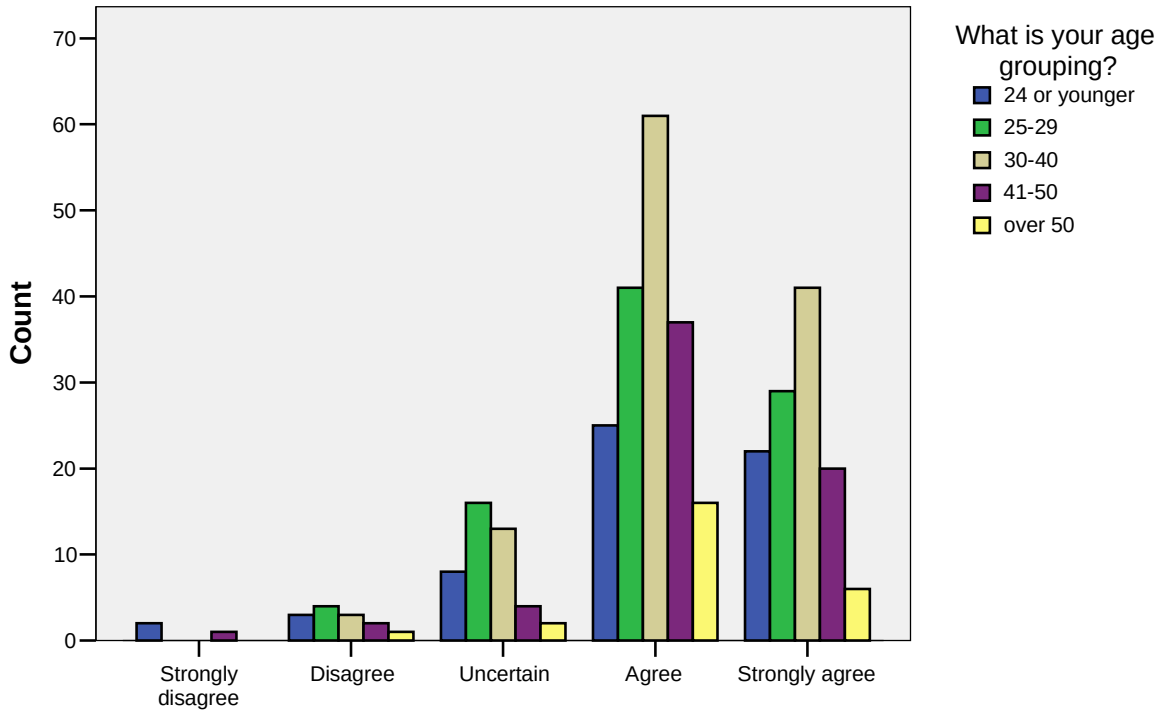
			What is your age		
			41-50	over 50	Total
From my personal study experience I find that the impact of technology on learning is valuable	Strongly disagree	Count	1	0	3
		Expected Count	,5	,2	3,0
	Disagree	Count	2	1	13
		Expected Count	2,3	,9	13,0
	Uncertain	Count	4	2	43
		Expected Count	7,7	3,0	43,0
	Agree	Count	37	16	180
		Expected Count	32,3	12,6	180,0
	Strongly agree	Count	20	6	118
		Expected Count	21,2	8,3	118,0
Total		Count	64	25	357
		Expected Count	64,0	25,0	357,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16,490[a]	16	,419
Likelihood Ratio	16,595	16	,412
Linear-by-Linear Association	,703	1	,402
N of Valid Cases	357		

a. 11 cells (44,0%) have expected count less than 5. The minimum expected count is ,21.

Bar Chart



From my personal study experience I find that the impact of technology on learning is valuable

Information and communications technology has usually been used to encourage us to be active participants in learning * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Information and communications technology has usually been used to encourage us to be active participants in learning	Strongly disagree	Count	0	2	3
		Expected Count	,8	1,2	1,7
	Disagree	Count	6	15	13
		Expected Count	8,1	12,0	16,0
	Uncertain	Count	18	27	41
		Expected Count	19,2	28,4	38,0
	Agree	Count	22	41	55
		Expected Count	26,7	39,6	53,0
	Strongly agree	Count	14	4	7
		Expected Count	5,2	7,7	10,3
Total		Count	60	89	119
		Expected Count	60,0	89,0	119,0

Crosstab

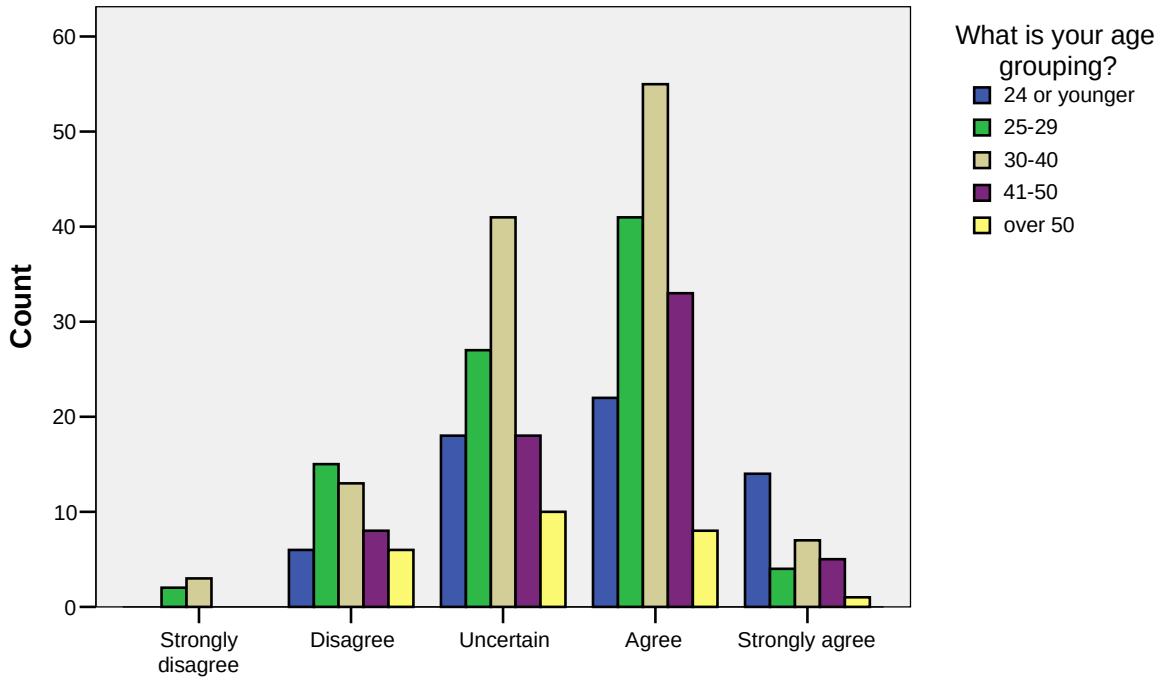
			What is your age		
			41-50	over 50	Total
Information and communications technology has usually been used to encourage us to be active participants in learning	Strongly disagree	Count	0	0	5
		Expected Count	,9	,4	5,0
	Disagree	Count	8	6	48
		Expected Count	8,6	3,4	48,0
	Uncertain	Count	18	10	114
		Expected Count	20,4	8,0	114,0
	Agree	Count	33	8	159
		Expected Count	28,5	11,1	159,0
	Strongly agree	Count	5	1	31
		Expected Count	5,6	2,2	31,0
Total		Count	64	25	357
		Expected Count	64,0	25,0	357,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29,701[a]	16	,020
Likelihood Ratio	27,192	16	,039
Linear-by-Linear Association	2,752	1	,097
N of Valid Cases	357		

a. 7 cells (28,0%) have expected count less than 5. The minimum expected count is ,35.

Bar Chart



Information and communications technology has usually been used to encourage us to be active participants in learning

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Strongly disagree	Count	1	2	3
		Expected Count	1,8	2,7	3,7
	Disagree	Count	4	11	15
		Expected Count	7,9	11,7	15,8
	Uncertain	Count	8	33	47
		Expected Count	19,6	29,1	39,2
	Agree	Count	37	39	50
		Expected Count	26,6	39,5	53,3
	Strongly agree	Count	10	4	5
		Expected Count	4,0	6,0	8,0
Total		Count	60	89	120
		Expected Count	60,0	89,0	120,0

Crosstab

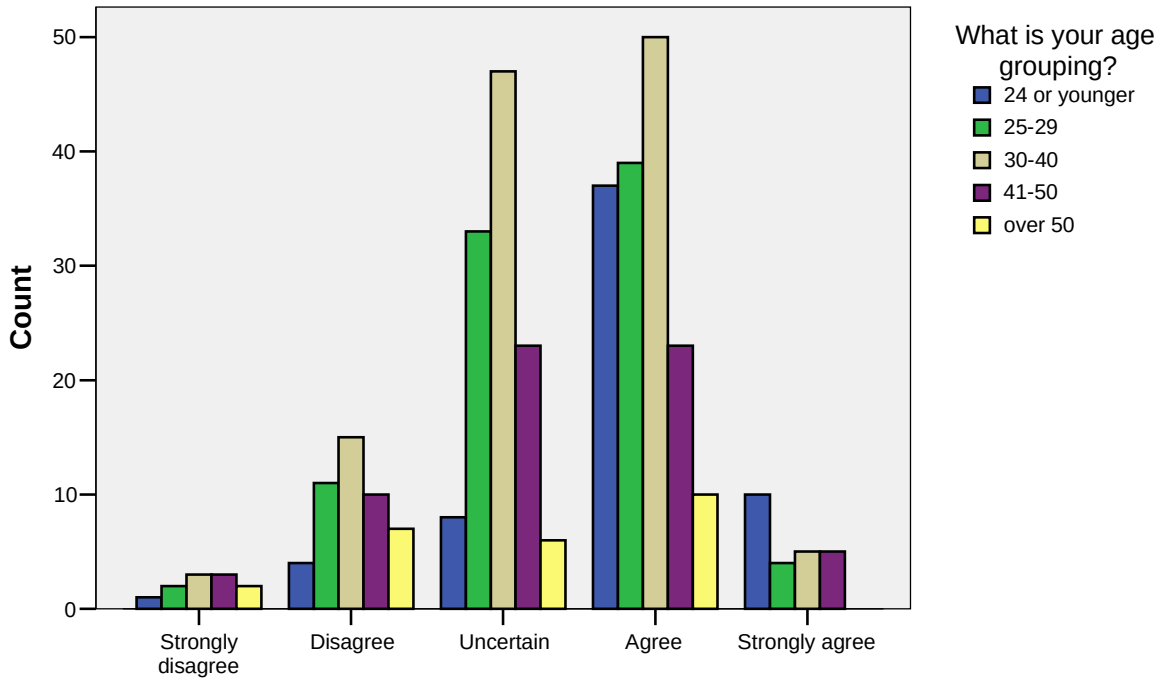
			What is your age		
			41-50	over 50	Total
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Strongly disagree	Count	3	2	11
		Expected Count	2,0	,8	11,0
	Disagree	Count	10	7	47
		Expected Count	8,4	3,3	47,0
	Uncertain	Count	23	6	117
		Expected Count	20,9	8,2	117,0
	Agree	Count	23	10	159
		Expected Count	28,4	11,1	159,0
	Strongly agree	Count	5	0	24
		Expected Count	4,3	1,7	24,0
Total		Count	64	25	358
		Expected Count	64,0	25,0	358,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37,312[a]	16	,002
Likelihood Ratio	36,990	16	,002
Linear-by-Linear Association	17,688	1	,000
N of Valid Cases	358		

a. 9 cells (36,0%) have expected count less than 5. The minimum expected count is ,77.

Bar Chart



Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Strongly disagree	Count	0	3	3
		Expected Count	1,2	1,8	2,3
	Disagree	Count	8	15	19
		Expected Count	9,0	13,5	18,1
	Uncertain	Count	8	24	35
		Expected Count	15,5	23,3	31,2
	Agree	Count	26	36	52
		Expected Count	25,8	38,9	52,0
	Strongly agree	Count	17	11	10
		Expected Count	7,6	11,5	15,4
Total		Count	59	89	119
		Expected Count	59,0	89,0	119,0

Crosstab

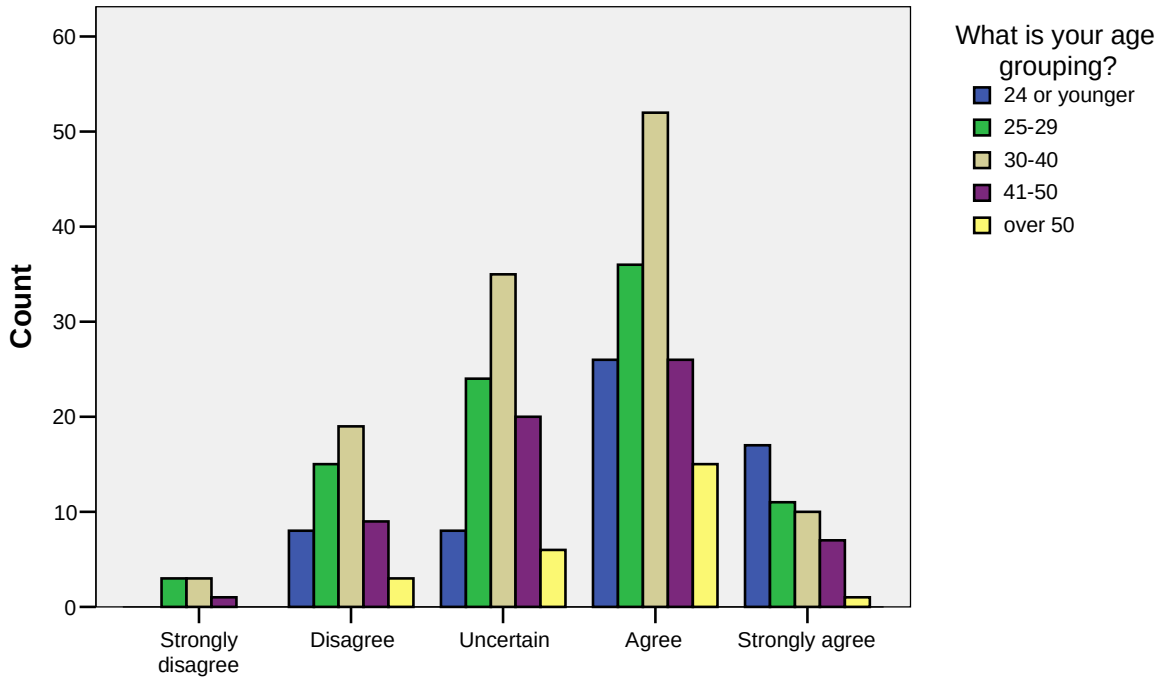
			What is your age		
			41-50	over 50	Total
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Strongly disagree	Count	1	0	7
		Expected Count	1,2	,5	7,0
	Disagree	Count	9	3	54
		Expected Count	9,6	3,8	54,0
	Uncertain	Count	20	6	93
		Expected Count	16,5	6,5	93,0
	Agree	Count	26	15	155
		Expected Count	27,5	10,9	155,0
	Strongly agree	Count	7	1	46
		Expected Count	8,2	3,2	46,0
Total		Count	63	25	355
		Expected Count	63,0	25,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25,069[a]	16	,069
Likelihood Ratio	25,006	16	,070
Linear-by-Linear Association	3,096	1	,078
N of Valid Cases	355		

a. 7 cells (28,0%) have expected count less than 5. The minimum expected count is ,49.

Bar Chart



Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

Learning is enhanced when text and pictures are integrated in a multimedia environment * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Learning is enhanced when text and pictures are integrated in a multimedia environment	Strongly disagree	Count	0	1	0
		Expected Count	,3	,5	,7
	Disagree	Count	2	3	6
		Expected Count	2,6	4,0	5,4
	Uncertain	Count	3	11	16
		Expected Count	6,9	10,5	14,1
	Agree	Count	28	43	60
		Expected Count	29,1	43,9	59,2
	Strongly agree	Count	26	31	38
		Expected Count	20,0	30,2	40,7
Total		Count	59	89	120
		Expected Count	59,0	89,0	120,0

Crosstab

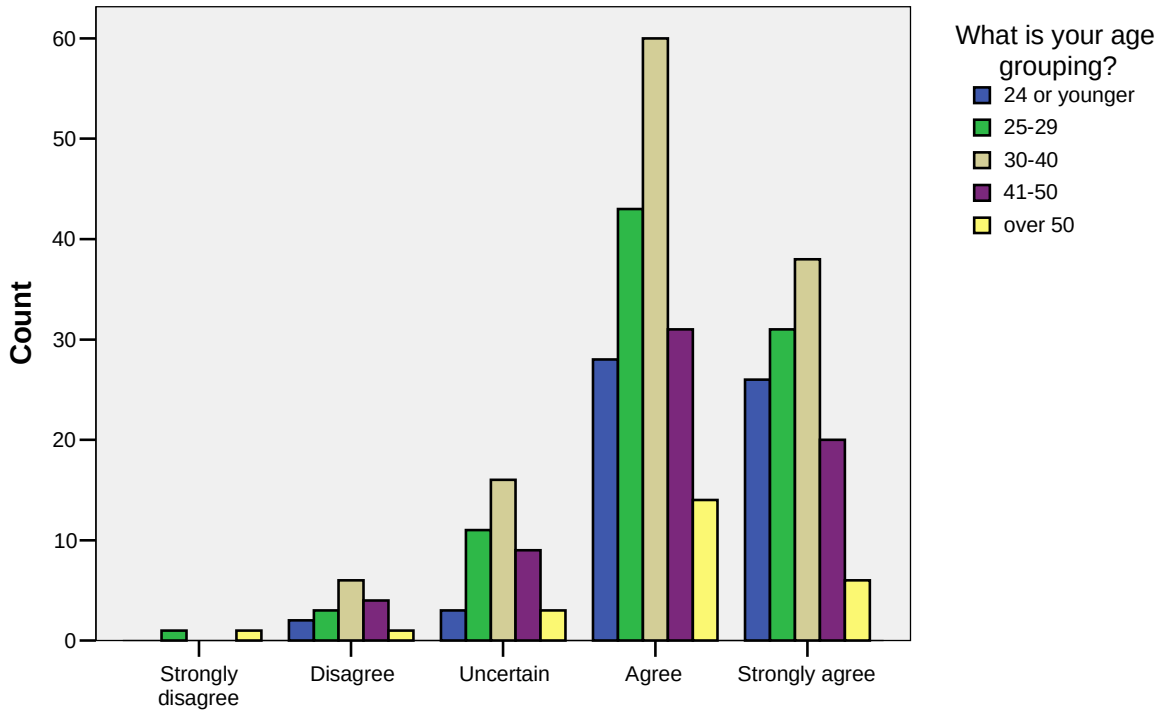
			What is your age		
			41-50	over 50	Total
Learning is enhanced when text and pictures are integrated in a multimedia environment	Strongly disagree	Count	0	1	2
		Expected Count	,4	,1	2,0
	Disagree	Count	4	1	16
		Expected Count	2,9	1,1	16,0
	Uncertain	Count	9	3	42
		Expected Count	7,5	2,9	42,0
	Agree	Count	31	14	176
		Expected Count	31,6	12,3	176,0
	Strongly agree	Count	20	6	121
		Expected Count	21,7	8,5	121,0
Total		Count	64	25	357
		Expected Count	64,0	25,0	357,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14,045[a]	16	,595
Likelihood Ratio	12,716	16	,693
Linear-by-Linear Association	4,928	1	,026
N of Valid Cases	357		

a. 10 cells (40,0%) have expected count less than 5. The minimum expected count is ,14.

Bar Chart



Learning is enhanced when text and pictures are integrated in a multimedia environment

Educational games motivate learners and contribute to developing skills such as teamwork * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Educational games motivate learners and contribute to developing skills such as teamwork	Strongly disagree	Count	3	2	0
		Expected Count	1,5	2,3	3,0
	Disagree	Count	5	4	17
		Expected Count	6,1	9,1	12,0
	Uncertain	Count	12	14	29
		Expected Count	12,5	18,7	24,7
	Agree	Count	23	43	45
		Expected Count	25,6	38,4	50,8
	Strongly agree	Count	17	27	28
		Expected Count	14,3	21,5	28,4
Total		Count	60	90	119
		Expected Count	60,0	90,0	119,0

Crosstab

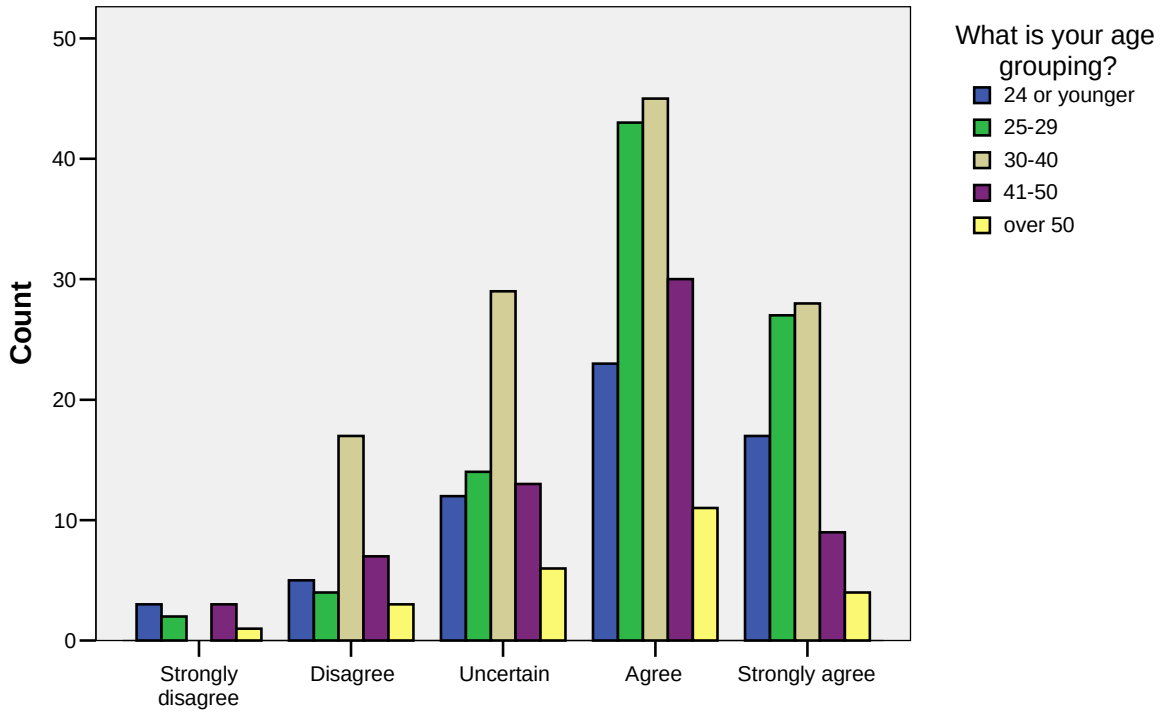
			What is your age		
			41-50	over 50	Total
Educational games motivate learners and contribute to developing skills such as teamwork	Strongly disagree	Count	3	1	9
		Expected Count	1,6	,6	9,0
	Disagree	Count	7	3	36
		Expected Count	6,3	2,5	36,0
	Uncertain	Count	13	6	74
		Expected Count	12,9	5,2	74,0
	Agree	Count	30	11	152
		Expected Count	26,5	10,7	152,0
	Strongly agree	Count	9	4	85
		Expected Count	14,8	6,0	85,0
Total		Count	62	25	356
		Expected Count	62,0	25,0	356,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20,147[a]	16	,214
Likelihood Ratio	23,446	16	,102
Linear-by-Linear Association	4,122	1	,042
N of Valid Cases	356		

a. 6 cells (24,0%) have expected count less than 5. The minimum expected count is ,63.

Bar Chart



Educational games motivate learners and contribute to developing skills such as teamwork

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Strongly disagree	Count	1	0	1
		Expected Count	,3	,5	,7
	Disagree	Count	7	2	1
		Expected Count	1,9	2,8	3,8
	Uncertain	Count	8	12	9
		Expected Count	7,1	10,9	14,6
	Agree	Count	23	33	44
		Expected Count	21,2	32,4	43,5
	Strongly agree	Count	18	40	62
		Expected Count	26,5	40,4	54,3
Total		Count	57	87	117
		Expected Count	57,0	87,0	117,0

Crosstab

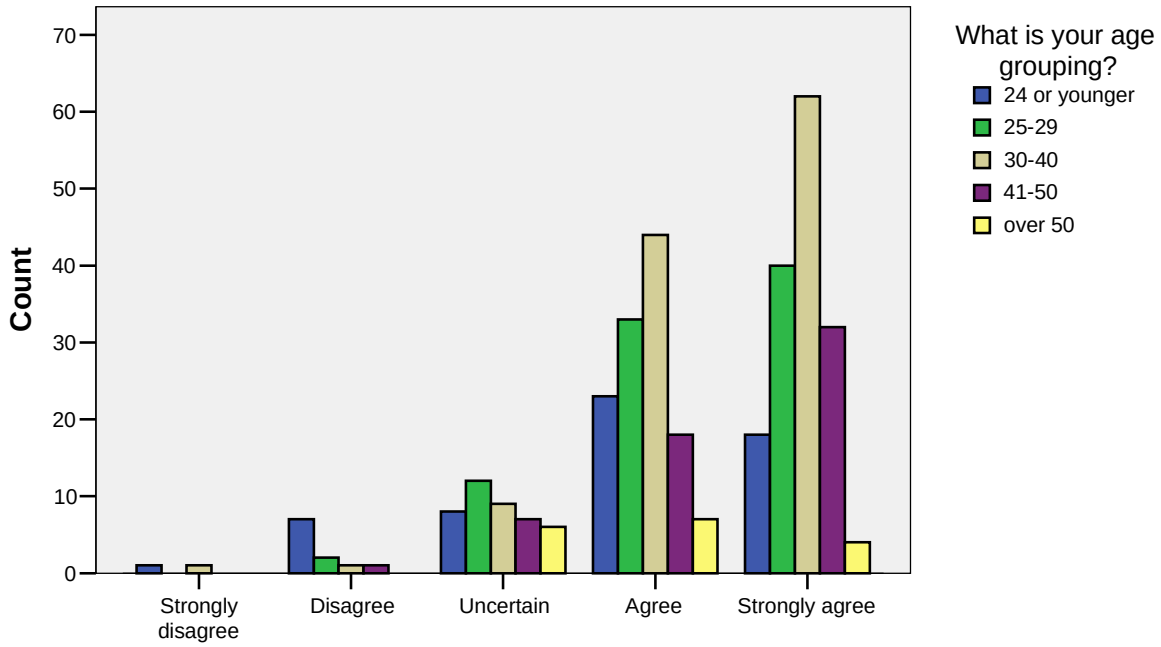
			What is your age		
			41-50	over 50	Total
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Strongly disagree	Count	0	0	2
		Expected Count	,3	,1	2,0
	Disagree	Count	1	0	11
		Expected Count	1,9	,6	11,0
	Uncertain	Count	7	6	42
		Expected Count	7,3	2,1	42,0
	Agree	Count	18	7	125
		Expected Count	21,6	6,3	125,0
	Strongly agree	Count	32	4	156
		Expected Count	26,9	7,9	156,0
Total		Count	58	17	336
		Expected Count	58,0	17,0	336,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36,802[a]	16	,002
Likelihood Ratio	31,660	16	,011
Linear-by-Linear Association	4,725	1	,030
N of Valid Cases	336		

a. 11 cells (44,0%) have expected count less than 5. The minimum expected count is ,10.

Bar Chart



The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Technology facilitates easier access to material for those studying part-time * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Technology facilitates easier access to material for those studying part-time	Strongly disagree	Count	0	0	3
		Expected Count	,9	1,3	1,7
	Disagree	Count	3	1	1
		Expected Count	,9	1,3	1,7
	Uncertain	Count	8	4	4
		Expected Count	3,6	5,4	7,3
	Agree	Count	20	26	41
		Expected Count	18,8	28,1	37,8
	Strongly agree	Count	27	56	68
		Expected Count	33,9	50,9	68,4
Total		Count	58	87	117
		Expected Count	58,0	87,0	117,0

Crosstab

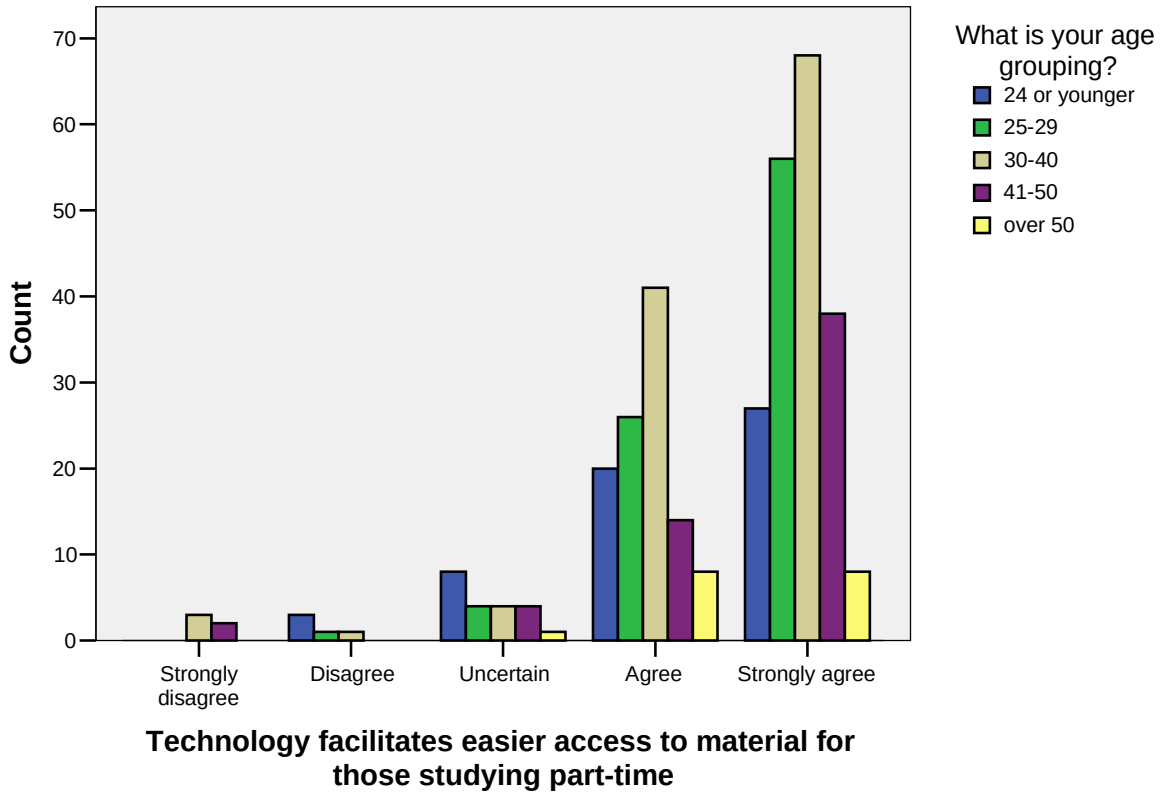
			What is your age		
			41-50	over 50	Total
Technology facilitates easier access to material for those studying part-time	Strongly disagree	Count	2	0	5
		Expected Count	,9	,3	5,0
	Disagree	Count	0	0	5
		Expected Count	,9	,3	5,0
	Uncertain	Count	4	1	21
		Expected Count	3,6	1,1	21,0
	Agree	Count	14	8	109
		Expected Count	18,8	5,5	109,0
	Strongly agree	Count	38	8	197
		Expected Count	33,9	9,9	197,0
Total		Count	58	17	337
		Expected Count	58,0	17,0	337,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24,521[a]	16	,079
Likelihood Ratio	24,434	16	,080
Linear-by-Linear Association	,946	1	,331
N of Valid Cases	337		

a. 13 cells (52,0%) have expected count less than 5. The minimum expected count is ,25.

Bar Chart



University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Strongly disagree	Count	5	9	5
		Expected Count	3,3	4,9	6,6
	Disagree	Count	12	15	11
		Expected Count	7,8	11,5	15,7
	Uncertain	Count	19	27	29
		Expected Count	16,7	24,8	33,8
	Agree	Count	11	17	37
		Expected Count	15,0	22,3	30,3
	Strongly agree	Count	11	18	35
		Expected Count	15,2	22,5	30,6
Total		Count	58	86	117
		Expected Count	58,0	86,0	117,0

Crosstab

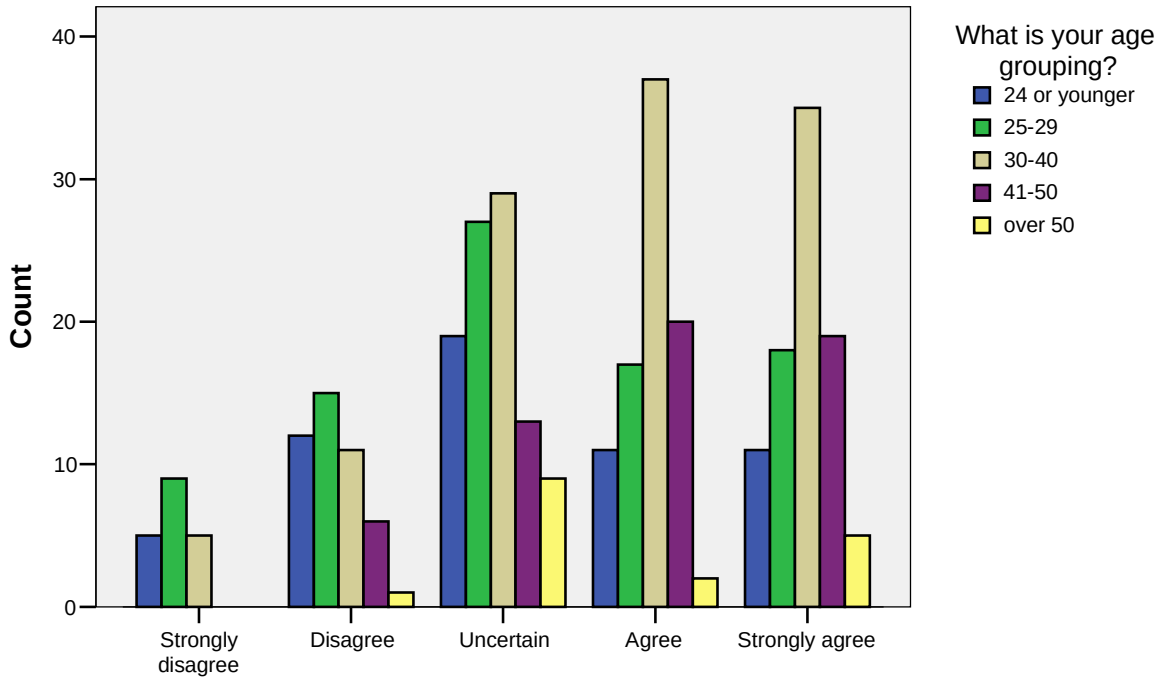
			What is your age		
			41-50	over 50	Total
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Strongly disagree	Count	0	0	19
		Expected Count	3,3	1,0	19,0
	Disagree	Count	6	1	45
		Expected Count	7,8	2,3	45,0
	Uncertain	Count	13	9	97
		Expected Count	16,7	4,9	97,0
	Agree	Count	20	2	87
		Expected Count	15,0	4,4	87,0
	Strongly agree	Count	19	5	88
		Expected Count	15,2	4,5	88,0
Total		Count	58	17	336
		Expected Count	58,0	17,0	336,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30,820[a]	16	,014
Likelihood Ratio	34,025	16	,005
Linear-by-Linear Association	14,645	1	,000
N of Valid Cases	336		

a. 8 cells (32,0%) have expected count less than 5. The minimum expected count is ,96.

Bar Chart



University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Strongly disagree	Count	5	10	5
		Expected Count	3,8	5,6	7,7
	Disagree	Count	22	16	24
		Expected Count	12,3	18,0	24,8
	Uncertain	Count	14	36	41
		Expected Count	21,6	31,7	43,7
	Agree	Count	8	17	32
		Expected Count	12,6	18,5	25,5
	Strongly agree	Count	9	6	15
		Expected Count	7,6	11,2	15,4
Total		Count	58	85	117
		Expected Count	58,0	85,0	117,0

Crosstab

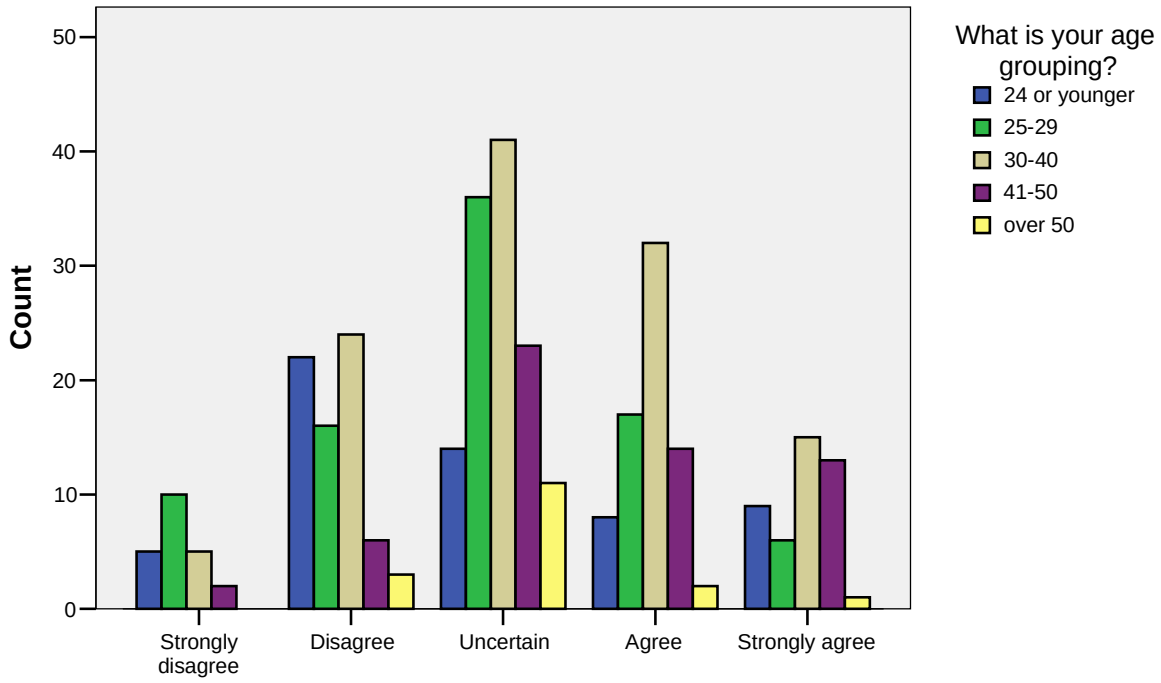
			What is your age		
			41-50	over 50	Total
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Strongly disagree	Count	2	0	22
		Expected Count	3,8	1,1	22,0
	Disagree	Count	6	3	71
		Expected Count	12,3	3,6	71,0
	Uncertain	Count	23	11	125
		Expected Count	21,6	6,3	125,0
	Agree	Count	14	2	73
		Expected Count	12,6	3,7	73,0
	Strongly agree	Count	13	1	44
		Expected Count	7,6	2,2	44,0
Total		Count	58	17	335
		Expected Count	58,0	17,0	335,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36,513[a]	16	,002
Likelihood Ratio	36,558	16	,002
Linear-by-Linear Association	8,879	1	,003
N of Valid Cases	335		

a. 6 cells (24,0%) have expected count less than 5. The minimum expected count is 1,12.

Bar Chart



There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Study at an Open University is especially of advantage to adults who have work and family obligations * What is your age grouping?

Crosstab

			What is your age grouping?		
			24 or younger	25-29	30-40
Study at an Open University is especially of advantage to adults who have work and family obligations	Strongly disagree	Count	4	0	1
		Expected Count	,9	1,3	1,7
	Disagree	Count	4	1	0
		Expected Count	,9	1,3	1,7
	Uncertain	Count	6	2	2
		Expected Count	1,7	2,6	3,5
	Agree	Count	15	13	14
		Expected Count	9,8	14,7	19,8
	Strongly agree	Count	29	71	100
		Expected Count	44,7	67,1	90,3
Total		Count	58	87	117
		Expected Count	58,0	87,0	117,0

Crosstab

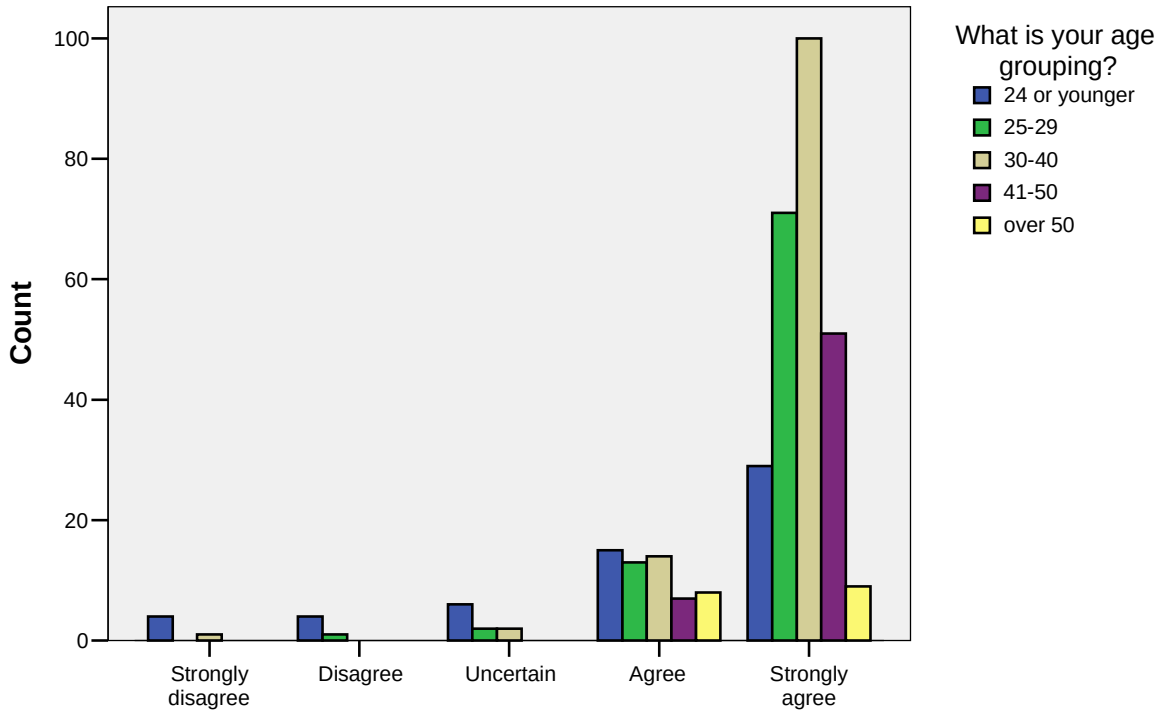
			What is your age		
			41-50	over 50	Total
Study at an Open University is especially of advantage to adults who have work and family obligations	Strongly disagree	Count	0	0	5
		Expected Count	,9	,3	5,0
	Disagree	Count	0	0	5
		Expected Count	,9	,3	5,0
	Uncertain	Count	0	0	10
		Expected Count	1,7	,5	10,0
	Agree	Count	7	8	57
		Expected Count	9,8	2,9	57,0
	Strongly agree	Count	51	9	260
		Expected Count	44,7	13,1	260,0
Total		Count	58	17	337
		Expected Count	58,0	17,0	337,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	65,714[a]	16	,000
Likelihood Ratio	56,063	16	,000
Linear-by-Linear Association	21,884	1	,000
N of Valid Cases	337		

a. 16 cells (64,0%) have expected count less than 5. The minimum expected count is ,25.

Bar Chart



Study at an Open University is especially of advantage to adults who have work and family obligations

B.6 Cross-Table for Variable Gender

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
To what extent have you used advanced technological equipment in your professional life? * Gender	355	98,9%	4	1,1%	359	100,0%
Have you had to change your way of working because of technological developments? * Gender	354	98,6%	5	1,4%	359	100,0%
Thanks to technology, the problems of access to learning for students with disabilities have been resolved * Gender	357	99,4%	2	,6%	359	100,0%
Contacts between students and teachers can have the same intensity in online education as in face-to-face education * Gender	354	98,6%	5	1,4%	359	100,0%
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * Gender	355	98,9%	4	1,1%	359	100,0%
Only optimistic people think that the impact of technology on learning is beneficial * Gender	355	98,9%	4	1,1%	359	100,0%
From my personal study experience I find that the impact of technology on learning is valuable * Gender	355	98,9%	4	1,1%	359	100,0%
Information and communications technology has usually been used to encourage us to be active participants in learning * Gender	355	98,9%	4	1,1%	359	100,0%
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * Gender	356	99,2%	3	,8%	359	100,0%
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs * Gender	353	98,3%	6	1,7%	359	100,0%

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Learning is enhanced when text and pictures are integrated in a multimedia environment * Gender	355	98,9%	4	1,1%	359	100,0%
Educational games motivate learners and contribute to developing skills such as teamwork * Gender	354	98,6%	5	1,4%	359	100,0%
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * Gender	335	93,3%	24	6,7%	359	100,0%
Technology facilitates easier access to material for those studying part-time * Gender	336	93,6%	23	6,4%	359	100,0%
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * Gender	335	93,3%	24	6,7%	359	100,0%
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university * Gender	334	93,0%	25	7,0%	359	100,0%
Study at an Open University is especially of advantage to adults who have work and family obligations * Gender	336	93,6%	23	6,4%	359	100,0%

To what extent have you used advanced technological equipment in your professional life? * Gender

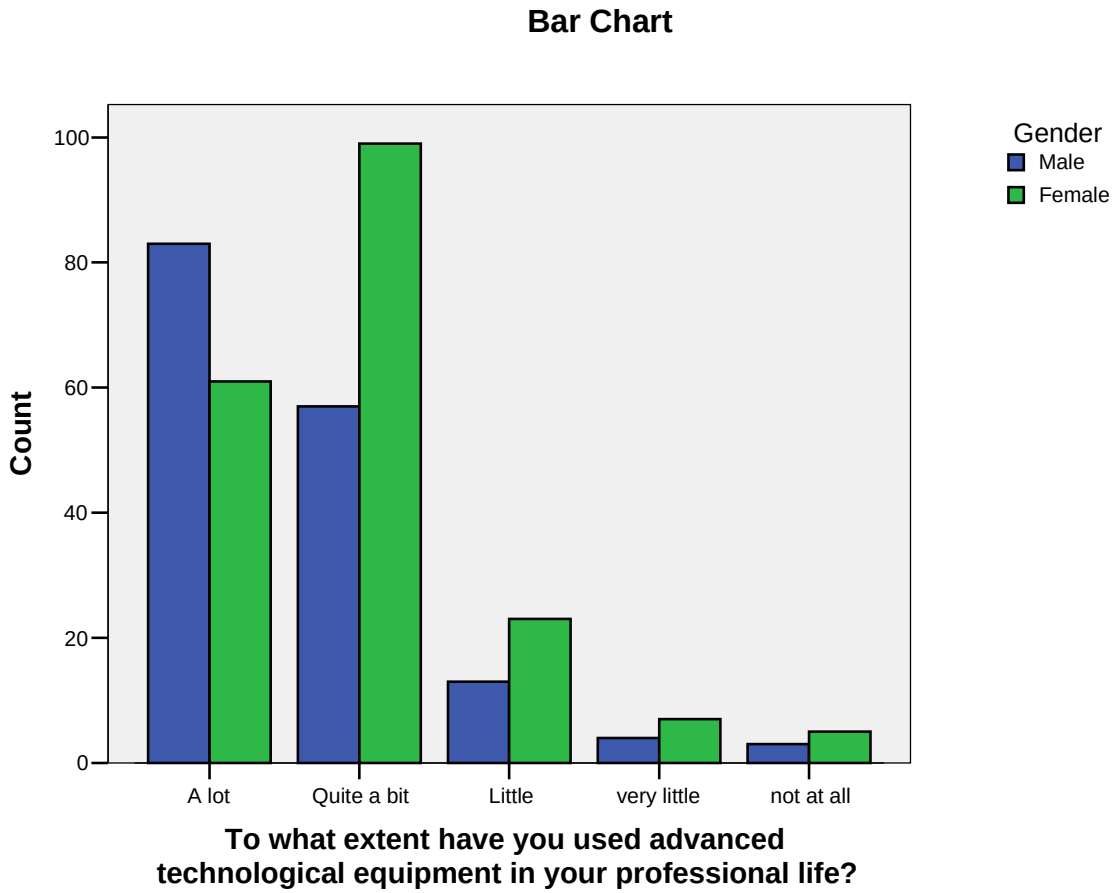
Crosstab

			Gender		
			Male	Female	Total
To what extent have you used advanced technological equipment in your professional life?	A lot	Count	83	61	144
		Expected Count	64,9	79,1	144,0
	Quite a bit	Count	57	99	156
		Expected Count	70,3	85,7	156,0
	Little	Count	13	23	36
		Expected Count	16,2	19,8	36,0
	very little	Count	4	7	11
		Expected Count	5,0	6,0	11,0
	not at all	Count	3	5	8
		Expected Count	3,6	4,4	8,0
Total		Count	160	195	355
		Expected Count	160,0	195,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15,464[a]	4	,004
Likelihood Ratio	15,515	4	,004
Linear-by-Linear Association	8,868	1	,003
N of Valid Cases	355		

a. 3 cells (30,0%) have expected count less than 5. The minimum expected count is 3,61.



Have you had to change your way of working because of technological developments? * Gender

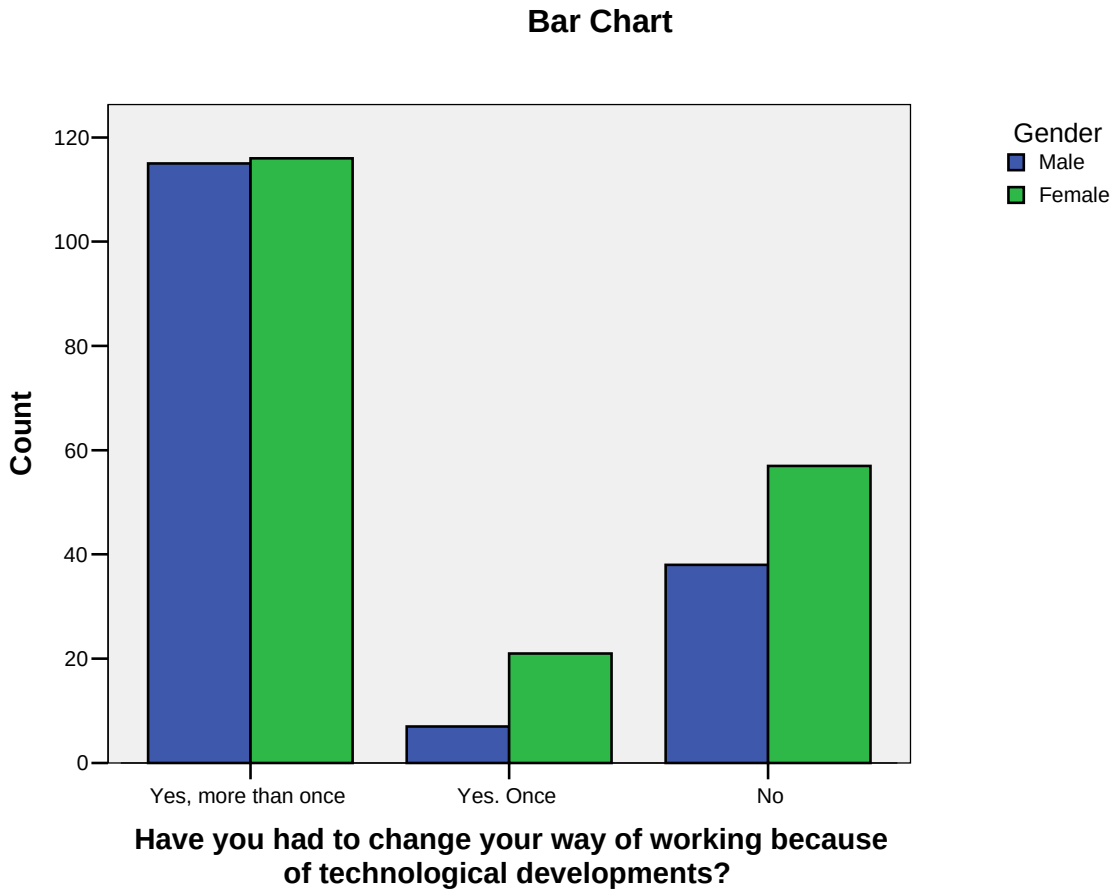
Crosstab

			Gender		Total
			Male	Female	
Have you had to change your way of working because of technological developments?	Yes, more than once	Count	115	116	231
		Expected Count	104,4	126,6	231,0
	Yes. Once	Count	7	21	28
		Expected Count	12,7	15,3	28,0
	No	Count	38	57	95
		Expected Count	42,9	52,1	95,0
Total		Count	160	194	354
		Expected Count	160,0	194,0	354,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7,609[a]	2	,022
Likelihood Ratio	7,885	2	,019
Linear-by-Linear Association	3,547	1	,060
N of Valid Cases	354		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 12,66.



Thanks to technology, the problems of access to learning for students with disabilities have been resolved * Gender

Crosstab

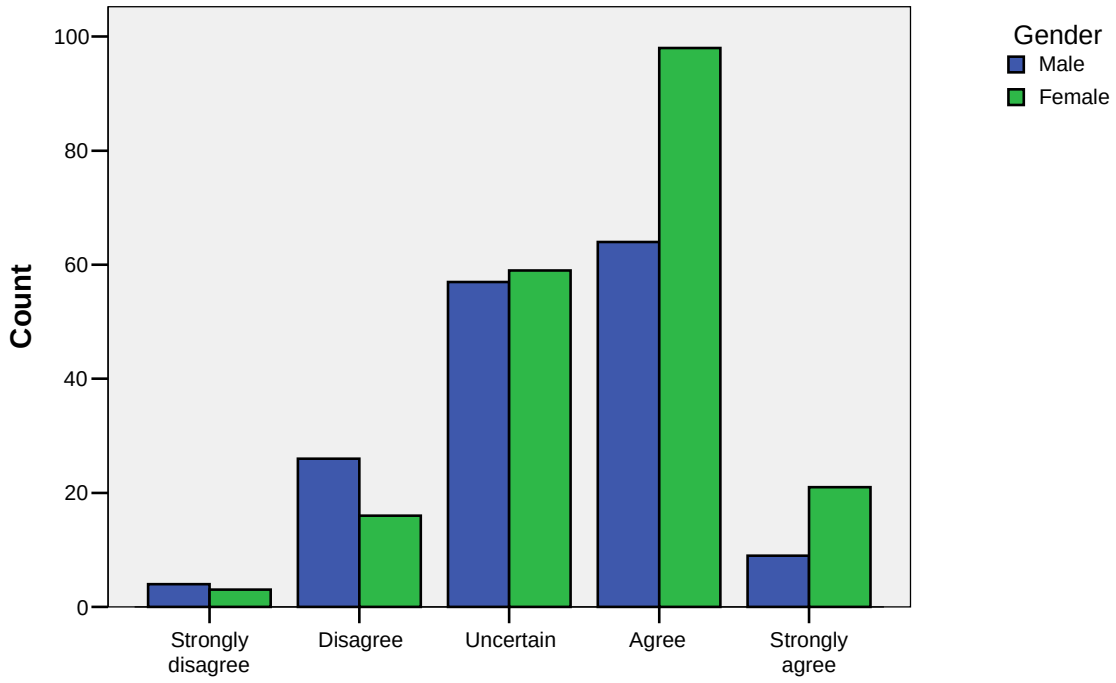
			Gender		
			Male	Female	Total
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Strongly disagree	Count	4	3	7
		Expected Count	3,1	3,9	7,0
	Disagree	Count	26	16	42
		Expected Count	18,8	23,2	42,0
	Uncertain	Count	57	59	116
		Expected Count	52,0	64,0	116,0
	Agree	Count	64	98	162
		Expected Count	72,6	89,4	162,0
	Strongly agree	Count	9	21	30
		Expected Count	13,4	16,6	30,0
Total		Count	160	197	357
		Expected Count	160,0	197,0	357,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10,775[a]	4	,029
Likelihood Ratio	10,866	4	,028
Linear-by-Linear Association	10,224	1	,001
N of Valid Cases	357		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 3,14.

Bar Chart



Contacts between students and teachers can have the same intensity in online education as in face-to-face education * Gender

Crosstab

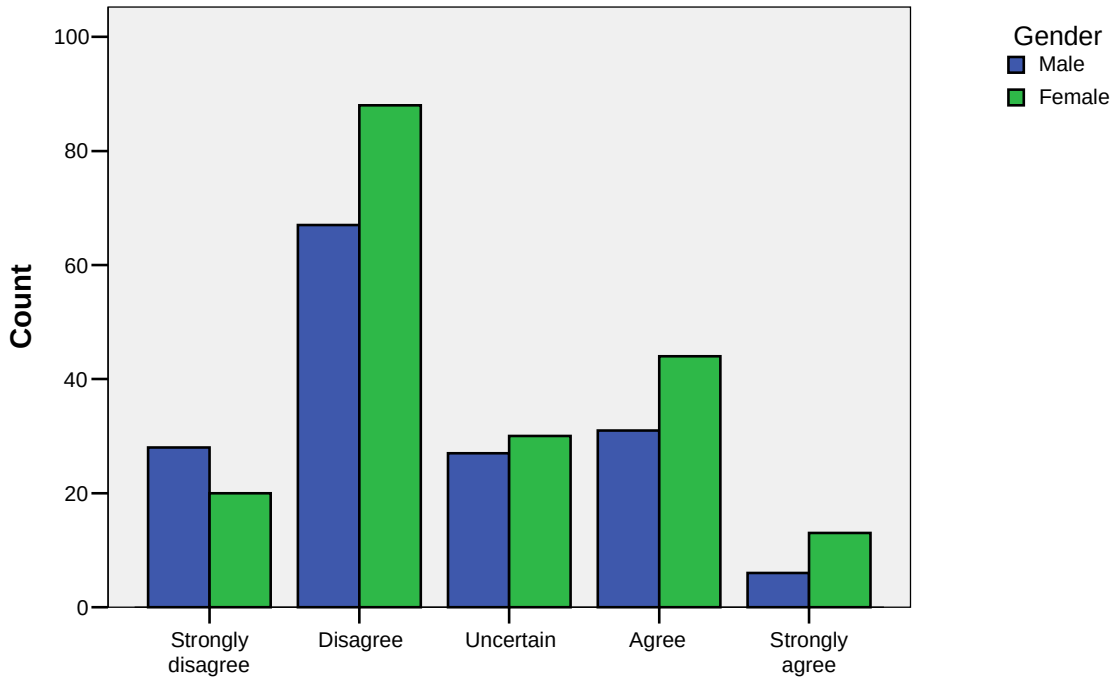
			Gender		
			Male	Female	Total
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Strongly disagree	Count	28	20	48
		Expected Count	21,6	26,4	48,0
	Disagree	Count	67	88	155
		Expected Count	69,6	85,4	155,0
	Uncertain	Count	27	30	57
		Expected Count	25,6	31,4	57,0
	Agree	Count	31	44	75
		Expected Count	33,7	41,3	75,0
	Strongly agree	Count	6	13	19
		Expected Count	8,5	10,5	19,0
Total		Count	159	195	354
		Expected Count	159,0	195,0	354,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5,565[a]	4	,234
Likelihood Ratio	5,590	4	,232
Linear-by-Linear Association	2,945	1	,086
N of Valid Cases	354		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 8,53.

Bar Chart



Contacts between students and teachers can have the same intensity in online education as in face-to-face education

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * Gender

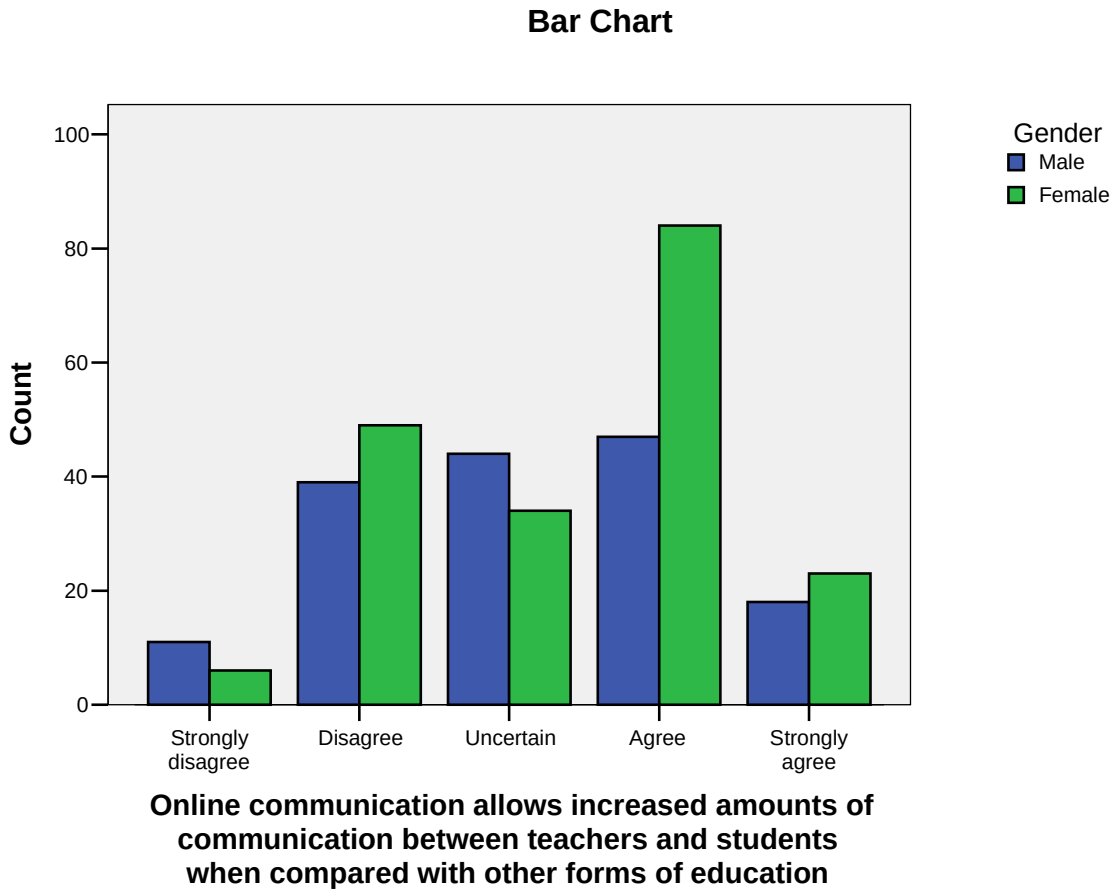
Crosstab

			Gender		
			Male	Female	Total
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Strongly disagree	Count	11	6	17
		Expected Count	7,6	9,4	17,0
	Disagree	Count	39	49	88
		Expected Count	39,4	48,6	88,0
	Uncertain	Count	44	34	78
		Expected Count	34,9	43,1	78,0
	Agree	Count	47	84	131
		Expected Count	58,7	72,3	131,0
	Strongly agree	Count	18	23	41
		Expected Count	18,4	22,6	41,0
Total		Count	159	196	355
		Expected Count	159,0	196,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11,215[a]	4	,024
Likelihood Ratio	11,259	4	,024
Linear-by-Linear Association	3,318	1	,069
N of Valid Cases	355		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 7,61.



Only optimistic people think that the impact of technology on learning is beneficial * Gender

Crosstab

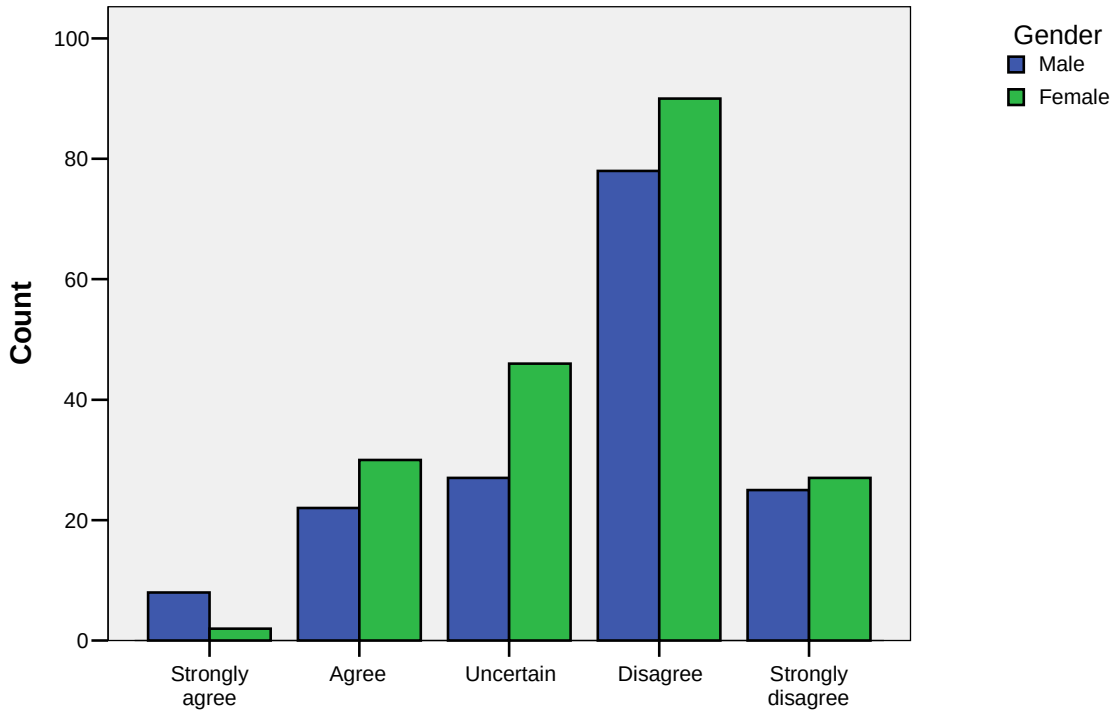
			Gender		
			Male	Female	Total
Only optimistic people think that the impact of technology on learning is beneficial	Strongly agree	Count	8	2	10
		Expected Count	4,5	5,5	10,0
	Agree	Count	22	30	52
		Expected Count	23,4	28,6	52,0
	Uncertain	Count	27	46	73
		Expected Count	32,9	40,1	73,0
	Disagree	Count	78	90	168
		Expected Count	75,7	92,3	168,0
	Strongly disagree	Count	25	27	52
		Expected Count	23,4	28,6	52,0
Total		Count	160	195	355
		Expected Count	160,0	195,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7,331[a]	4	,119
Likelihood Ratio	7,572	4	,109
Linear-by-Linear Association	,000	1	,988
N of Valid Cases	355		

a. 1 cells (10,0%) have expected count less than 5. The minimum expected count is 4,51.

Bar Chart



Only optimistic people think that the impact of technology on learning is beneficial

From my personal study experience I find that the impact of technology on learning is valuable * Gender

Crosstab

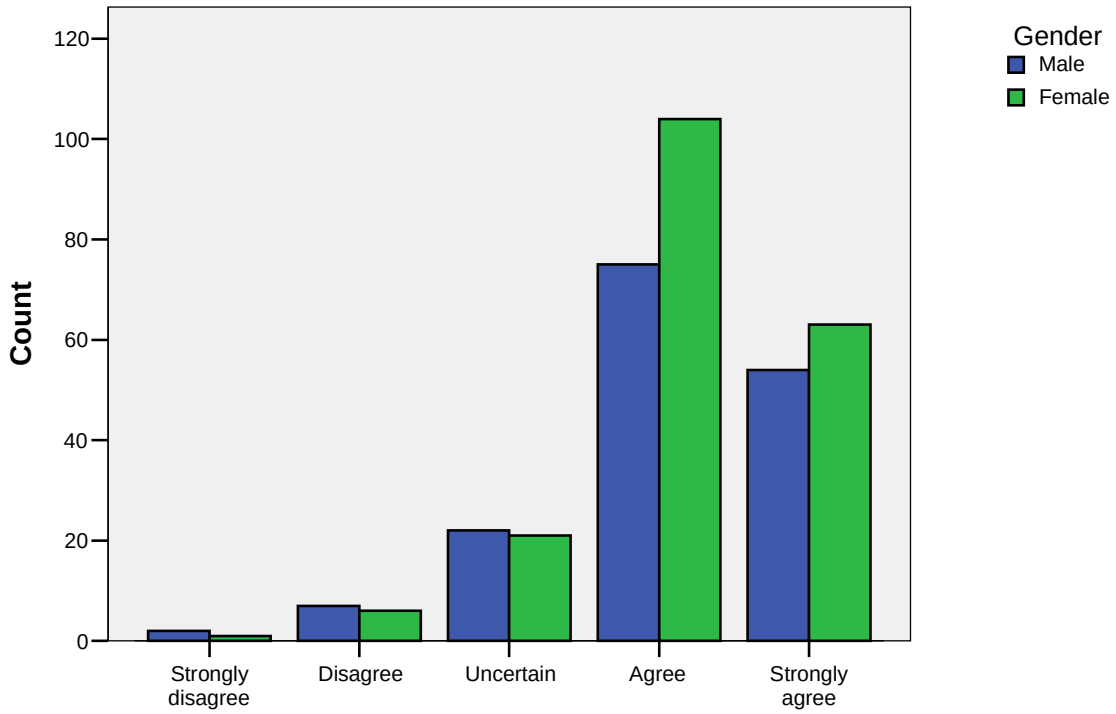
			Gender		
			Male	Female	Total
From my personal study experience I find that the impact of technology on learning is valuable	Strongly disagree	Count	2	1	3
		Expected Count	1,4	1,6	3,0
	Disagree	Count	7	6	13
		Expected Count	5,9	7,1	13,0
	Uncertain	Count	22	21	43
		Expected Count	19,4	23,6	43,0
	Agree	Count	75	104	179
		Expected Count	80,7	98,3	179,0
	Strongly agree	Count	54	63	117
		Expected Count	52,7	64,3	117,0
Total		Count	160	195	355
		Expected Count	160,0	195,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2,397[a]	4	,663
Likelihood Ratio	2,396	4	,663
Linear-by-Linear Association	,534	1	,465
N of Valid Cases	355		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 1,35.

Bar Chart



From my personal study experience I find that the impact of technology on learning is valuable

Information and communications technology has usually been used to encourage us to be active participants in learning * Gender

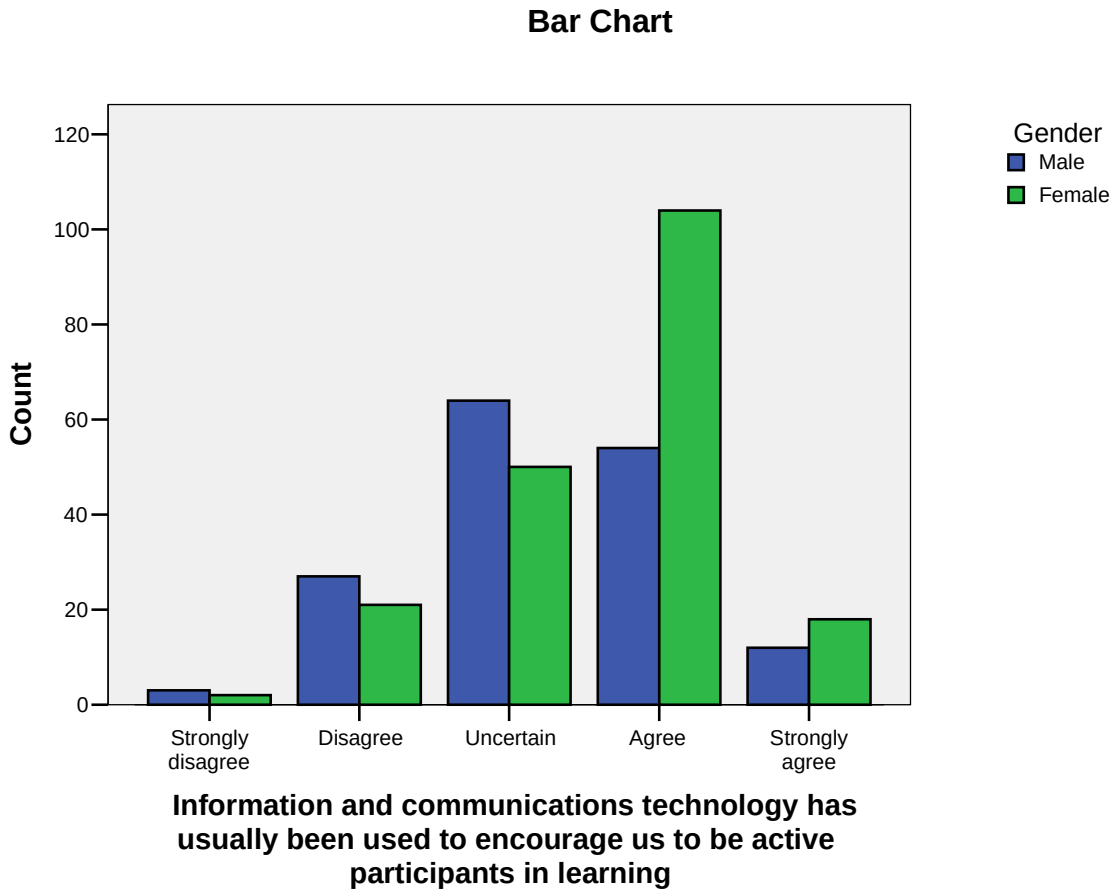
Crosstab

			Gender		
			Male	Female	Total
Information and communications technology has usually been used to encourage us to be active participants in learning	Strongly disagree	Count	3	2	5
		Expected Count	2,3	2,7	5,0
	Disagree	Count	27	21	48
		Expected Count	21,6	26,4	48,0
	Uncertain	Count	64	50	114
		Expected Count	51,4	62,6	114,0
	Agree	Count	54	104	158
		Expected Count	71,2	86,8	158,0
	Strongly agree	Count	12	18	30
		Expected Count	13,5	16,5	30,0
Total		Count	160	195	355
		Expected Count	160,0	195,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16,401[a]	4	,003
Likelihood Ratio	16,527	4	,002
Linear-by-Linear Association	10,811	1	,001
N of Valid Cases	355		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 2,25.



Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * Gender

Crosstab

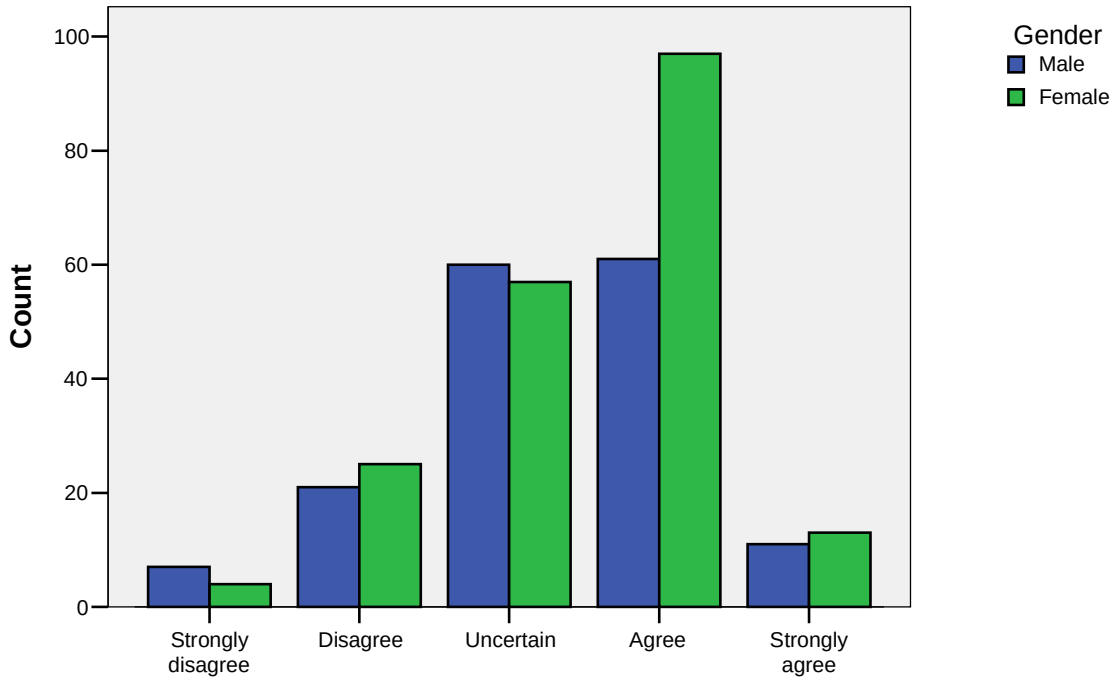
			Gender		
			Male	Female	Total
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Strongly disagree	Count	7	4	11
		Expected Count	4,9	6,1	11,0
	Disagree	Count	21	25	46
		Expected Count	20,7	25,3	46,0
	Uncertain	Count	60	57	117
		Expected Count	52,6	64,4	117,0
	Agree	Count	61	97	158
		Expected Count	71,0	87,0	158,0
	Strongly agree	Count	11	13	24
		Expected Count	10,8	13,2	24,0
Total		Count	160	196	356
		Expected Count	160,0	196,0	356,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6,033[a]	4	,197
Likelihood Ratio	6,049	4	,196
Linear-by-Linear Association	2,728	1	,099
N of Valid Cases	356		

a. 1 cells (10,0%) have expected count less than 5. The minimum expected count is 4,94.

Bar Chart



Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs * Gender

Crosstab

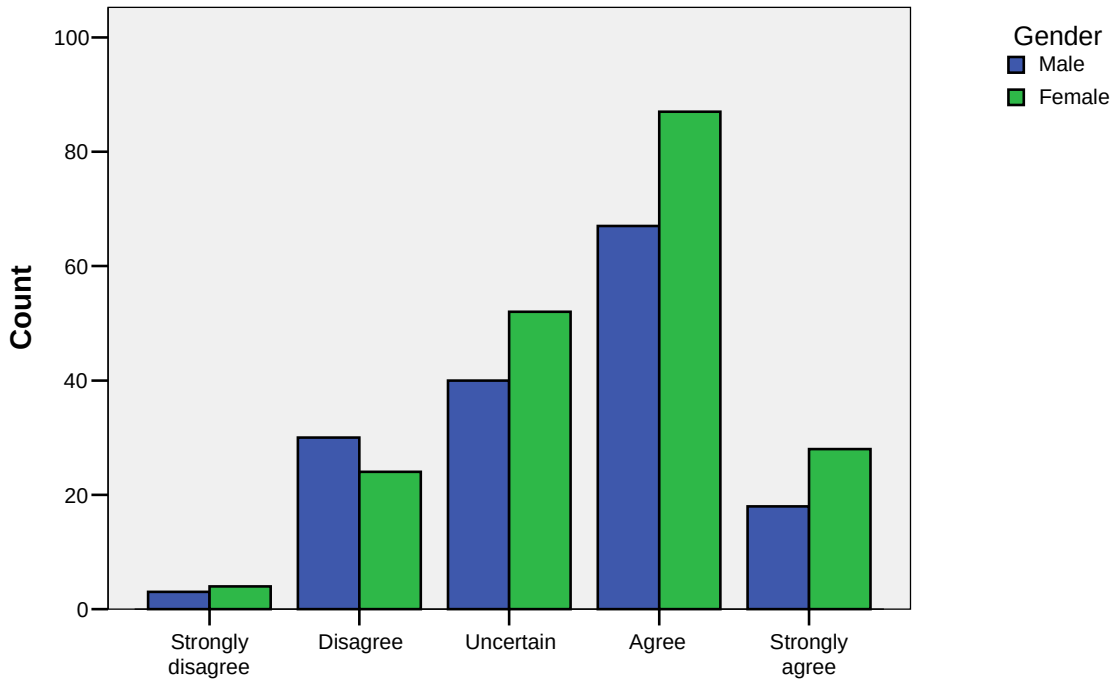
			Gender		
			Male	Female	Total
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Strongly disagree	Count	3	4	7
		Expected Count	3,1	3,9	7,0
	Disagree	Count	30	24	54
		Expected Count	24,2	29,8	54,0
	Uncertain	Count	40	52	92
		Expected Count	41,2	50,8	92,0
	Agree	Count	67	87	154
		Expected Count	68,9	85,1	154,0
	Strongly agree	Count	18	28	46
		Expected Count	20,6	25,4	46,0
Total		Count	158	195	353
		Expected Count	158,0	195,0	353,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3,304[a]	4	,508
Likelihood Ratio	3,292	4	,510
Linear-by-Linear Association	1,961	1	,161
N of Valid Cases	353		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 3,13.

Bar Chart



Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

Learning is enhanced when text and pictures are integrated in a multimedia environment * Gender

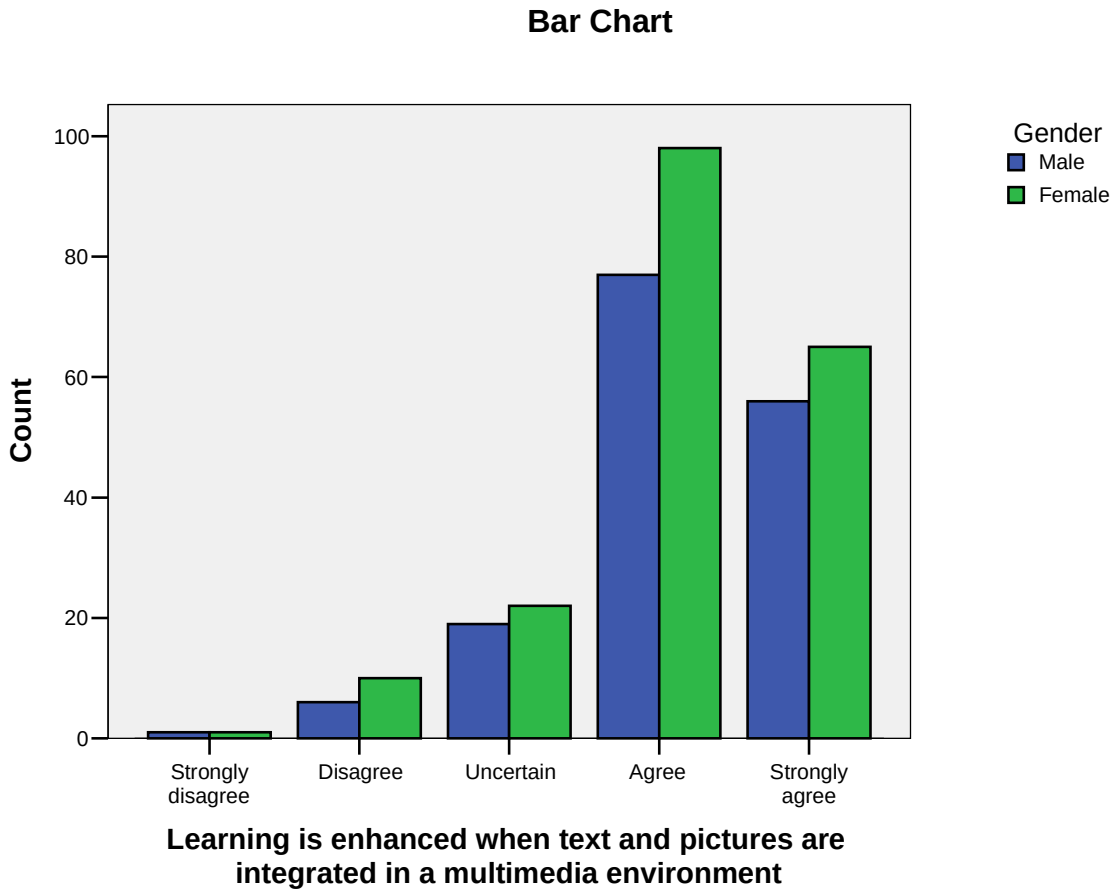
Crosstab

			Gender		
			Male	Female	Total
Learning is enhanced when text and pictures are integrated in a multimedia environment	Strongly disagree	Count	1	1	2
		Expected Count	,9	1,1	2,0
	Disagree	Count	6	10	16
		Expected Count	7,2	8,8	16,0
	Uncertain	Count	19	22	41
		Expected Count	18,4	22,6	41,0
	Agree	Count	77	98	175
		Expected Count	78,4	96,6	175,0
	Strongly agree	Count	56	65	121
		Expected Count	54,2	66,8	121,0
Total		Count	159	196	355
		Expected Count	159,0	196,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	,559[a]	4	,968
Likelihood Ratio	,563	4	,967
Linear-by-Linear Association	,172	1	,679
N of Valid Cases	355		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is ,90.



Educational games motivate learners and contribute to developing skills such as teamwork * Gender

Crosstab

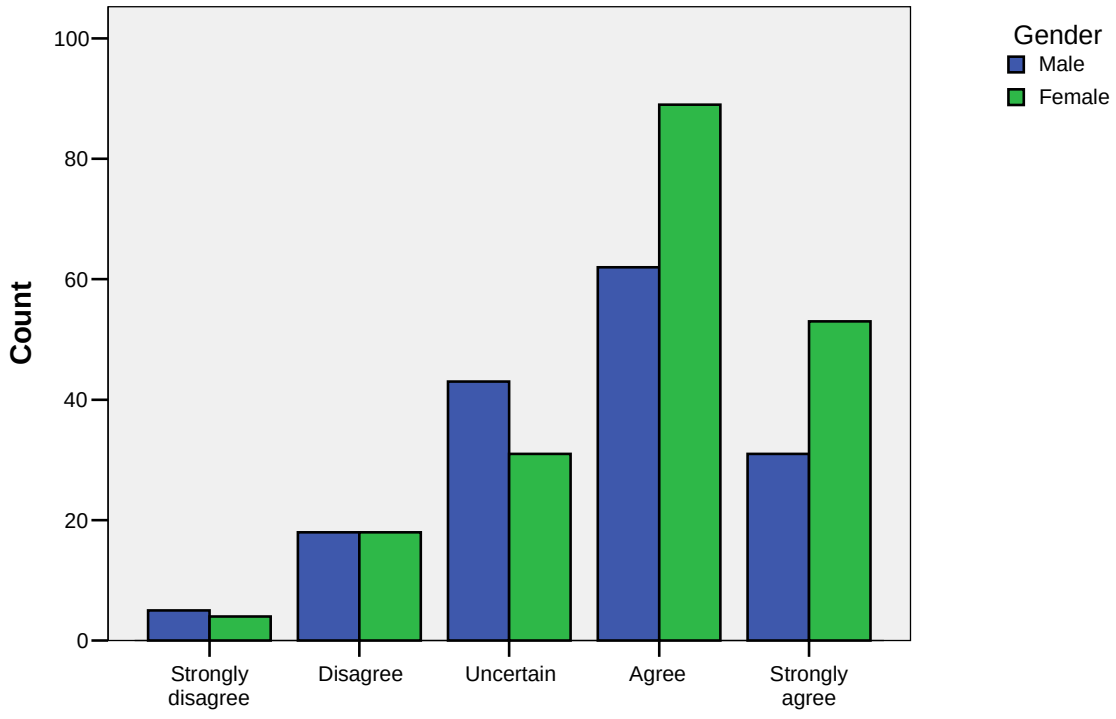
			Gender		
			Male	Female	Total
Educational games motivate learners and contribute to developing skills such as teamwork	Strongly disagree	Count	5	4	9
		Expected Count	4,0	5,0	9,0
	Disagree	Count	18	18	36
		Expected Count	16,2	19,8	36,0
	Uncertain	Count	43	31	74
		Expected Count	33,2	40,8	74,0
	Agree	Count	62	89	151
		Expected Count	67,8	83,2	151,0
	Strongly agree	Count	31	53	84
		Expected Count	37,7	46,3	84,0
Total		Count	159	195	354
		Expected Count	159,0	195,0	354,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9,080[a]	4	,059
Likelihood Ratio	9,082	4	,059
Linear-by-Linear Association	5,925	1	,015
N of Valid Cases	354		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 4,04.

Bar Chart



The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * Gender

Crosstab

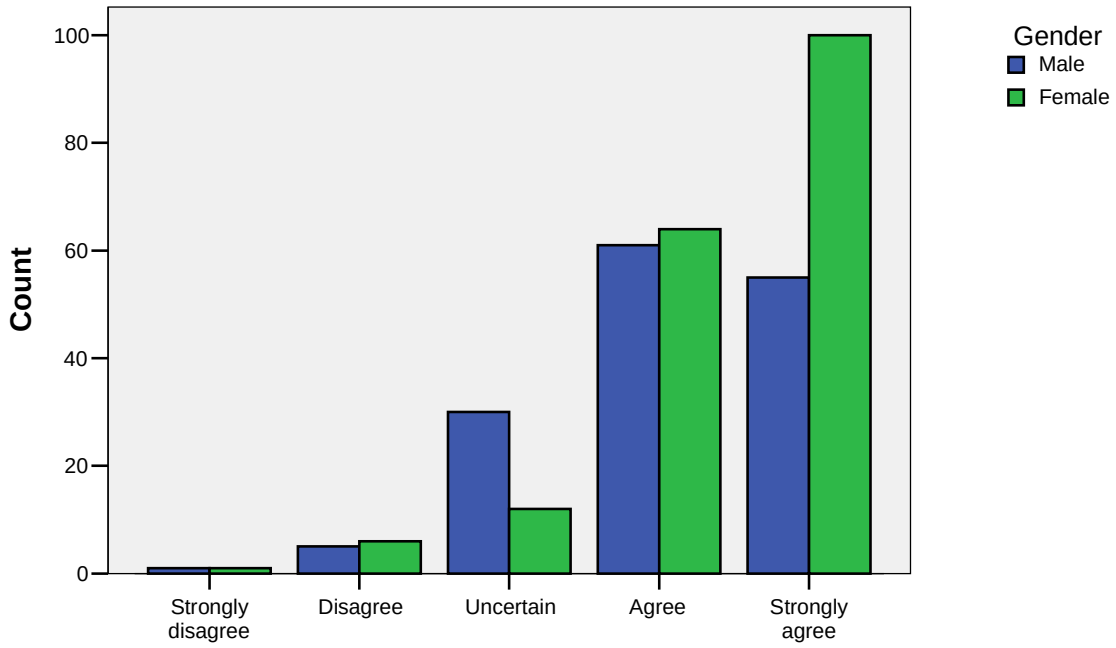
			Gender		
			Male	Female	Total
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Strongly disagree	Count	1	1	2
		Expected Count	,9	1,1	2,0
	Disagree	Count	5	6	11
		Expected Count	5,0	6,0	11,0
	Uncertain	Count	30	12	42
		Expected Count	19,1	22,9	42,0
	Agree	Count	61	64	125
		Expected Count	56,7	68,3	125,0
	Strongly agree	Count	55	100	155
		Expected Count	70,3	84,7	155,0
Total		Count	152	183	335
		Expected Count	152,0	183,0	335,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18,229[a]	4	,001
Likelihood Ratio	18,515	4	,001
Linear-by-Linear Association	11,958	1	,001
N of Valid Cases	335		

a. 3 cells (30,0%) have expected count less than 5. The minimum expected count is ,91.

Bar Chart



The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Technology facilitates easier access to material for those studying part-time * Gender

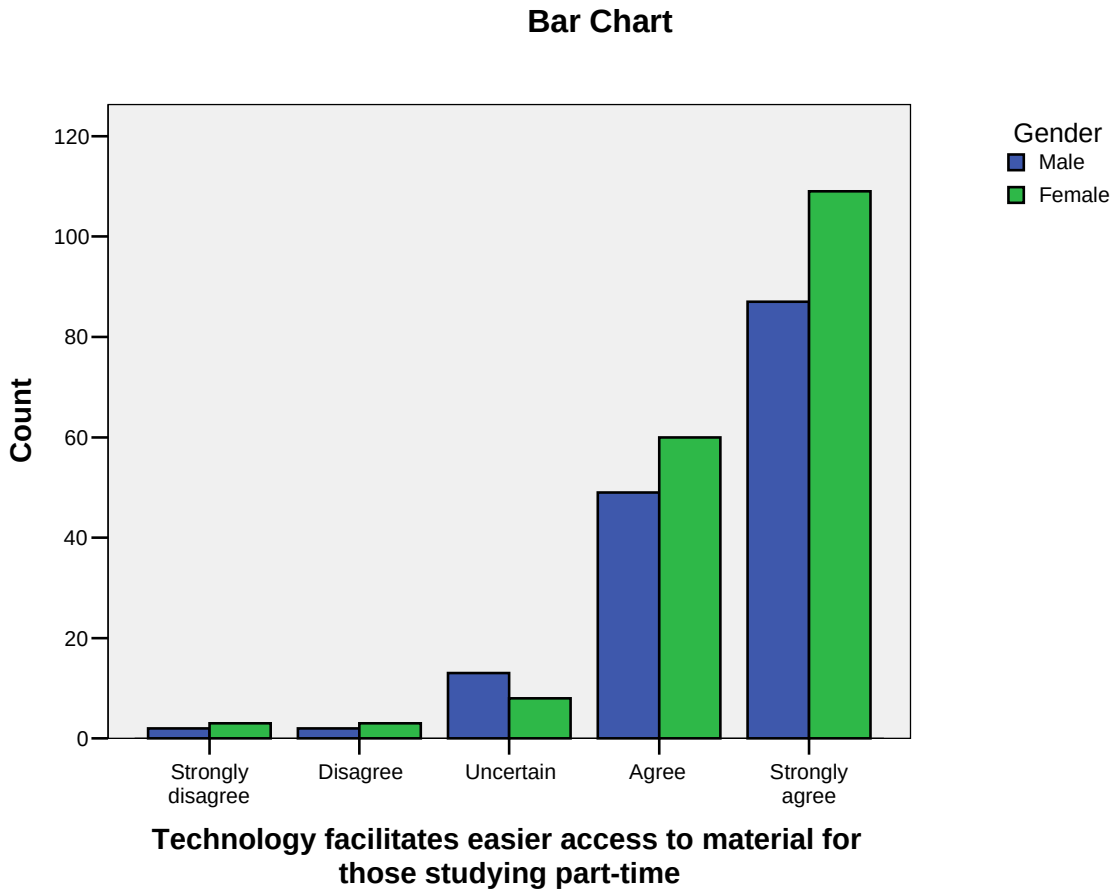
Crosstab

			Gender		
			Male	Female	Total
Technology facilitates easier access to material for those studying part-time	Strongly disagree	Count	2	3	5
		Expected Count	2,3	2,7	5,0
	Disagree	Count	2	3	5
		Expected Count	2,3	2,7	5,0
	Uncertain	Count	13	8	21
		Expected Count	9,6	11,4	21,0
	Agree	Count	49	60	109
		Expected Count	49,6	59,4	109,0
	Strongly agree	Count	87	109	196
		Expected Count	89,3	106,8	196,0
Total		Count	153	183	336
		Expected Count	153,0	183,0	336,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2,511[a]	4	,643
Likelihood Ratio	2,509	4	,643
Linear-by-Linear Association	,346	1	,556
N of Valid Cases	336		

a. 4 cells (40,0%) have expected count less than 5. The minimum expected count is 2,28.



University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * Gender

Crosstab

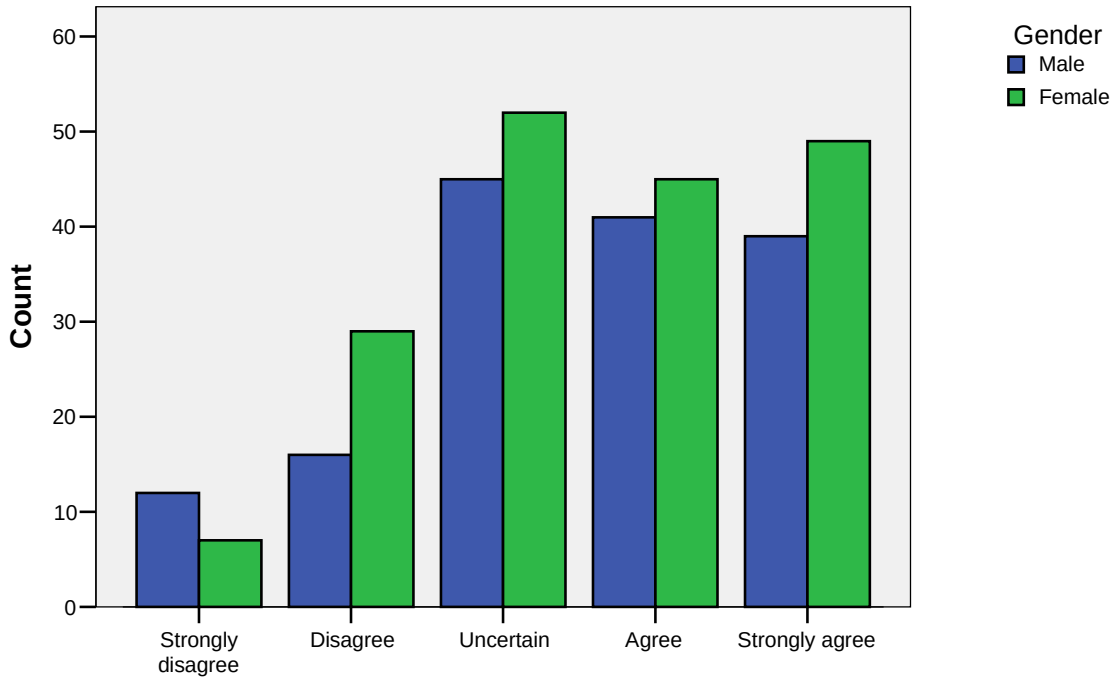
			Gender		
			Male	Female	Total
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Strongly disagree	Count	12	7	19
		Expected Count	8,7	10,3	19,0
	Disagree	Count	16	29	45
		Expected Count	20,6	24,4	45,0
	Uncertain	Count	45	52	97
		Expected Count	44,3	52,7	97,0
	Agree	Count	41	45	86
		Expected Count	39,3	46,7	86,0
	Strongly agree	Count	39	49	88
		Expected Count	40,2	47,8	88,0
Total		Count	153	182	335
		Expected Count	153,0	182,0	335,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4,422[a]	4	,352
Likelihood Ratio	4,458	4	,348
Linear-by-Linear Association	,066	1	,798
N of Valid Cases	335		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 8,68.

Bar Chart



University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university * Gender

Crosstab

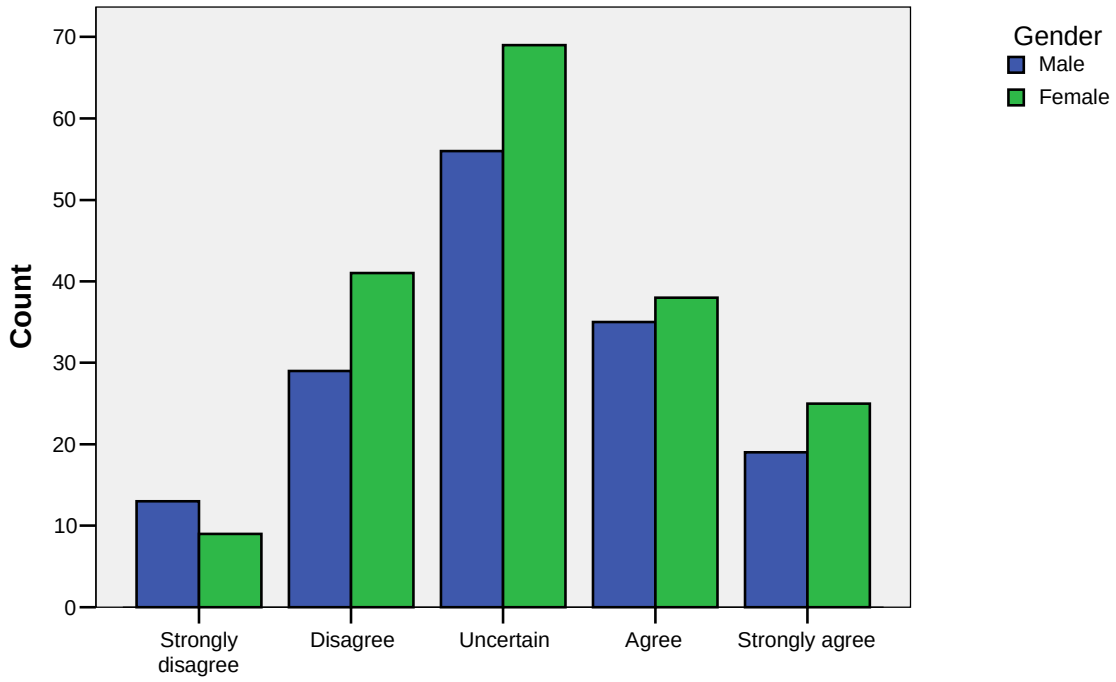
			Gender		
			Male	Female	Total
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Strongly disagree	Count	13	9	22
		Expected Count	10,0	12,0	22,0
	Disagree	Count	29	41	70
		Expected Count	31,9	38,1	70,0
	Uncertain	Count	56	69	125
		Expected Count	56,9	68,1	125,0
	Agree	Count	35	38	73
		Expected Count	33,2	39,8	73,0
	Strongly agree	Count	19	25	44
		Expected Count	20,0	24,0	44,0
Total		Count	152	182	334
		Expected Count	152,0	182,0	334,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2,403[a]	4	,662
Likelihood Ratio	2,399	4	,663
Linear-by-Linear Association	,115	1	,734
N of Valid Cases	334		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 10,01.

Bar Chart



There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Study at an Open University is especially of advantage to adults who have work and family obligations * Gender

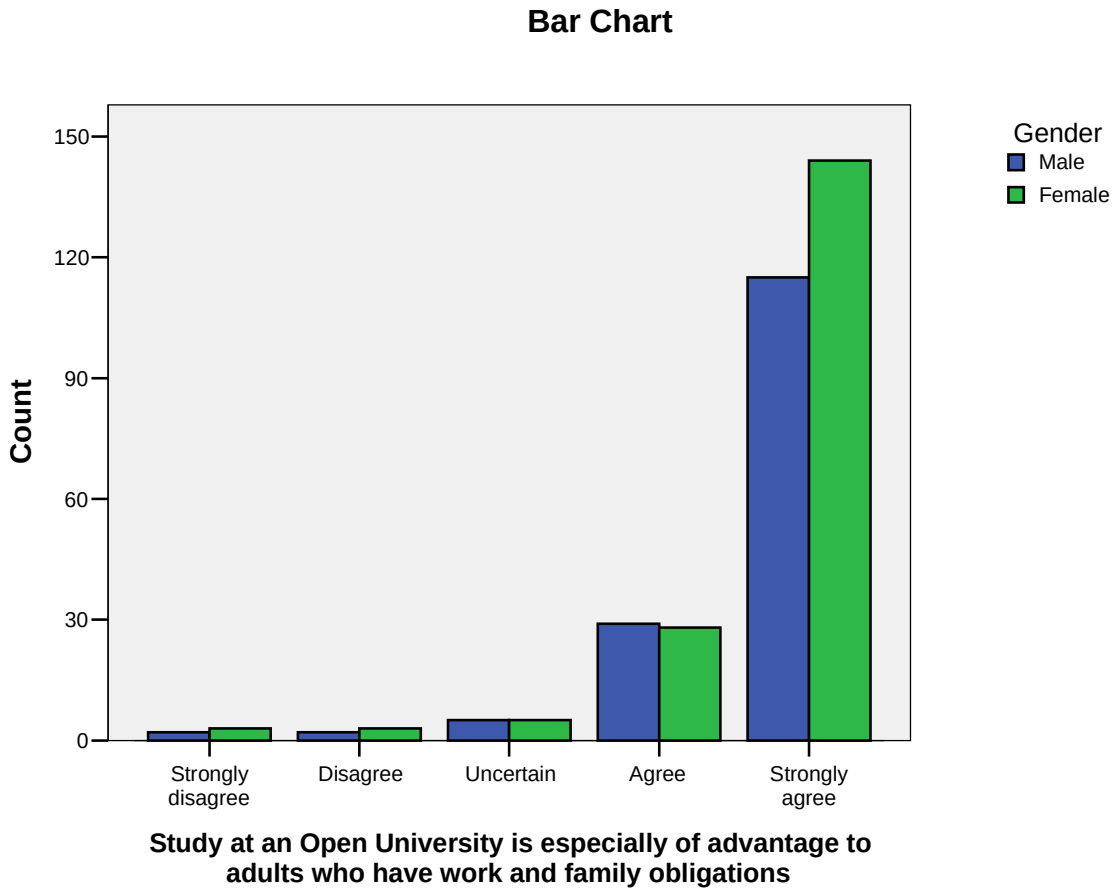
Crosstab

			Gender		
			Male	Female	Total
Study at an Open University is especially of advantage to adults who have work and family obligations	Strongly disagree	Count	2	3	5
		Expected Count	2,3	2,7	5,0
	Disagree	Count	2	3	5
		Expected Count	2,3	2,7	5,0
	Uncertain	Count	5	5	10
		Expected Count	4,6	5,4	10,0
	Agree	Count	29	28	57
		Expected Count	26,0	31,0	57,0
	Strongly agree	Count	115	144	259
		Expected Count	117,9	141,1	259,0
Total		Count	153	183	336
		Expected Count	153,0	183,0	336,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	,994[a]	4	,911
Likelihood Ratio	,992	4	,911
Linear-by-Linear Association	,087	1	,768
N of Valid Cases	336		

a. 5 cells (50,0%) have expected count less than 5. The minimum expected count is 2,28.



B.7 Cross-Table for Variable Education

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
To what extent have you used advanced technological equipment in your professional life? * What is your level of education?	355	98,9%	4	1,1%	359	100,0%
Have you had to change your way of working because of technological developments? * What is your level of education?	353	98,3%	6	1,7%	359	100,0%
Thanks to technology, the problems of access to learning for students with disabilities have been resolved * What is your level of education?	356	99,2%	3	,8%	359	100,0%
Contacts between students and teachers can have the same intensity in online education as in face-to-face education * What is your level of education?	353	98,3%	6	1,7%	359	100,0%
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * What is your level of education?	354	98,6%	5	1,4%	359	100,0%
Only optimistic people think that the impact of technology on learning is beneficial * What is your level of education?	354	98,6%	5	1,4%	359	100,0%
From my personal study experience I find that the impact of technology on learning is valuable * What is your level of education?	354	98,6%	5	1,4%	359	100,0%
Information and communications technology has usually been used to encourage us to be active participants in learning * What is your level of education?	354	98,6%	5	1,4%	359	100,0%
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * What is your level of education?	355	98,9%	4	1,1%	359	100,0%

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs * What is your level of education?	352	98,1%	7	1,9%	359	100,0%
Learning is enhanced when text and pictures are integrated in a multimedia environment * What is your level of education?	354	98,6%	5	1,4%	359	100,0%
Educational games motivate learners and contribute to developing skills such as teamwork * What is your level of education?	353	98,3%	6	1,7%	359	100,0%
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * What is your level of education?	333	92,8%	26	7,2%	359	100,0%
Technology facilitates easier access to material for those studying part-time * What is your level of education?	334	93,0%	25	7,0%	359	100,0%
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * What is your level of education?	333	92,8%	26	7,2%	359	100,0%
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university * What is your level of education?	332	92,5%	27	7,5%	359	100,0%
Study at an Open University is especially of advantage to adults who have work and family obligations * What is your level of education?	334	93,0%	25	7,0%	359	100,0%

To what extent have you used advanced technological equipment in your professional life? * What is your level of education?

Crosstab

Count

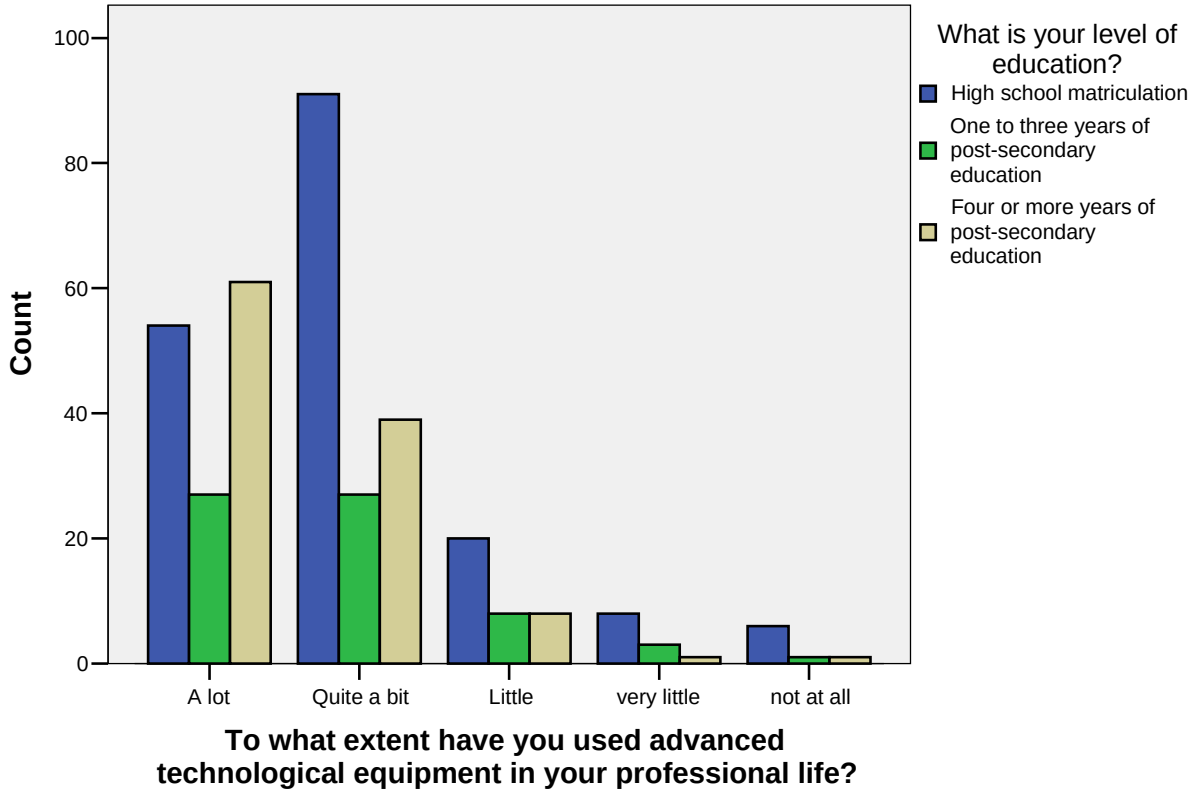
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
To what extent have you used advanced technological equipment in your professional life?	A lot	54	27	61	142
	Quite a bit	91	27	39	157
	Little	20	8	8	36
	very little	8	3	1	12
	not at all	6	1	1	8
Total		179	66	110	355

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20,972[a]	8	,007
Likelihood Ratio	21,698	8	,006
Linear-by-Linear Association	15,641	1	,000
N of Valid Cases	355		

a. 5 cells (33,3%) have expected count less than 5. The minimum expected count is 1,49.

Bar Chart



Have you had to change your way of working because of technological developments? * What is your level of education?

Crosstab

Count

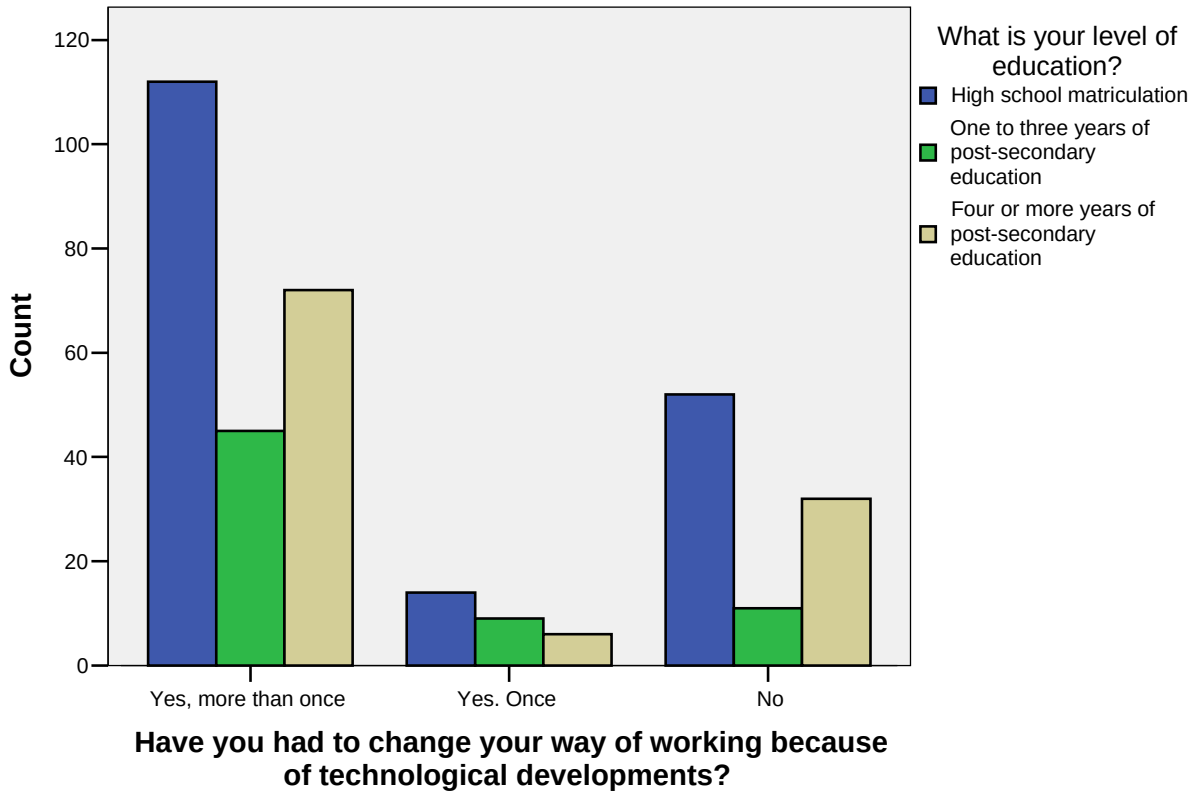
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Have you had to change your way of working because of technological developments?	Yes, more than once	112	45	72	229
	Yes. Once	14	9	6	29
	No	52	11	32	95
Total		178	65	110	353

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6,811[a]	4	,146
Likelihood Ratio	6,869	4	,143
Linear-by-Linear Association	,158	1	,691
N of Valid Cases	353		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 5,34.

Bar Chart



Thanks to technology, the problems of access to learning for students with disabilities have been resolved * What is your level of education?

Crosstab

Count

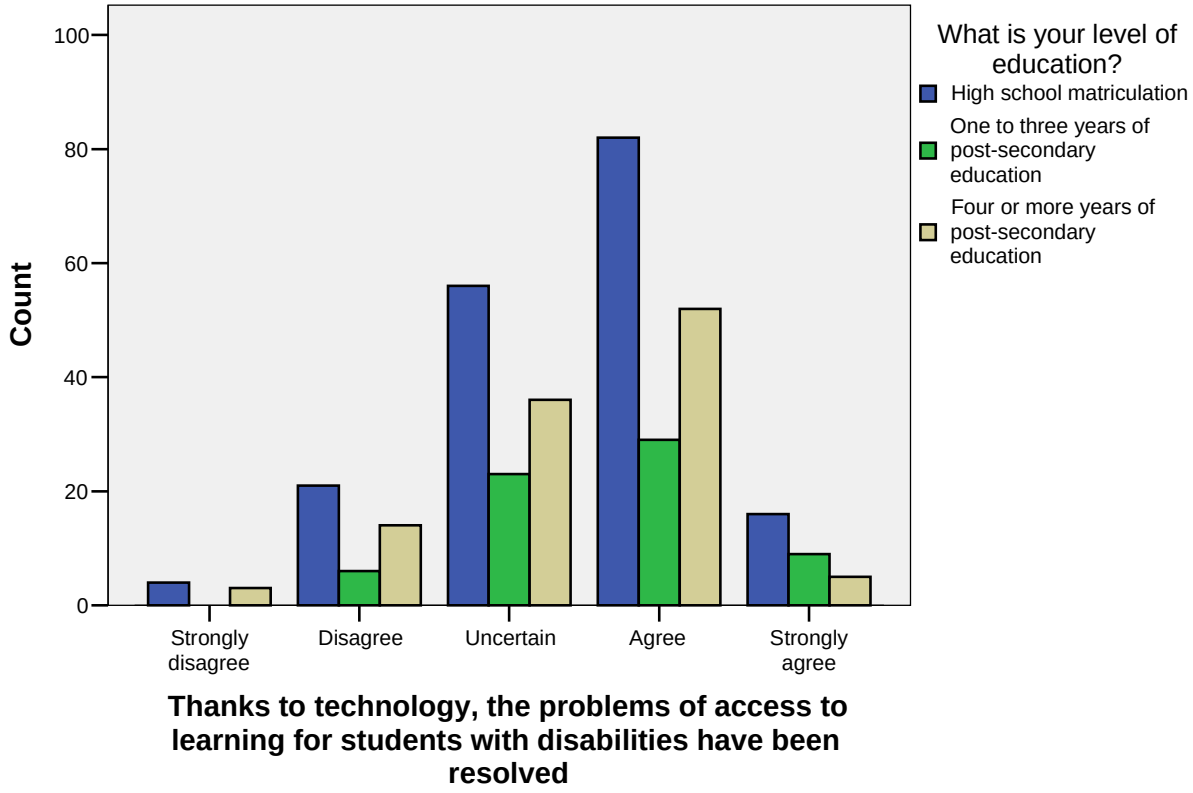
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Strongly disagree	4	0	3	7
	Disagree	21	6	14	41
	Uncertain	56	23	36	115
	Agree	82	29	52	163
	Strongly agree	16	9	5	30
Total		179	67	110	356

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6,544[a]	8	,587
Likelihood Ratio	7,942	8	,439
Linear-by-Linear Association	,515	1	,473
N of Valid Cases	356		

a. 3 cells (20,0%) have expected count less than 5. The minimum expected count is 1,32.

Bar Chart



Contacts between students and teachers can have the same intensity in online education as in face-to-face education * What is your level of

education?

Crosstab

Count

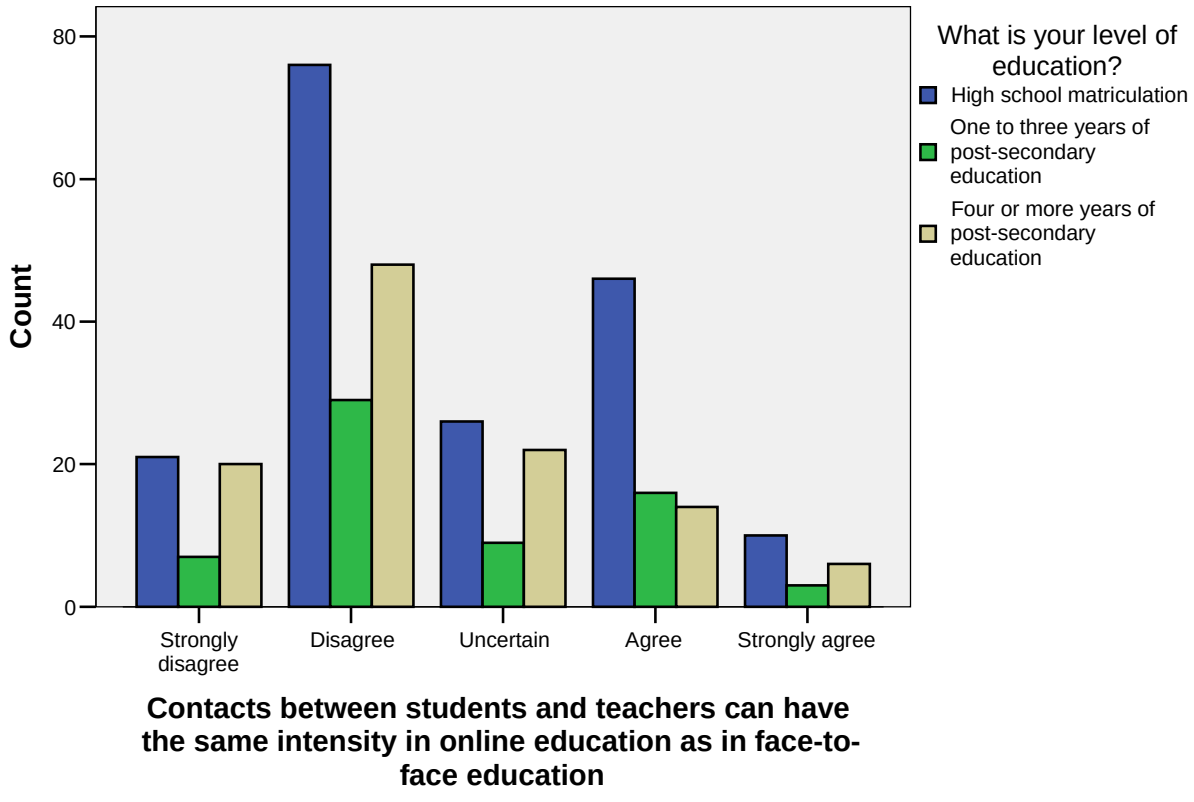
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Strongly disagree	21	7	20	48
	Disagree	76	29	48	153
	Uncertain	26	9	22	57
	Agree	46	16	14	76
	Strongly agree	10	3	6	19
Total		179	64	110	353

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9,892[a]	8	,273
Likelihood Ratio	10,307	8	,244
Linear-by-Linear Association	3,798	1	,051
N of Valid Cases	353		

a. 1 cells (6,7%) have expected count less than 5. The minimum expected count is 3,44.

Bar Chart



Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * What is your level of education?

Crosstab

Count

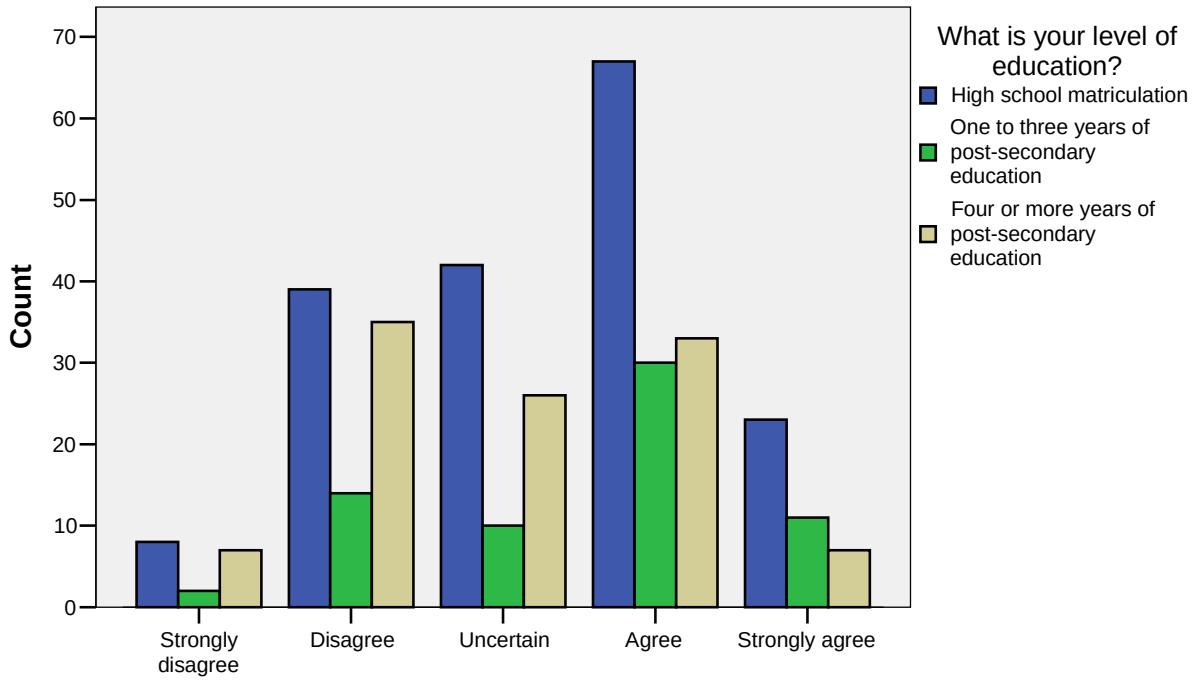
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Strongly disagree	8	2	7	17
	Disagree	39	14	35	88
	Uncertain	42	10	26	78
	Agree	67	30	33	130
	Strongly agree	23	11	7	41
Total		179	67	108	354

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12,974[a]	8	,113
Likelihood Ratio	13,298	8	,102
Linear-by-Linear Association	5,332	1	,021
N of Valid Cases	354		

a. 1 cells (6,7%) have expected count less than 5. The minimum expected count is 3,22.

Bar Chart



Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

Only optimistic people think that the impact of technology on learning is beneficial * What is your level of education?

Crosstab

Count

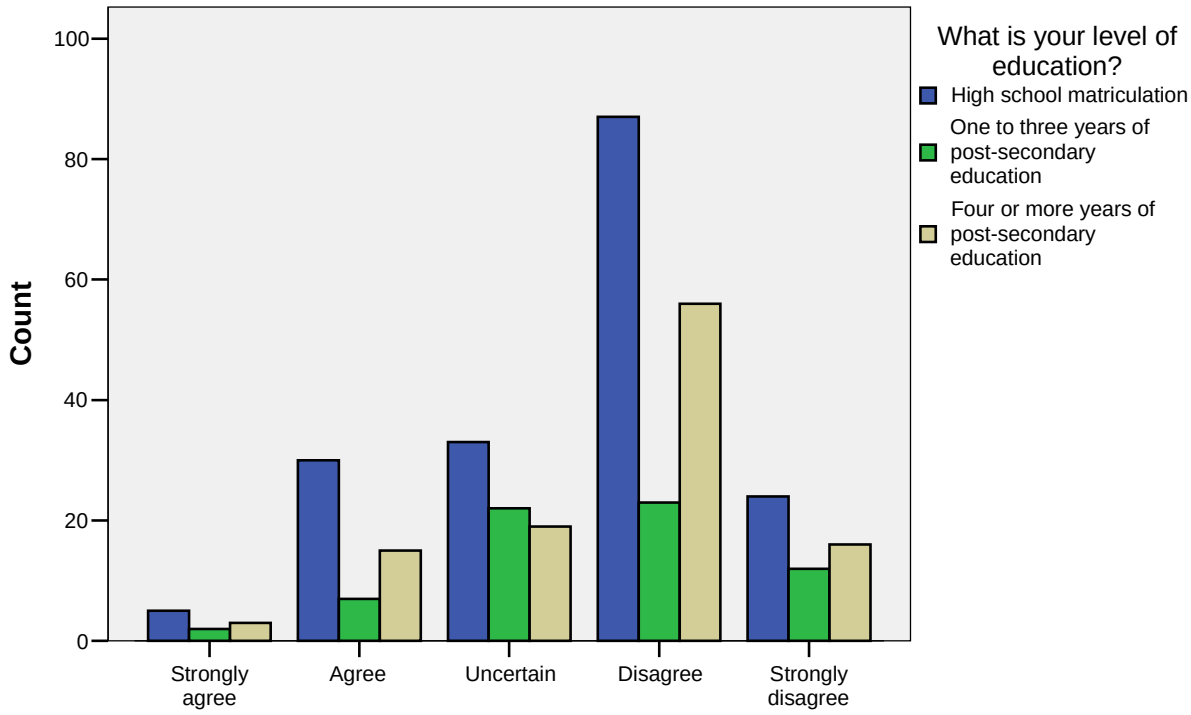
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Only optimistic people think that the impact of technology on learning is beneficial	Strongly agree	5	2	3	10
	Agree	30	7	15	52
	Uncertain	33	22	19	74
	Disagree	87	23	56	166
	Strongly disagree	24	12	16	52
Total		179	66	109	354

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10,745[a]	8	,217
Likelihood Ratio	10,264	8	,247
Linear-by-Linear Association	,451	1	,502
N of Valid Cases	354		

a. 2 cells (13,3%) have expected count less than 5. The minimum expected count is 1,86.

Bar Chart



Only optimistic people think that the impact of technology on learning is beneficial

From my personal study experience I find that the impact of technology on learning is valuable * What is your level of education?

Crosstab

Count

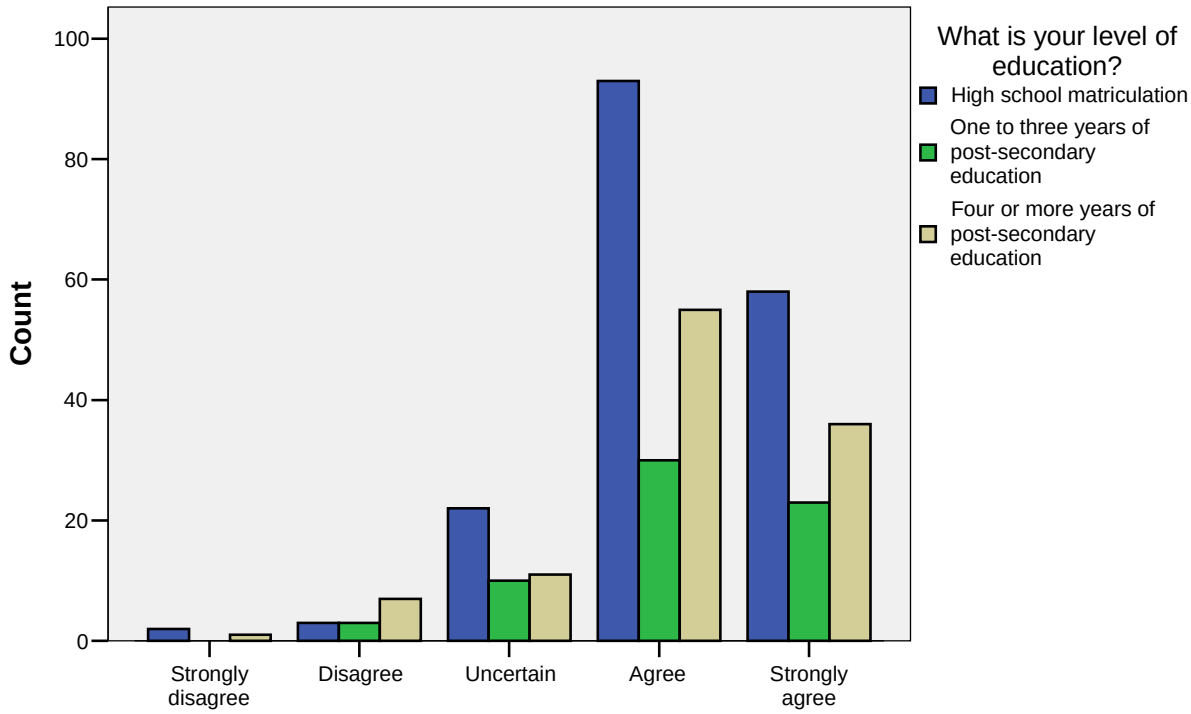
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
From my personal study experience I find that the impact of technology on learning is valuable	Strongly disagree	2	0	1	3
	Disagree	3	3	7	13
	Uncertain	22	10	11	43
	Agree	93	30	55	178
	Strongly agree	58	23	36	117
Total		178	66	110	354

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6,383[a]	8	,604
Likelihood Ratio	7,009	8	,536
Linear-by-Linear Association	,396	1	,529
N of Valid Cases	354		

a. 5 cells (33,3%) have expected count less than 5. The minimum expected count is ,56.

Bar Chart



From my personal study experience I find that the impact of technology on learning is valuable

Information and communications technology has usually been used to encourage us to be active participants in learning * What is your level of education?

Crosstab

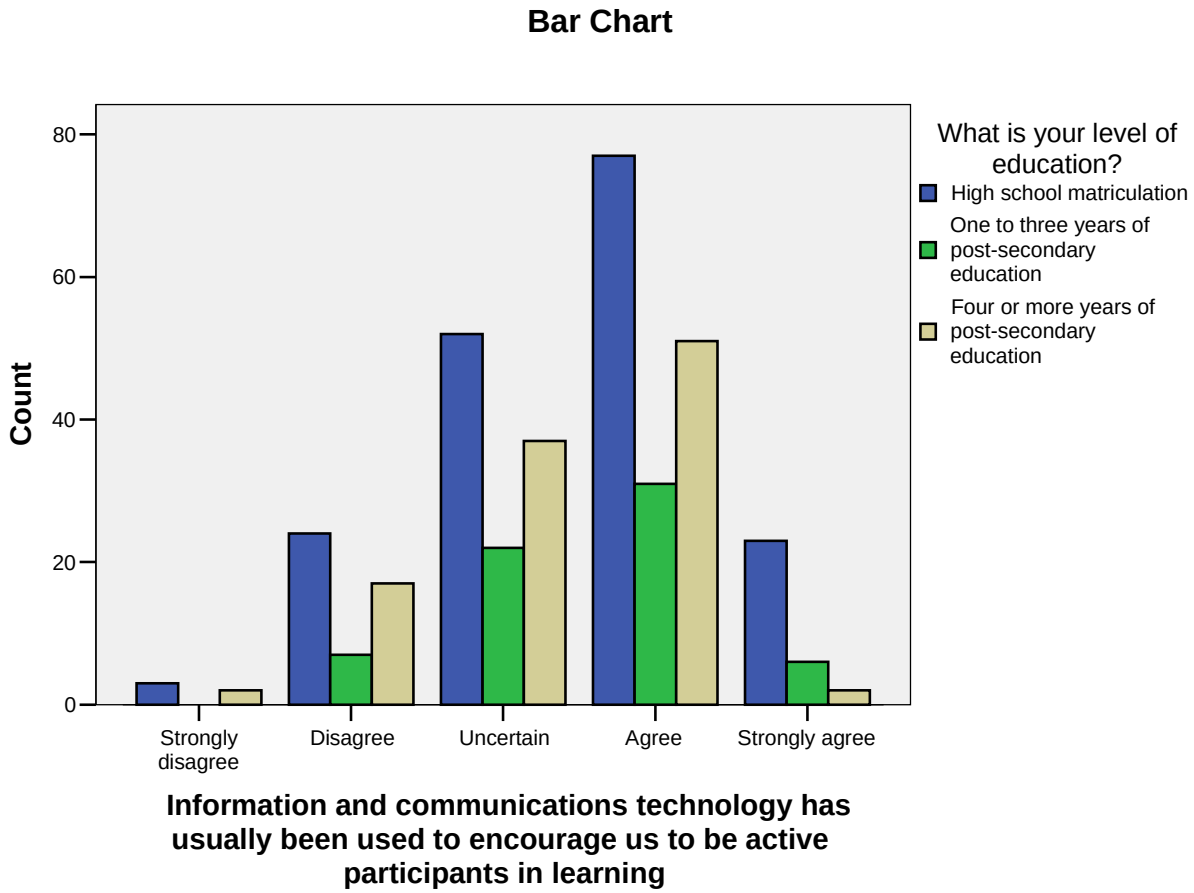
Count

		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Information and communications technology has usually been used to encourage us to be active participants in learning	Strongly disagree	3	0	2	5
	Disagree	24	7	17	48
	Uncertain	52	22	37	111
	Agree	77	31	51	159
	Strongly agree	23	6	2	31
Total		179	66	109	354

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12,224[a]	8	,141
Likelihood Ratio	15,598	8	,049
Linear-by-Linear Association	3,343	1	,067
N of Valid Cases	354		

a. 3 cells (20,0%) have expected count less than 5. The minimum expected count is ,93.



Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * What is your level of education?

Crosstab

Count

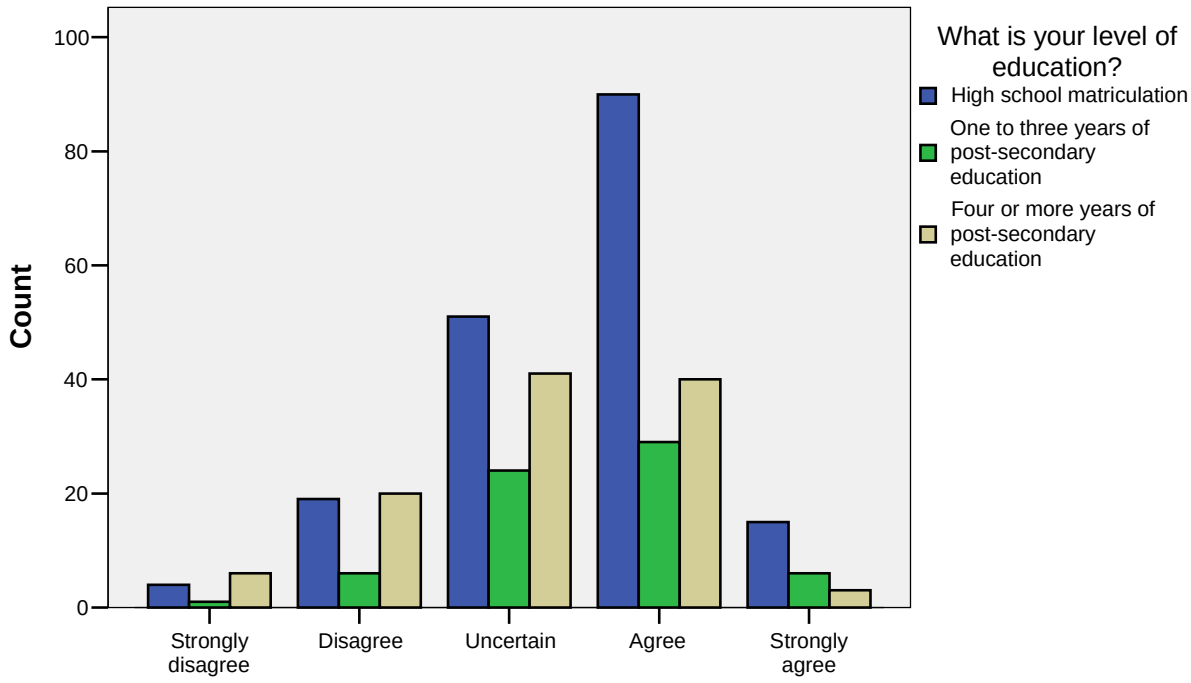
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Strongly disagree	4	1	6	11
	Disagree	19	6	20	45
	Uncertain	51	24	41	116
	Agree	90	29	40	159
	Strongly agree	15	6	3	24
Total		179	66	110	355

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15,611[a]	8	,048
Likelihood Ratio	15,965	8	,043
Linear-by-Linear Association	11,930	1	,001
N of Valid Cases	355		

a. 3 cells (20,0%) have expected count less than 5. The minimum expected count is 2,05.

Bar Chart



Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs * What is your level of education?

Crosstab

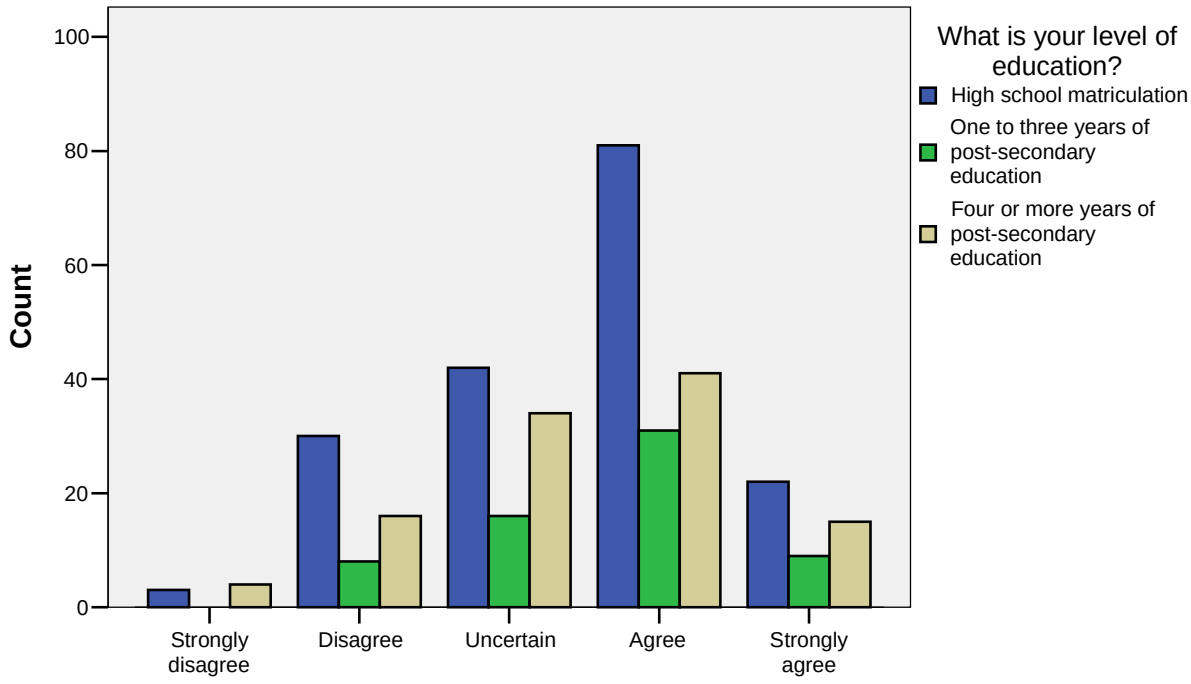
Count

		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Strongly disagree	3	0	4	7
	Disagree	30	8	16	54
	Uncertain	42	16	34	92
	Agree	81	31	41	153
	Strongly agree	22	9	15	46
Total		178	64	110	352

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6,583[a]	8	,582
Likelihood Ratio	7,573	8	,476
Linear-by-Linear Association	,236	1	,627
N of Valid Cases	352		

a. 3 cells (20,0%) have expected count less than 5. The minimum expected count is 1,27.



Learning is enhanced when text and pictures are integrated in a multimedia environment * What is your level of education?

Crosstab

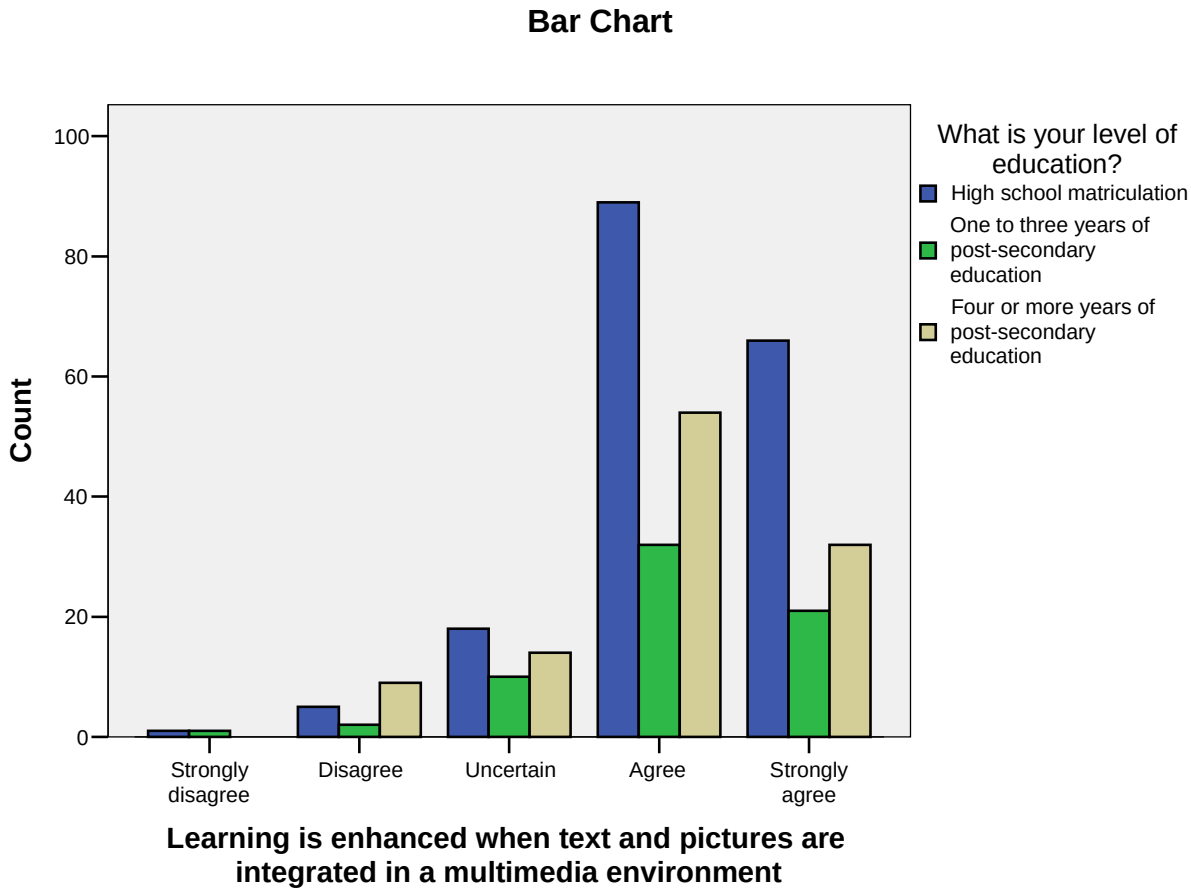
Count

		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Learning is enhanced when text and pictures are integrated in a multimedia environment	Strongly disagree	1	1	0	2
	Disagree	5	2	9	16
	Uncertain	18	10	14	42
	Agree	89	32	54	175
	Strongly agree	66	21	32	119
Total		179	66	109	354

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8,957[a]	8	,346
Likelihood Ratio	8,785	8	,361
Linear-by-Linear Association	4,017	1	,045
N of Valid Cases	354		

a. 5 cells (33,3%) have expected count less than 5. The minimum expected count is ,37.



Educational games motivate learners and contribute to developing skills such as teamwork * What is your level of education?

Crosstab

Count

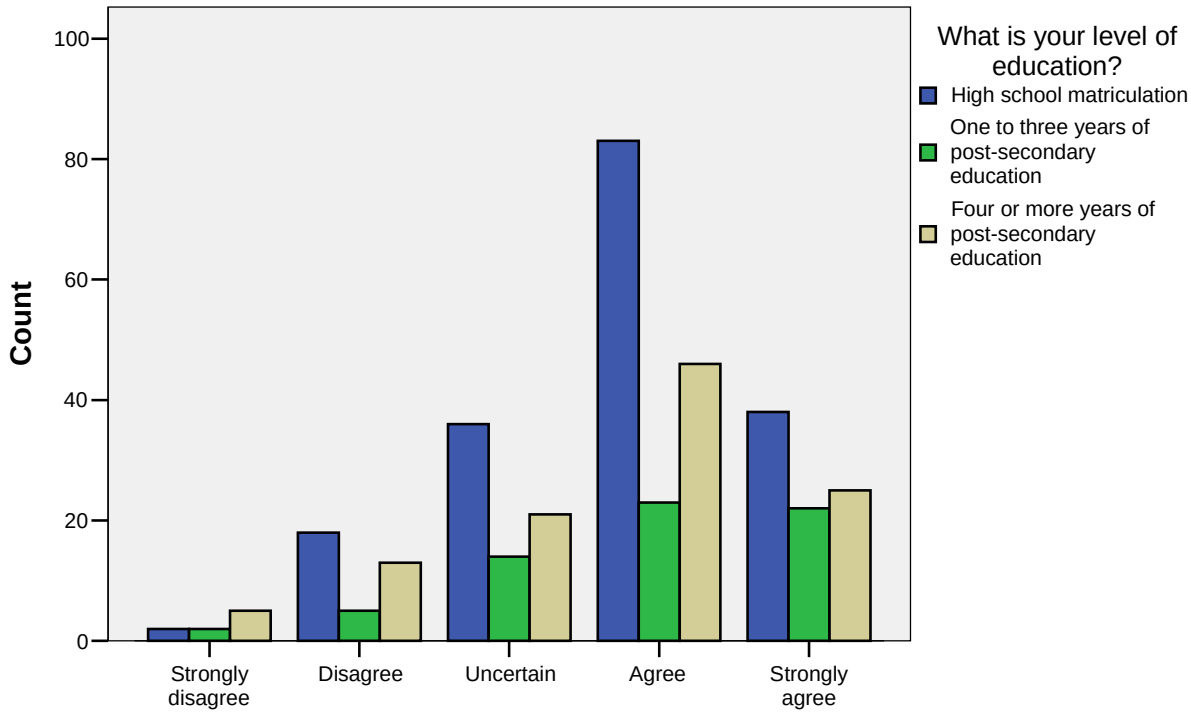
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Educational games motivate learners and contribute to developing skills such as teamwork	Strongly disagree	2	2	5	9
	Disagree	18	5	13	36
	Uncertain	36	14	21	71
	Agree	83	23	46	152
	Strongly agree	38	22	25	85
Total		177	66	110	353

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8,616[a]	8	,376
Likelihood Ratio	8,509	8	,385
Linear-by-Linear Association	,614	1	,433
N of Valid Cases	353		

a. 3 cells (20,0%) have expected count less than 5. The minimum expected count is 1,68.

Bar Chart



Educational games motivate learners and contribute to developing skills such as teamwork

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * What is your level of education?

Crosstab

Count

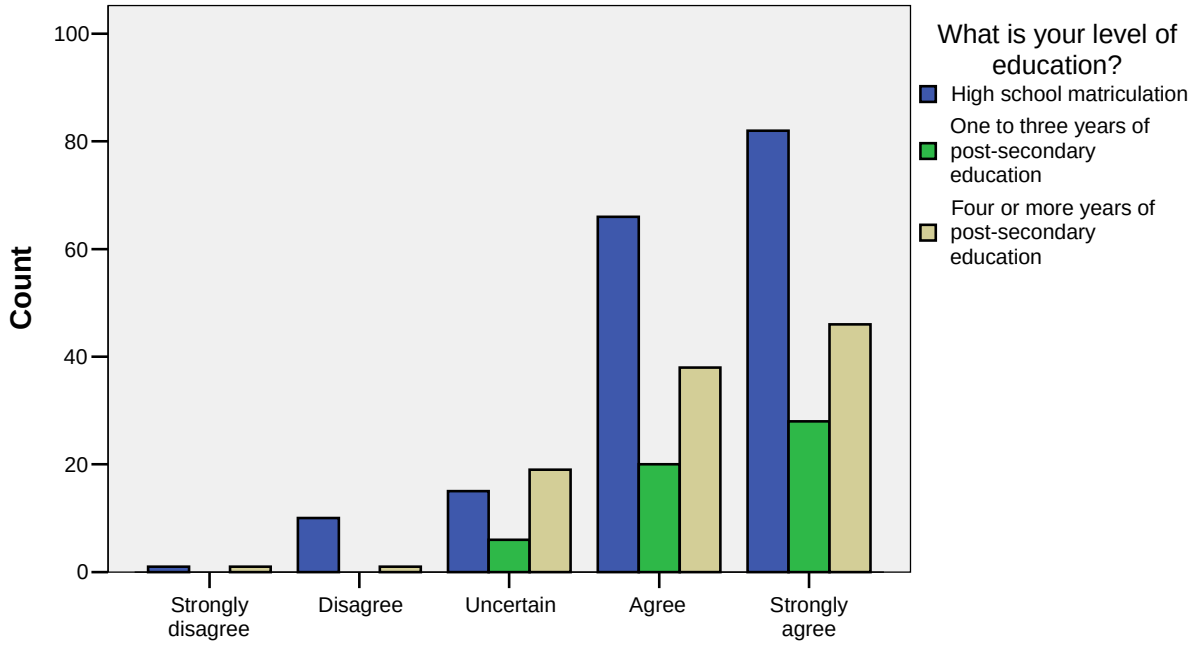
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Strongly disagree	1	0	1	2
	Disagree	10	0	1	11
	Uncertain	15	6	19	40
	Agree	66	20	38	124
	Strongly agree	82	28	46	156
Total		174	54	105	333

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12,719[a]	8	,122
Likelihood Ratio	14,652	8	,066
Linear-by-Linear Association	,076	1	,783
N of Valid Cases	333		

a. 5 cells (33,3%) have expected count less than 5. The minimum expected count is ,32.

Bar Chart



The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Technology facilitates easier access to material for those studying part-time * What is your level of education?

Crosstab

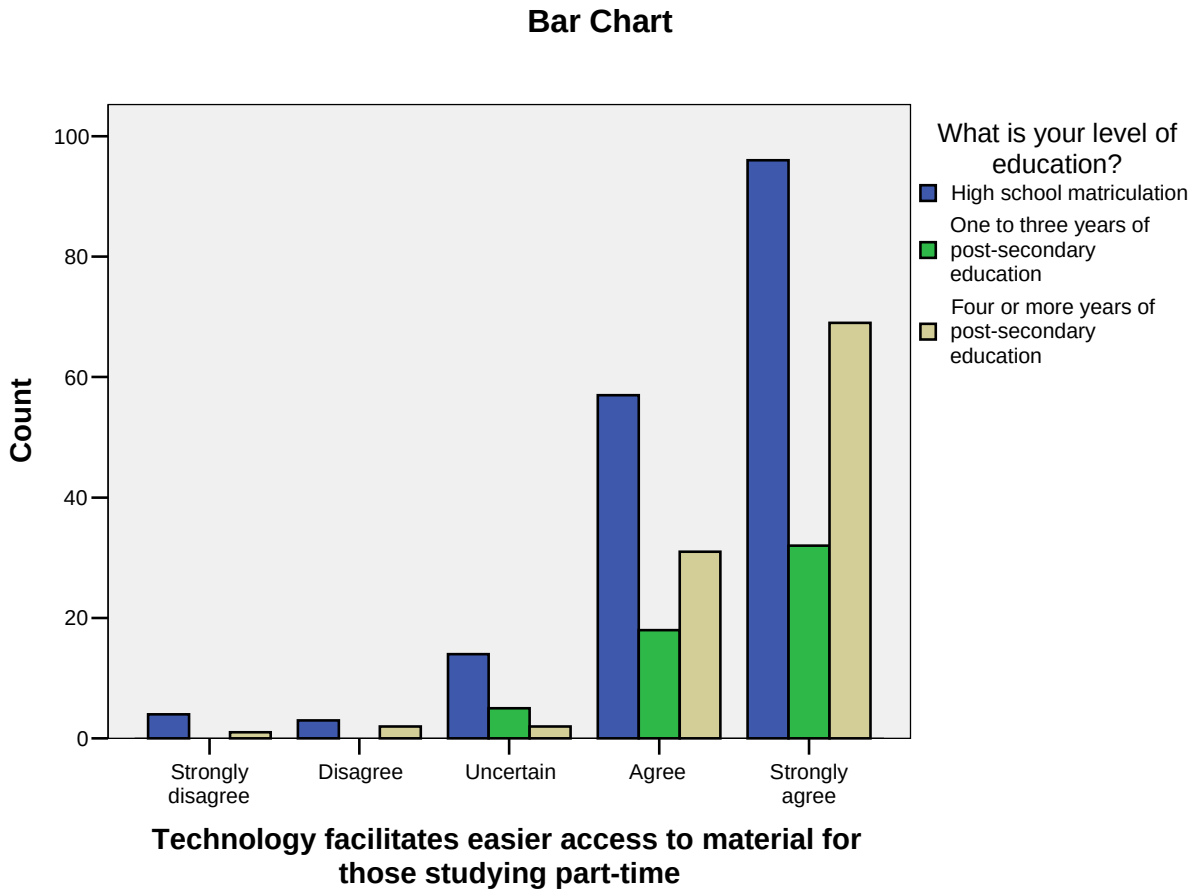
Count

		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Technology facilitates easier access to material for those studying part-time	Strongly disagree	4	0	1	5
	Disagree	3	0	2	5
	Uncertain	14	5	2	21
	Agree	57	18	31	106
	Strongly agree	96	32	69	197
Total		174	55	105	334

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9,007[a]	8	,342
Likelihood Ratio	11,615	8	,169
Linear-by-Linear Association	4,332	1	,037
N of Valid Cases	334		

a. 7 cells (46,7%) have expected count less than 5. The minimum expected count is ,82.



University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * What is your level of education?

Crosstab

Count

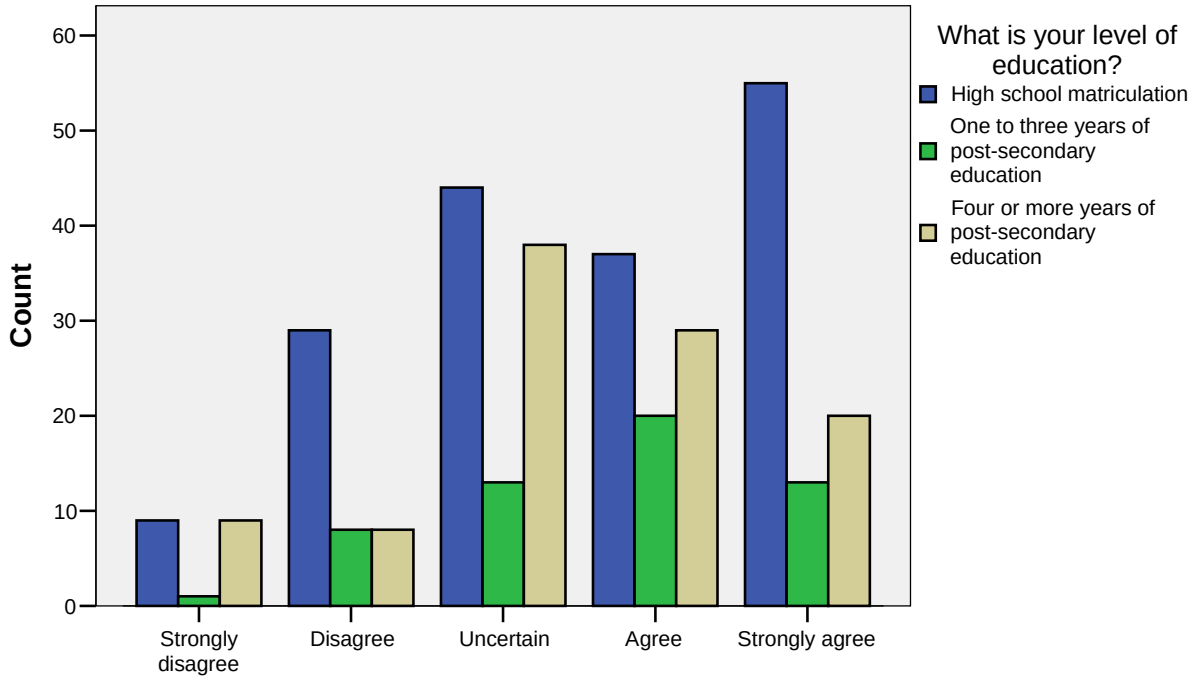
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Strongly disagree	9	1	9	19
	Disagree	29	8	8	45
	Uncertain	44	13	38	95
	Agree	37	20	29	86
	Strongly agree	55	13	20	88
Total		174	55	104	333

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18,406[a]	8	,018
Likelihood Ratio	18,912	8	,015
Linear-by-Linear Association	1,023	1	,312
N of Valid Cases	333		

a. 1 cells (6,7%) have expected count less than 5. The minimum expected count is 3,14.

Bar Chart



University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

There is no difference in learning outcomes between studying at an Open

University or at a traditional face-to-face university * What is your level of education?

Crosstab

Count

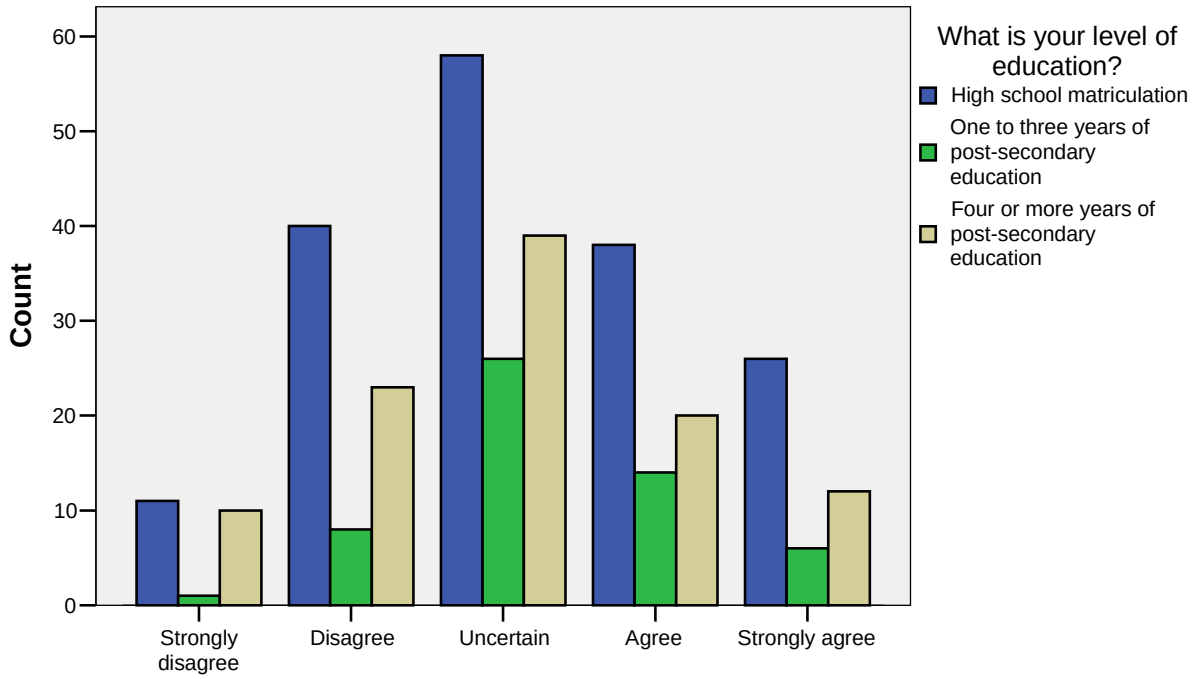
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Strongly disagree	11	1	10	22
	Disagree	40	8	23	71
	Uncertain	58	26	39	123
	Agree	38	14	20	72
	Strongly agree	26	6	12	44
Total		173	55	104	332

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8,476[a]	8	,388
Likelihood Ratio	9,128	8	,332
Linear-by-Linear Association	,979	1	,322
N of Valid Cases	332		

a. 1 cells (6,7%) have expected count less than 5. The minimum expected count is 3,64.

Bar Chart



There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Study at an Open University is especially of advantage to adults who have work and family obligations * What is your level of education?

Crosstab

Count

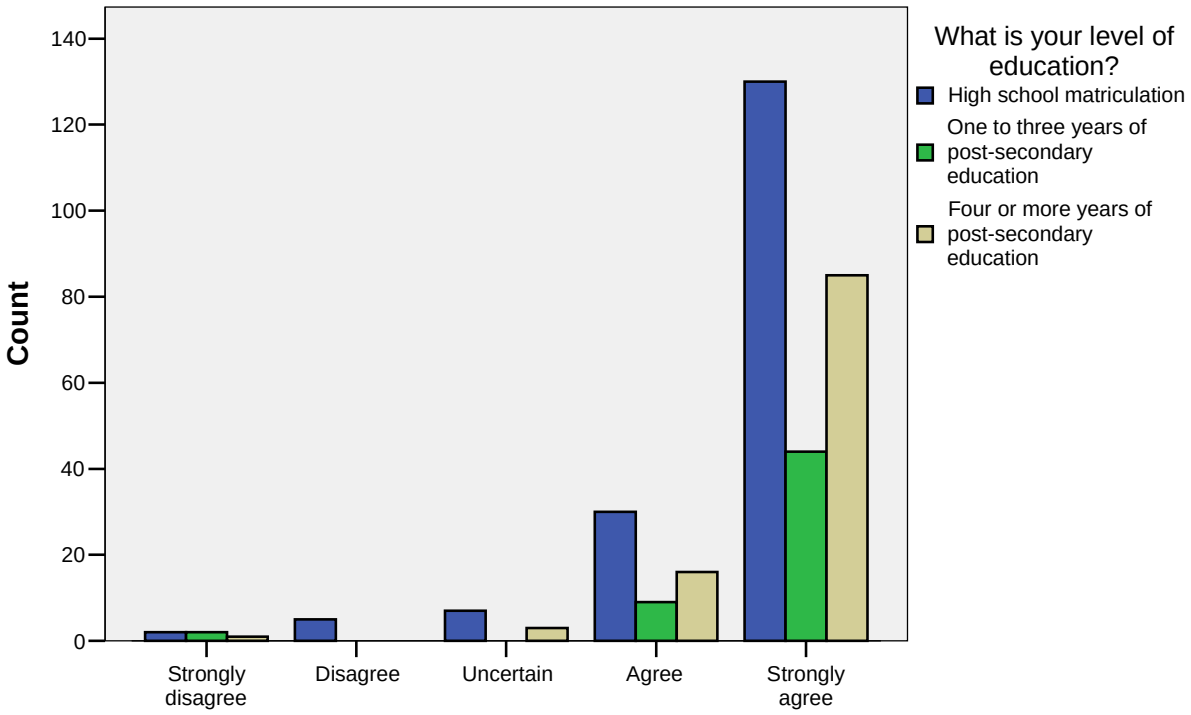
		What is your level of education?			
		High school matriculation	One to three years of post-secondary education	Four or more years of post-secondary education	Total
Study at an Open University is especially of advantage to adults who have work and family obligations	Strongly disagree	2	2	1	5
	Disagree	5	0	0	5
	Uncertain	7	0	3	10
	Agree	30	9	16	55
	Strongly agree	130	44	85	259
Total		174	55	105	334

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9,436[a]	8	,307
Likelihood Ratio	12,506	8	,130
Linear-by-Linear Association	2,286	1	,131
N of Valid Cases	334		

a. 8 cells (53,3%) have expected count less than 5. The minimum expected count is ,82.

Bar Chart



Study at an Open University is especially of advantage to adults who have work and family obligations

B.8 Cross-Table for Variable Occupation

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
To what extent have you used advanced technological equipment in your professional life? * What is your occupation?	355	98,9%	4	1,1%	359	100,0%
Have you had to change your way of working because of technological developments? * What is your occupation?	353	98,3%	6	1,7%	359	100,0%
Thanks to technology, the problems of access to learning for students with disabilities have been resolved * What is your occupation?	357	99,4%	2	,6%	359	100,0%
Contacts between students and teachers can have the same intensity in online education as in face-to-face education * What is your occupation?	354	98,6%	5	1,4%	359	100,0%
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * What is your occupation?	355	98,9%	4	1,1%	359	100,0%
Only optimistic people think that the impact of technology on learning is beneficial * What is your occupation?	355	98,9%	4	1,1%	359	100,0%
From my personal study experience I find that the impact of technology on learning is valuable * What is your occupation?	355	98,9%	4	1,1%	359	100,0%
Information and communications technology has usually been used to encourage us to be active participants in learning * What is your occupation?	355	98,9%	4	1,1%	359	100,0%
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * What is your occupation?	356	99,2%	3	,8%	359	100,0%

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs * What is your occupation?	354	98,6%	5	1,4%	359	100,0%
Learning is enhanced when text and pictures are integrated in a multimedia environment * What is your occupation?	355	98,9%	4	1,1%	359	100,0%
Educational games motivate learners and contribute to developing skills such as teamwork * What is your occupation?	354	98,6%	5	1,4%	359	100,0%
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * What is your occupation?	335	93,3%	24	6,7%	359	100,0%
Technology facilitates easier access to material for those studying part-time * What is your occupation?	336	93,6%	23	6,4%	359	100,0%
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * What is your occupation?	335	93,3%	24	6,7%	359	100,0%
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university * What is your occupation?	334	93,0%	25	7,0%	359	100,0%
Study at an Open University is especially of advantage to adults who have work and family obligations * What is your occupation?	336	93,6%	23	6,4%	359	100,0%

To what extent have you used advanced technological equipment in your professional life? * What is your occupation?

Crosstab

			What is your occupation?			
			Manager	Technical	Teacher or Trainer	Student
To what extent have you used advanced technological equipment in your professional life?	A lot	Count	31	39	35	14
		Expected Count	26,8	23,5	33,3	30,0
	Quite a bit	Count	28	15	40	34
		Expected Count	29,0	25,5	36,0	32,5
	Little	Count	6	1	4	16
		Expected Count	6,5	5,7	8,1	7,3
	very little	Count	1	1	2	7
		Expected Count	2,2	2,0	2,8	2,5
	not at all	Count	0	2	1	3
		Expected Count	1,5	1,3	1,8	1,7
Total		Count	66	58	82	74
		Expected Count	66,0	58,0	82,0	74,0

Crosstab

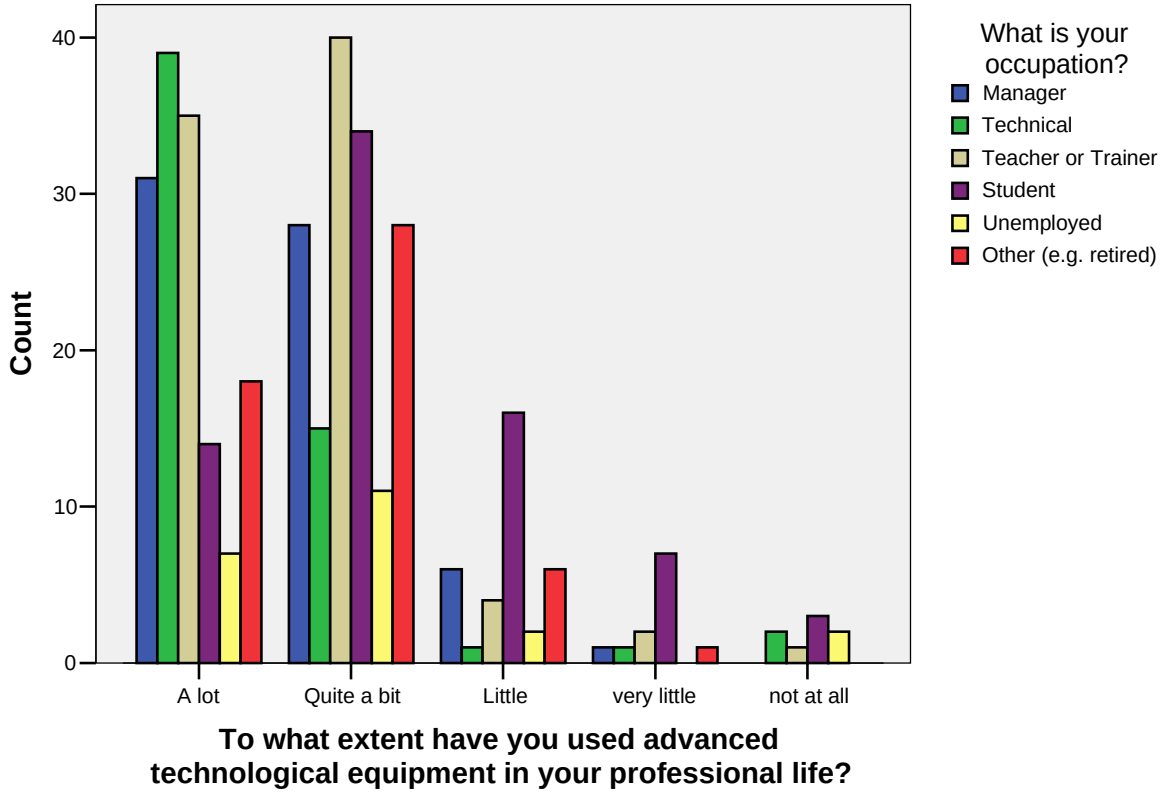
			What is your occupation?		
			Unemployed	Other (e.g. retired)	Total
To what extent have you used advanced technological equipment in your professional life?	A lot	Count	7	18	144
		Expected Count	8,9	21,5	144,0
	Quite a bit	Count	11	28	156
		Expected Count	9,7	23,3	156,0
	Little	Count	2	6	35
		Expected Count	2,2	5,2	35,0
	very little	Count	0	1	12
		Expected Count	,7	1,8	12,0
	not at all	Count	2	0	8
		Expected Count	,5	1,2	8,0
Total		Count	22	53	355
		Expected Count	22,0	53,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	62,580[a]	20	,000
Likelihood Ratio	62,527	20	,000
Linear-by-Linear Association	10,100	1	,001
N of Valid Cases	355		

a. 13 cells (43,3%) have expected count less than 5. The minimum expected count is ,50.

Bar Chart



Have you had to change your way of working because of technological developments? * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Have you had to change your way of working because of technological developments?	Yes, more than once	Count	48	43	52
		Expected Count	43,2	38,0	53,0
	Yes. Once	Count	6	4	9
		Expected Count	5,4	4,8	6,7
	No	Count	12	11	20
		Expected Count	17,4	15,3	21,3
Total		Count	66	58	81
		Expected Count	66,0	58,0	81,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Have you had to change your way of working because of technological developments?	Yes, more than once	Count	40	10
		Expected Count	47,8	14,4
	Yes. Once	Count	4	3
		Expected Count	6,0	1,8
	No	Count	29	9
		Expected Count	19,2	5,8
Total		Count	73	22
		Expected Count	73,0	22,0

Crosstab

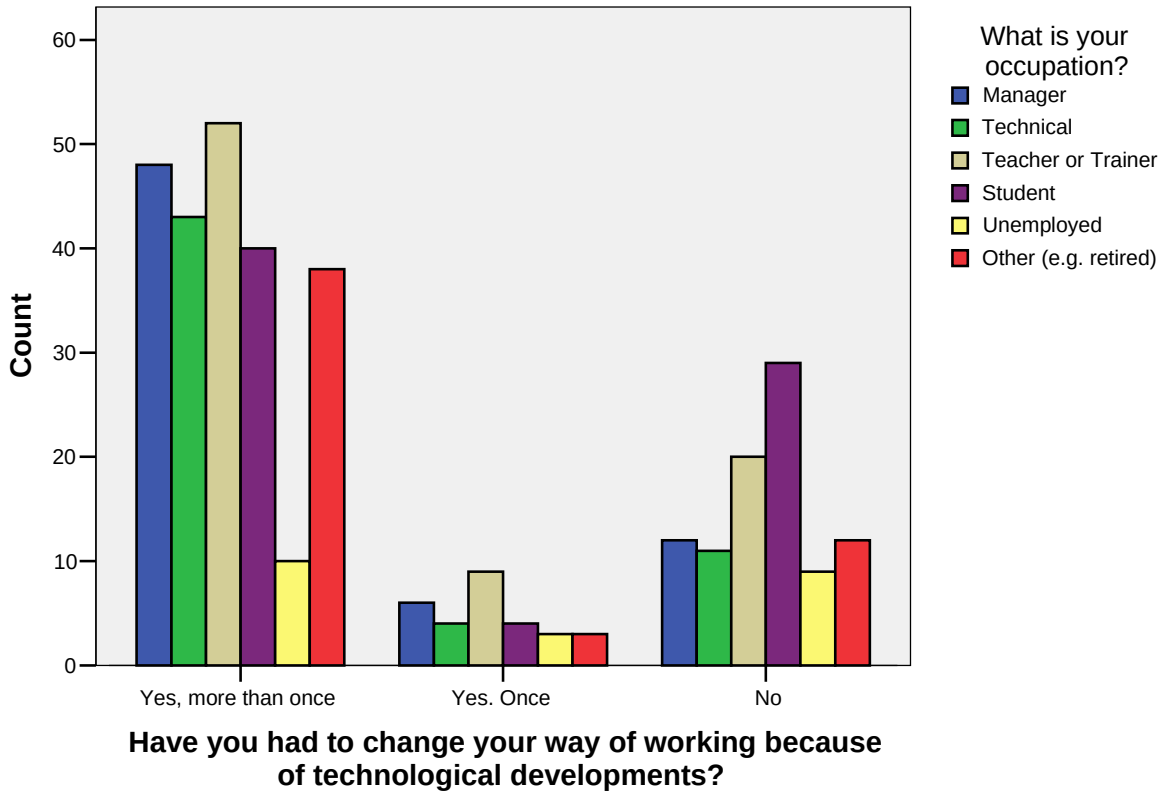
			What is Other (e.g. retired)	Total
Have you had to change your way of working because of technological developments?	Yes, more than once	Count	38	231
		Expected Count	34,7	231,0
	Yes. Once	Count	3	29
		Expected Count	4,4	29,0
	No	Count	12	93
		Expected Count	14,0	93,0
Total		Count	53	353
		Expected Count	53,0	353,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16,995[a]	10	,074
Likelihood Ratio	16,526	10	,086
Linear-by-Linear Association	3,017	1	,082
N of Valid Cases	353		

a. 3 cells (16,7%) have expected count less than 5. The minimum expected count is 1,81.

Bar Chart



Have you had to change your way of working because of technological developments?

Thanks to technology, the problems of access to learning for students with disabilities have been resolved * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Strongly disagree	Count	1	1	1
		Expected Count	1,3	1,1	1,6
	Disagree	Count	6	5	7
		Expected Count	7,8	6,8	9,6
	Uncertain	Count	26	22	25
		Expected Count	21,4	18,8	26,6
	Agree	Count	29	26	38
		Expected Count	30,1	26,5	37,4
	Strongly agree	Count	4	4	11
		Expected Count	5,4	4,7	6,7
Total		Count	66	58	82
		Expected Count	66,0	58,0	82,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Strongly disagree	Count	3	1
		Expected Count	1,5	,5
	Disagree	Count	19	2
		Expected Count	8,8	2,7
	Uncertain	Count	24	3
		Expected Count	24,4	7,5
	Agree	Count	27	11
		Expected Count	34,2	10,5
	Strongly agree	Count	2	6
		Expected Count	6,1	1,9
Total		Count	75	23
		Expected Count	75,0	23,0

Crosstab

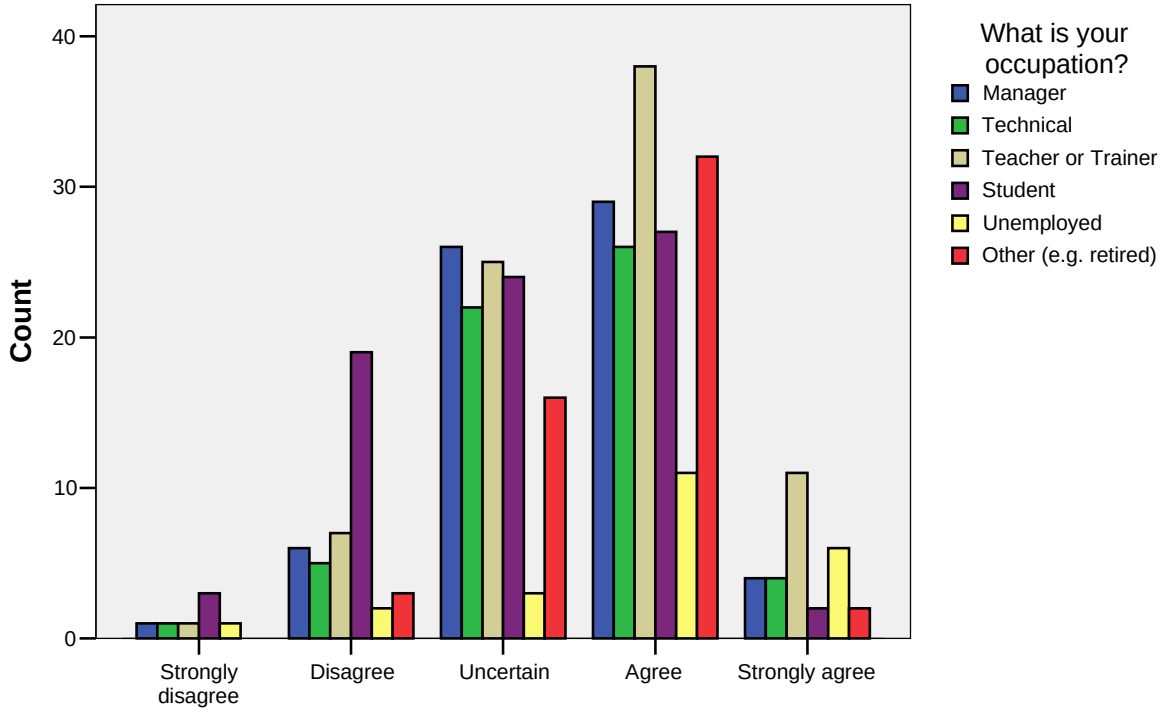
			What is Other (e.g. retired)	Total
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Strongly disagree	Count	0	7
		Expected Count	1,0	7,0
	Disagree	Count	3	42
		Expected Count	6,2	42,0
	Uncertain	Count	16	116
		Expected Count	17,2	116,0
	Agree	Count	32	163
		Expected Count	24,2	163,0
	Strongly agree	Count	2	29
		Expected Count	4,3	29,0
Total		Count	53	357
		Expected Count	53,0	357,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43,723[a]	20	,002
Likelihood Ratio	39,955	20	,005
Linear-by-Linear Association	,372	1	,542
N of Valid Cases	357		

a. 10 cells (33,3%) have expected count less than 5. The minimum expected count is ,45.

Bar Chart



Thanks to technology, the problems of access to learning for students with disabilities have been resolved

Contacts between students and teachers can have the same intensity in online education as in face-to-face education * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Strongly disagree	Count	7	11	17
		Expected Count	8,8	7,9	11,1
	Disagree	Count	24	23	42
		Expected Count	28,5	25,4	35,9
	Uncertain	Count	13	13	9
		Expected Count	10,5	9,3	13,2
	Agree	Count	19	8	12
		Expected Count	13,8	12,3	17,4
	Strongly agree	Count	2	3	2
		Expected Count	3,5	3,1	4,4
Total		Count	65	58	82
		Expected Count	65,0	58,0	82,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Strongly disagree	Count	10	2
		Expected Count	10,2	2,8
	Disagree	Count	39	7
		Expected Count	32,8	9,2
	Uncertain	Count	8	3
		Expected Count	12,1	3,4
	Agree	Count	13	7
		Expected Count	15,9	4,4
	Strongly agree	Count	5	2
		Expected Count	4,0	1,1
Total		Count	75	21
		Expected Count	75,0	21,0

Crosstab

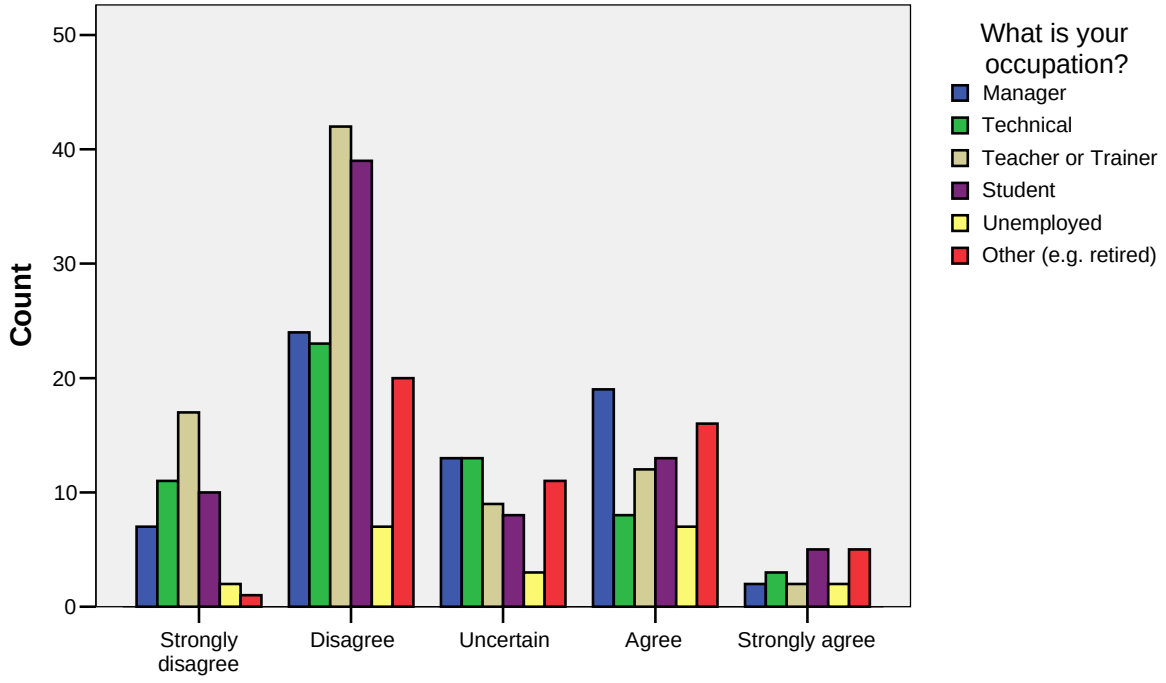
			What is Other (e.g. retired)	Total
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Strongly disagree	Count	1	48
		Expected Count	7,2	48,0
	Disagree	Count	20	155
		Expected Count	23,2	155,0
	Uncertain	Count	11	57
		Expected Count	8,5	57,0
	Agree	Count	16	75
		Expected Count	11,2	75,0
	Strongly agree	Count	5	19
		Expected Count	2,8	19,0
Total		Count	53	354
		Expected Count	53,0	354,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33,569[a]	20	,029
Likelihood Ratio	36,035	20	,015
Linear-by-Linear Association	4,335	1	,037
N of Valid Cases	354		

a. 9 cells (30,0%) have expected count less than 5. The minimum expected count is 1,13.

Bar Chart



Contacts between students and teachers can have the same intensity in online education as in face-to-face education

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Strongly disagree	Count	1	2	6
		Expected Count	3,1	2,7	3,9
	Disagree	Count	13	18	19
		Expected Count	16,3	14,3	20,6
	Uncertain	Count	17	19	13
		Expected Count	14,1	12,4	17,8
	Agree	Count	28	11	40
		Expected Count	24,0	21,0	30,3
	Strongly agree	Count	6	7	4
		Expected Count	7,5	6,6	9,5
Total		Count	65	57	82
		Expected Count	65,0	57,0	82,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Strongly disagree	Count	5	2
		Expected Count	3,6	1,1
	Disagree	Count	25	2
		Expected Count	18,8	5,8
	Uncertain	Count	14	7
		Expected Count	16,3	5,0
	Agree	Count	22	8
		Expected Count	27,7	8,5
	Strongly agree	Count	9	4
		Expected Count	8,7	2,7
Total		Count	75	23
		Expected Count	75,0	23,0

Crosstab

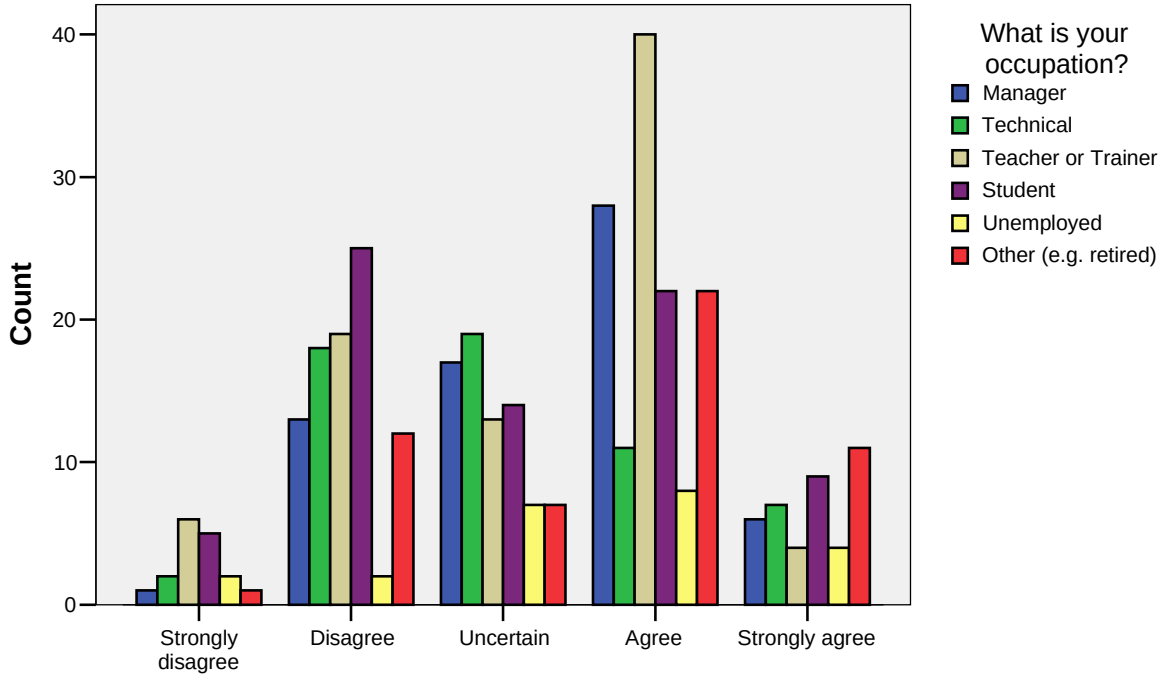
			What is Other (e.g. retired)	Total
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Strongly disagree	Count	1	17
		Expected Count	2,5	17,0
	Disagree	Count	12	89
		Expected Count	13,3	89,0
	Uncertain	Count	7	77
		Expected Count	11,5	77,0
	Agree	Count	22	131
		Expected Count	19,6	131,0
	Strongly agree	Count	11	41
		Expected Count	6,1	41,0
Total		Count	53	355
		Expected Count	53,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37,810[a]	20	,009
Likelihood Ratio	39,539	20	,006
Linear-by-Linear Association	1,300	1	,254
N of Valid Cases	355		

a. 8 cells (26,7%) have expected count less than 5. The minimum expected count is 1,10.

Bar Chart



Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

Only optimistic people think that the impact of technology on learning is beneficial * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Only optimistic people think that the impact of technology on learning is beneficial	Strongly agree	Count	1	1	3
		Expected Count	1,8	1,6	2,3
	Agree	Count	4	12	12
		Expected Count	9,5	8,5	12,0
	Uncertain	Count	12	12	21
		Expected Count	13,2	11,8	16,6
	Disagree	Count	40	23	38
		Expected Count	30,9	27,6	39,0
	Strongly disagree	Count	8	10	8
		Expected Count	9,5	8,5	12,0
Total		Count	65	58	82
		Expected Count	65,0	58,0	82,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Only optimistic people think that the impact of technology on learning is beneficial	Strongly agree	Count	3	1
		Expected Count	2,1	,6
	Agree	Count	17	5
		Expected Count	10,8	3,4
	Uncertain	Count	11	3
		Expected Count	15,0	4,7
	Disagree	Count	37	8
		Expected Count	35,2	10,9
	Strongly disagree	Count	6	6
		Expected Count	10,8	3,4
Total		Count	74	23
		Expected Count	74,0	23,0

Crosstab

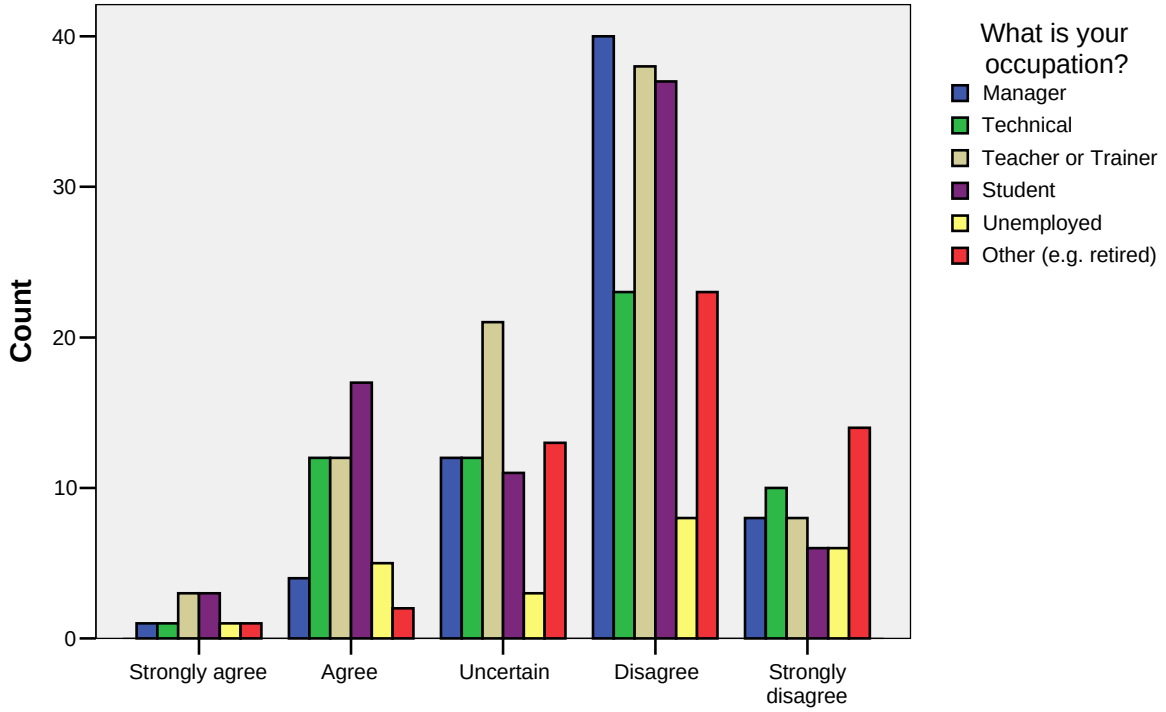
			What is	
			Other (e.g. retired)	Total
Only optimistic people think that the impact of technology on learning is beneficial	Strongly agree	Count	1	10
		Expected Count	1,5	10,0
	Agree	Count	2	52
		Expected Count	7,8	52,0
	Uncertain	Count	13	72
		Expected Count	10,7	72,0
	Disagree	Count	23	169
		Expected Count	25,2	169,0
	Strongly disagree	Count	14	52
		Expected Count	7,8	52,0
Total		Count	53	355
		Expected Count	53,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33,800[a]	20	,028
Likelihood Ratio	35,005	20	,020
Linear-by-Linear Association	,165	1	,684
N of Valid Cases	355		

a. 9 cells (30,0%) have expected count less than 5. The minimum expected count is ,65.

Bar Chart



Only optimistic people think that the impact of technology on learning is beneficial

From my personal study experience I find that the impact of technology on learning is valuable * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
From my personal study experience I find that the impact of technology on learning is valuable	Strongly disagree	Count	1	0	0
		Expected Count	,5	,5	,7
	Disagree	Count	3	2	2
		Expected Count	2,4	2,1	3,0
	Uncertain	Count	2	10	11
		Expected Count	7,9	7,0	9,9
	Agree	Count	34	26	43
		Expected Count	32,8	29,2	41,3
	Strongly agree	Count	25	20	26
		Expected Count	21,4	19,1	27,0
Total		Count	65	58	82
		Expected Count	65,0	58,0	82,0

Crosstab

			What is your occupation?	
			Student	Unemployed
From my personal study experience I find that the impact of technology on learning is valuable	Strongly disagree	Count	2	0
		Expected Count	,6	,2
	Disagree	Count	5	1
		Expected Count	2,7	,8
	Uncertain	Count	7	3
		Expected Count	9,1	2,7
	Agree	Count	38	14
		Expected Count	37,8	11,1
	Strongly agree	Count	23	4
		Expected Count	24,7	7,3
Total		Count	75	22
		Expected Count	75,0	22,0

Crosstab

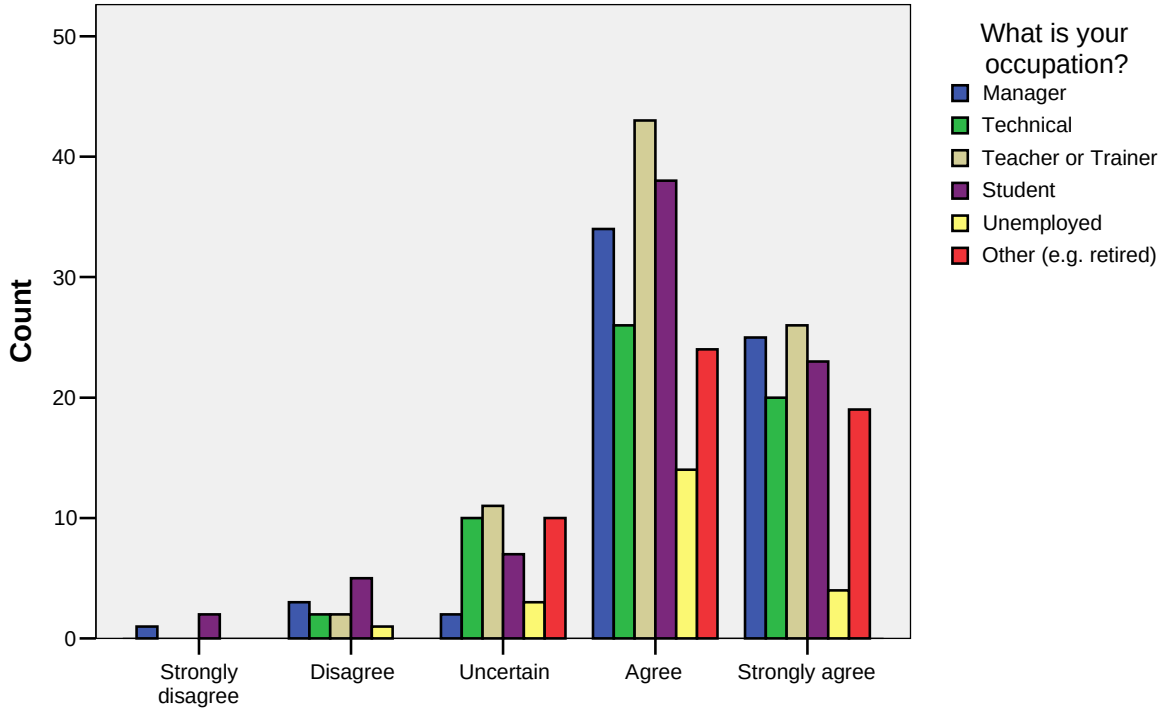
			What is Other (e.g. retired)	Total
From my personal study experience I find that the impact of technology on learning is valuable	Strongly disagree	Count	0	3
		Expected Count	,4	3,0
	Disagree	Count	0	13
		Expected Count	1,9	13,0
	Uncertain	Count	10	43
		Expected Count	6,4	43,0
	Agree	Count	24	179
		Expected Count	26,7	179,0
	Strongly agree	Count	19	117
		Expected Count	17,5	117,0
Total		Count	53	355
		Expected Count	53,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21,646[a]	20	,360
Likelihood Ratio	25,611	20	,179
Linear-by-Linear Association	,575	1	,448
N of Valid Cases	355		

a. 13 cells (43,3%) have expected count less than 5. The minimum expected count is ,19.

Bar Chart



From my personal study experience I find that the impact of technology on learning is valuable

Information and communications technology has usually been used to encourage us to be active participants in learning * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Information and communications technology has usually been used to encourage us to be active participants in learning	Strongly disagree	Count	0	3	0
		Expected Count	,9	,8	1,2
	Disagree	Count	8	11	11
		Expected Count	8,8	7,8	11,1
	Uncertain	Count	28	23	18
		Expected Count	20,9	18,6	26,3
	Agree	Count	27	18	51
		Expected Count	28,9	25,8	36,5
	Strongly agree	Count	2	3	2
		Expected Count	5,5	4,9	6,9
Total		Count	65	58	82
		Expected Count	65,0	58,0	82,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Information and communications technology has usually been used to encourage us to be active participants in learning	Strongly disagree	Count	1	1
		Expected Count	1,1	,3
	Disagree	Count	10	2
		Expected Count	10,1	3,0
	Uncertain	Count	25	3
		Expected Count	24,1	7,1
	Agree	Count	24	13
		Expected Count	33,4	9,8
	Strongly agree	Count	15	3
		Expected Count	6,3	1,9
Total		Count	75	22
		Expected Count	75,0	22,0

Crosstab

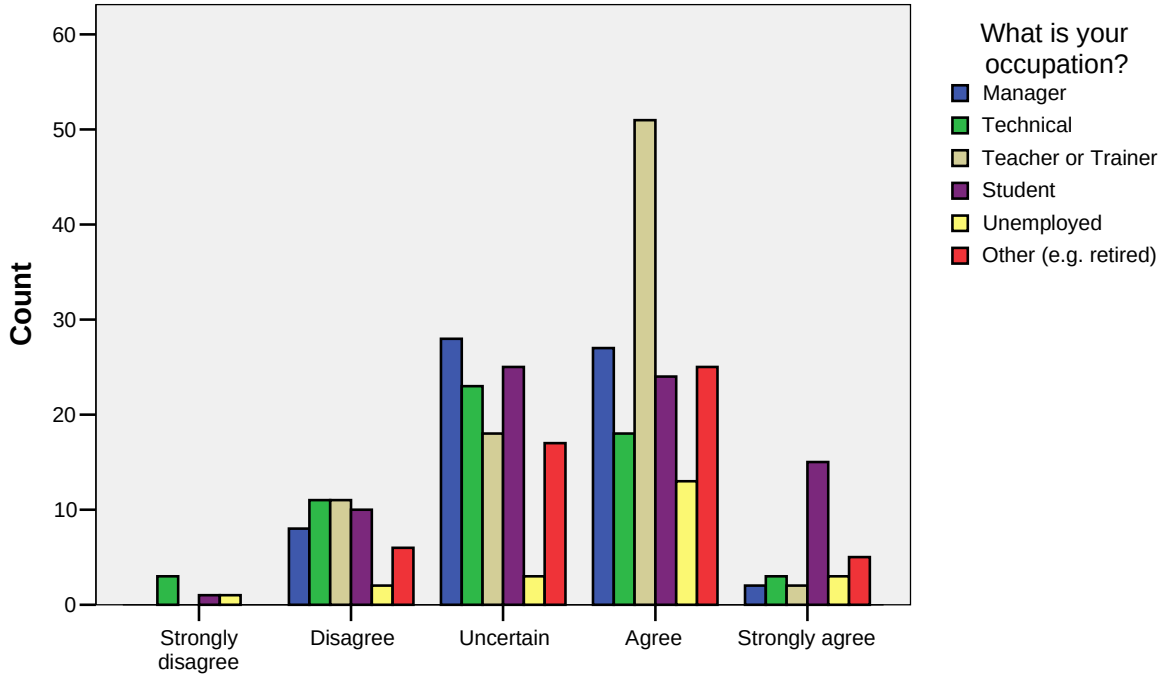
			What is Other (e.g. retired)	Total
Information and communications technology has usually been used to encourage us to be active participants in learning	Strongly disagree	Count	0	5
		Expected Count	,7	5,0
	Disagree	Count	6	48
		Expected Count	7,2	48,0
	Uncertain	Count	17	114
		Expected Count	17,0	114,0
	Agree	Count	25	158
		Expected Count	23,6	158,0
	Strongly agree	Count	5	30
		Expected Count	4,5	30,0
Total		Count	53	355
		Expected Count	53,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	51,611[a]	20	,000
Likelihood Ratio	50,673	20	,000
Linear-by-Linear Association	5,918	1	,015
N of Valid Cases	355		

a. 10 cells (33,3%) have expected count less than 5. The minimum expected count is ,31.

Bar Chart



Information and communications technology has usually been used to encourage us to be active participants in learning

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Strongly disagree	Count	1	2	4
		Expected Count	2,0	1,8	2,5
	Disagree	Count	13	4	16
		Expected Count	8,6	7,7	10,8
	Uncertain	Count	25	28	16
		Expected Count	21,4	19,1	26,9
	Agree	Count	20	23	42
		Expected Count	28,7	25,6	36,2
	Strongly agree	Count	6	1	4
		Expected Count	4,4	3,9	5,5
Total		Count	65	58	82
		Expected Count	65,0	58,0	82,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Strongly disagree	Count	3	1
		Expected Count	2,3	,7
	Disagree	Count	5	1
		Expected Count	9,9	3,0
	Uncertain	Count	20	8
		Expected Count	24,6	7,6
	Agree	Count	36	12
		Expected Count	33,1	10,1
	Strongly agree	Count	11	1
		Expected Count	5,1	1,6
Total		Count	75	23
		Expected Count	75,0	23,0

Crosstab

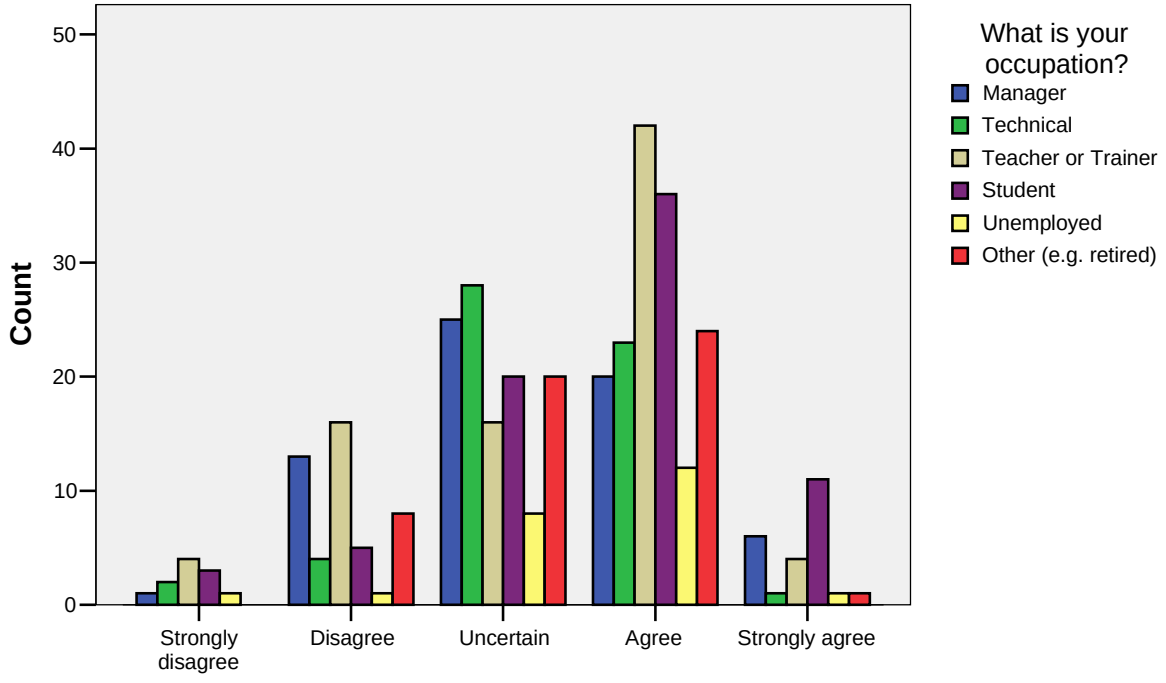
			What is Other (e.g. retired)	Total
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Strongly disagree	Count	0	11
		Expected Count	1,6	11,0
	Disagree	Count	8	47
		Expected Count	7,0	47,0
	Uncertain	Count	20	117
		Expected Count	17,4	117,0
	Agree	Count	24	157
		Expected Count	23,4	157,0
	Strongly agree	Count	1	24
		Expected Count	3,6	24,0
Total		Count	53	356
		Expected Count	53,0	356,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	40,969[a]	20	,004
Likelihood Ratio	43,727	20	,002
Linear-by-Linear Association	1,760	1	,185
N of Valid Cases	356		

a. 11 cells (36,7%) have expected count less than 5. The minimum expected count is ,71.

Bar Chart



Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Strongly disagree	Count	2	1	1
		Expected Count	1,3	1,1	1,6
	Disagree	Count	9	9	12
		Expected Count	9,9	8,8	12,4
	Uncertain	Count	19	18	20
		Expected Count	17,1	15,2	21,3
	Agree	Count	29	25	37
		Expected Count	28,3	25,2	35,2
	Strongly agree	Count	6	5	11
		Expected Count	8,4	7,5	10,5
Total		Count	65	58	81
		Expected Count	65,0	58,0	81,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Strongly disagree	Count	1	2
		Expected Count	1,5	,4
	Disagree	Count	14	2
		Expected Count	11,4	3,4
	Uncertain	Count	12	4
		Expected Count	19,7	5,8
	Agree	Count	31	10
		Expected Count	32,6	9,6
	Strongly agree	Count	17	4
		Expected Count	9,7	2,9
Total		Count	75	22
		Expected Count	75,0	22,0

Crosstab

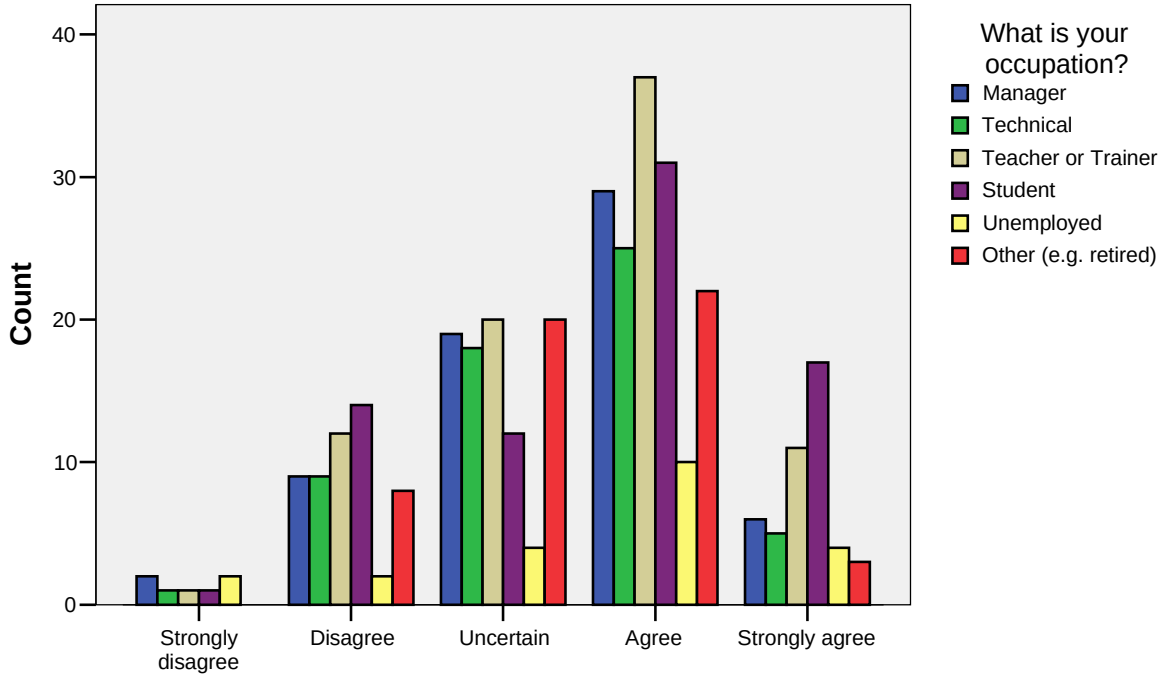
			What is Other (e.g. retired)	Total
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Strongly disagree	Count	0	7
		Expected Count	1,0	7,0
	Disagree	Count	8	54
		Expected Count	8,1	54,0
	Uncertain	Count	20	93
		Expected Count	13,9	93,0
	Agree	Count	22	154
		Expected Count	23,1	154,0
	Strongly agree	Count	3	46
		Expected Count	6,9	46,0
Total		Count	53	354
		Expected Count	53,0	354,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25,593[a]	20	,180
Likelihood Ratio	23,996	20	,243
Linear-by-Linear Association	,069	1	,793
N of Valid Cases	354		

a. 8 cells (26,7%) have expected count less than 5. The minimum expected count is ,44.

Bar Chart



Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

Learning is enhanced when text and pictures are integrated in a multimedia environment * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Learning is enhanced when text and pictures are integrated in a multimedia environment	Strongly disagree	Count	0	0	0
		Expected Count	,4	,3	,5
	Disagree	Count	6	2	2
		Expected Count	3,0	2,6	3,7
	Uncertain	Count	3	10	11
		Expected Count	7,8	6,7	9,7
	Agree	Count	28	27	46
		Expected Count	32,5	28,1	40,4
	Strongly agree	Count	29	18	23
		Expected Count	22,3	19,3	27,7
Total		Count	66	57	82
		Expected Count	66,0	57,0	82,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Learning is enhanced when text and pictures are integrated in a multimedia environment	Strongly disagree	Count	1	1
		Expected Count	,4	,1
	Disagree	Count	3	2
		Expected Count	3,4	1,0
	Uncertain	Count	8	2
		Expected Count	8,9	2,6
	Agree	Count	36	10
		Expected Count	37,0	10,8
	Strongly agree	Count	27	7
		Expected Count	25,4	7,4
Total		Count	75	22
		Expected Count	75,0	22,0

Crosstab

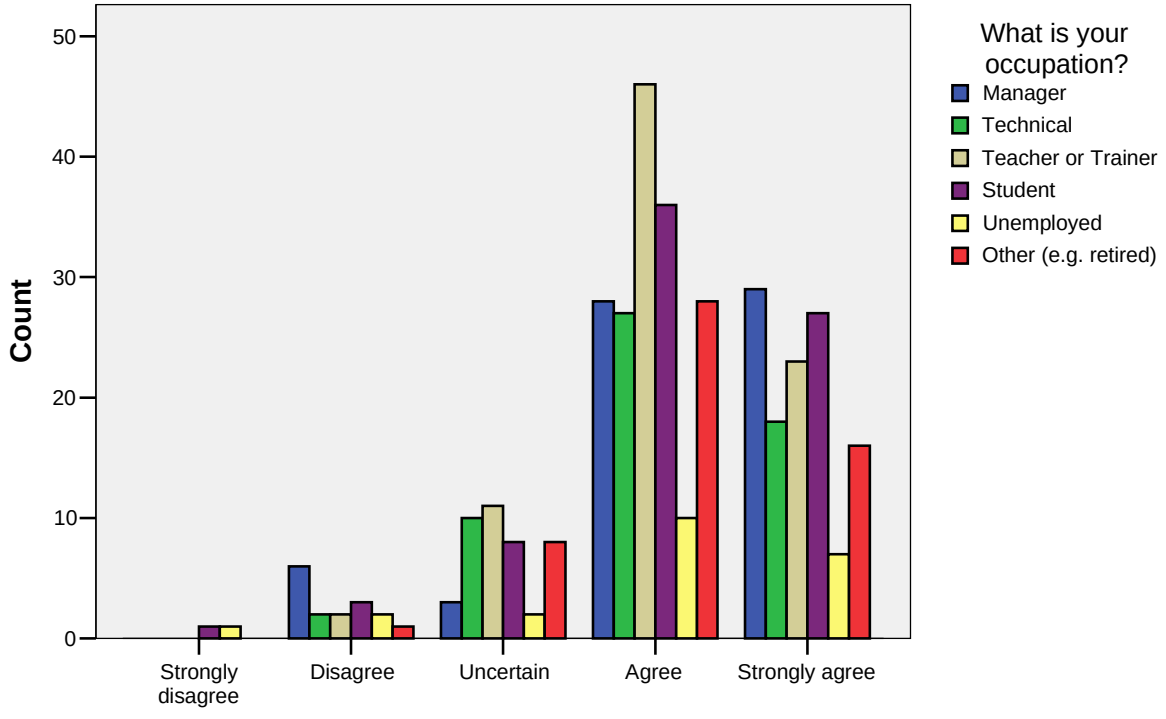
			What is Other (e.g. retired)	Total
Learning is enhanced when text and pictures are integrated in a multimedia environment	Strongly disagree	Count	0	2
		Expected Count	,3	2,0
	Disagree	Count	1	16
		Expected Count	2,4	16,0
	Uncertain	Count	8	42
		Expected Count	6,3	42,0
	Agree	Count	28	175
		Expected Count	26,1	175,0
	Strongly agree	Count	16	120
		Expected Count	17,9	120,0
Total		Count	53	355
		Expected Count	53,0	355,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24,602[a]	20	,217
Likelihood Ratio	22,081	20	,336
Linear-by-Linear Association	,512	1	,474
N of Valid Cases	355		

a. 13 cells (43,3%) have expected count less than 5. The minimum expected count is ,12.

Bar Chart



Learning is enhanced when text and pictures are integrated in a multimedia environment

Educational games motivate learners and contribute to developing skills such as teamwork * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Educational games motivate learners and contribute to developing skills such as teamwork	Strongly disagree	Count	1	4	1
		Expected Count	1,7	1,5	2,0
	Disagree	Count	10	7	5
		Expected Count	6,7	5,9	8,1
	Uncertain	Count	15	18	6
		Expected Count	13,8	12,1	16,7
	Agree	Count	25	21	41
		Expected Count	28,2	24,7	34,1
	Strongly agree	Count	15	8	27
		Expected Count	15,7	13,8	19,0
Total		Count	66	58	80
		Expected Count	66,0	58,0	80,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Educational games motivate learners and contribute to developing skills such as teamwork	Strongly disagree	Count	3	0
		Expected Count	1,9	,6
	Disagree	Count	7	3
		Expected Count	7,6	2,2
	Uncertain	Count	15	6
		Expected Count	15,7	4,6
	Agree	Count	28	9
		Expected Count	32,0	9,4
	Strongly agree	Count	22	4
		Expected Count	17,8	5,2
Total		Count	75	22
		Expected Count	75,0	22,0

Crosstab

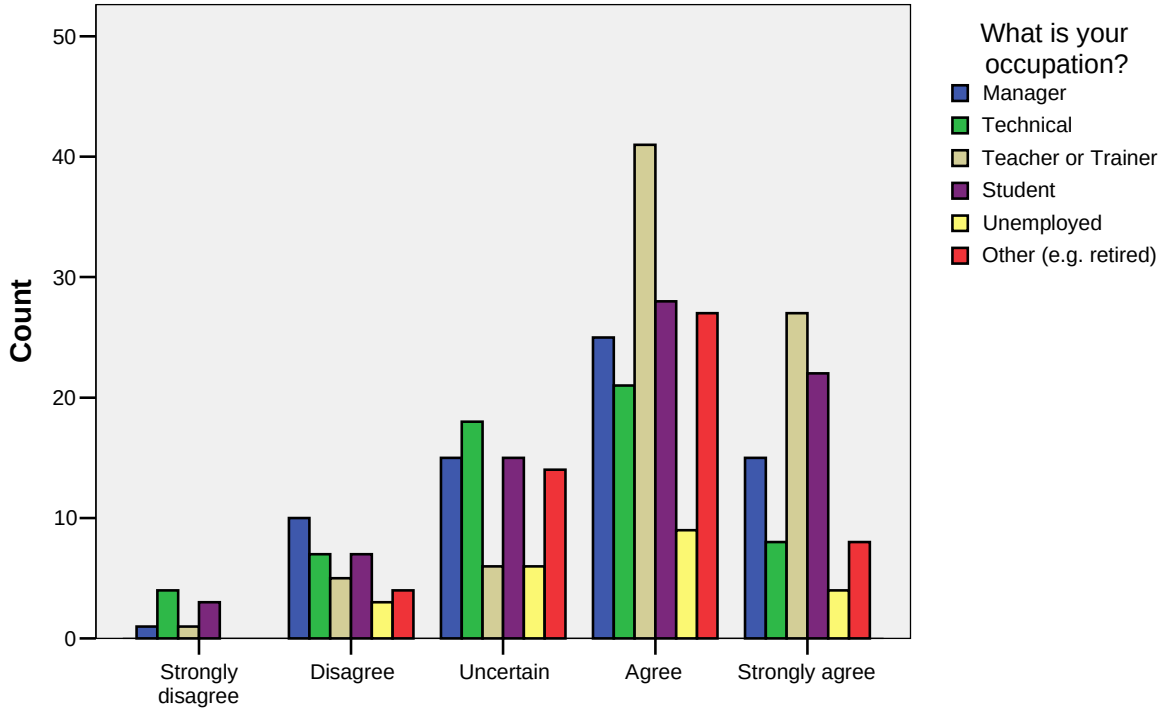
			What is Other (e.g. retired)	Total
Educational games motivate learners and contribute to developing skills such as teamwork	Strongly disagree	Count	0	9
		Expected Count	1,3	9,0
	Disagree	Count	4	36
		Expected Count	5,4	36,0
	Uncertain	Count	14	74
		Expected Count	11,1	74,0
	Agree	Count	27	151
		Expected Count	22,6	151,0
	Strongly agree	Count	8	84
		Expected Count	12,6	84,0
Total		Count	53	354
		Expected Count	53,0	354,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34,849[a]	20	,021
Likelihood Ratio	37,390	20	,011
Linear-by-Linear Association	,945	1	,331
N of Valid Cases	354		

a. 8 cells (26,7%) have expected count less than 5. The minimum expected count is ,56.

Bar Chart



Educational games motivate learners and contribute to developing skills such as teamwork

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Strongly disagree	Count	0	0	1
		Expected Count	,4	,3	,5
	Disagree	Count	3	0	1
		Expected Count	2,1	1,9	2,6
	Uncertain	Count	11	6	6
		Expected Count	8,1	7,1	9,9
	Agree	Count	26	19	31
		Expected Count	24,3	21,3	29,5
	Strongly agree	Count	25	32	40
		Expected Count	30,1	26,4	36,6
Total		Count	65	57	79
		Expected Count	65,0	57,0	79,0

Crosstab

			What is your occupation?	
			Student	Unemployed
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Strongly disagree	Count	1	0
		Expected Count	,4	,1
	Disagree	Count	7	0
		Expected Count	2,0	,6
	Uncertain	Count	13	1
		Expected Count	7,8	2,4
	Agree	Count	22	8
		Expected Count	23,1	7,1
	Strongly agree	Count	19	10
		Expected Count	28,7	8,8
Total		Count	62	19
		Expected Count	62,0	19,0

Crosstab

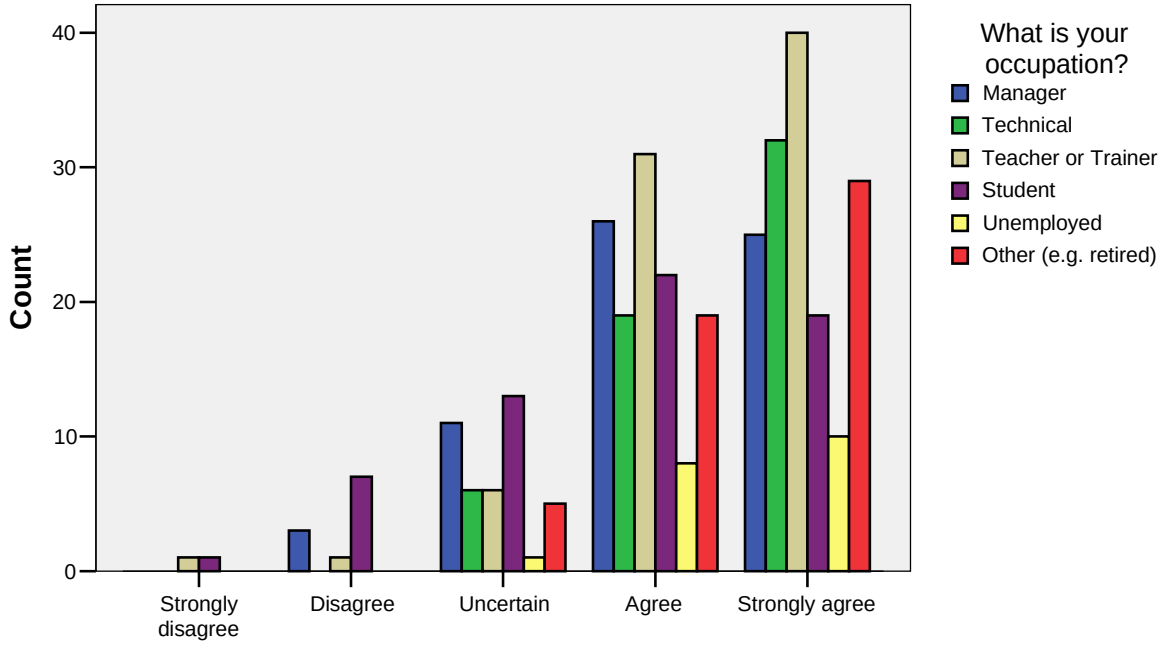
			What is	
			Other (e.g. retired)	Total
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Strongly disagree	Count	0	2
		Expected Count	,3	2,0
	Disagree	Count	0	11
		Expected Count	1,7	11,0
	Uncertain	Count	5	42
		Expected Count	6,6	42,0
	Agree	Count	19	125
		Expected Count	19,8	125,0
	Strongly agree	Count	29	155
		Expected Count	24,5	155,0
Total		Count	53	335
		Expected Count	53,0	335,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	35,223[a]	20	,019
Likelihood Ratio	35,842	20	,016
Linear-by-Linear Association	,539	1	,463
N of Valid Cases	335		

a. 13 cells (43,3%) have expected count less than 5. The minimum expected count is ,11.

Bar Chart



The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Technology facilitates easier access to material for those studying part-time * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Technology facilitates easier access to material for those studying part-time	Strongly disagree	Count	1	1	2
		Expected Count	1,0	,8	1,2
	Disagree	Count	1	0	0
		Expected Count	1,0	,8	1,2
	Uncertain	Count	3	0	3
		Expected Count	4,1	3,6	4,9
	Agree	Count	22	16	22
		Expected Count	21,1	18,5	25,6
	Strongly agree	Count	38	40	52
		Expected Count	37,9	33,3	46,1
Total		Count	65	57	79
		Expected Count	65,0	57,0	79,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Technology facilitates easier access to material for those studying part-time	Strongly disagree	Count	0	1
		Expected Count	,9	,3
	Disagree	Count	4	0
		Expected Count	,9	,3
	Uncertain	Count	10	0
		Expected Count	3,9	1,3
	Agree	Count	17	10
		Expected Count	20,1	6,5
	Strongly agree	Count	31	9
		Expected Count	36,2	11,7
Total		Count	62	20
		Expected Count	62,0	20,0

Crosstab

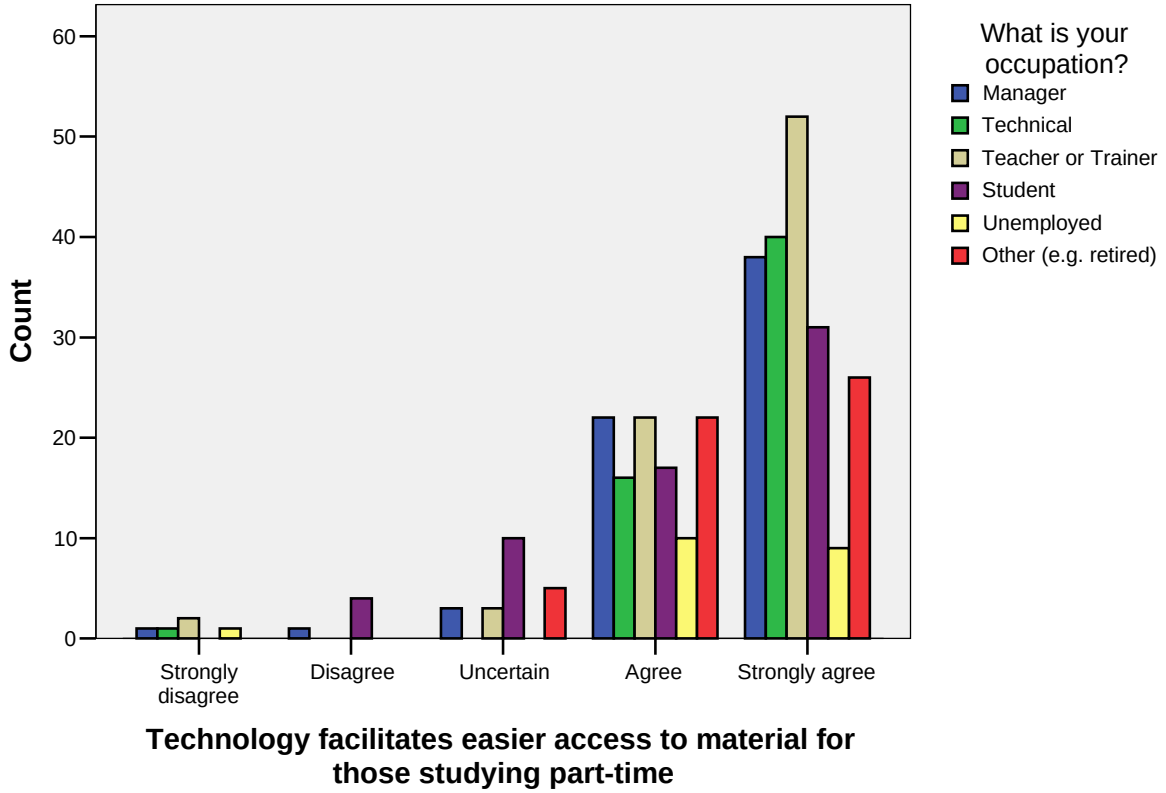
			What is Other (e.g. retired)	Total
Technology facilitates easier access to material for those studying part-time	Strongly disagree	Count	0	5
		Expected Count	,8	5,0
	Disagree	Count	0	5
		Expected Count	,8	5,0
	Uncertain	Count	5	21
		Expected Count	3,3	21,0
	Agree	Count	22	109
		Expected Count	17,2	109,0
	Strongly agree	Count	26	196
		Expected Count	30,9	196,0
Total		Count	53	336
		Expected Count	53,0	336,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42,618[a]	20	,002
Likelihood Ratio	43,598	20	,002
Linear-by-Linear Association	2,993	1	,084
N of Valid Cases	336		

a. 18 cells (60,0%) have expected count less than 5. The minimum expected count is ,30.

Bar Chart



Technology facilitates easier access to material for those studying part-time

University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Strongly disagree	Count	4	5	3
		Expected Count	3,6	3,2	4,5
	Disagree	Count	6	3	17
		Expected Count	8,6	7,7	10,6
	Uncertain	Count	19	14	33
		Expected Count	18,5	16,5	22,9
	Agree	Count	19	17	12
		Expected Count	16,6	14,8	20,5
	Strongly agree	Count	16	18	14
		Expected Count	16,6	14,8	20,5
Total		Count	64	57	79
		Expected Count	64,0	57,0	79,0

Crosstab

			What is your occupation?	
			Student	Unemployed
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Strongly disagree	Count	5	2
		Expected Count	3,5	1,1
	Disagree	Count	15	1
		Expected Count	8,3	2,7
	Uncertain	Count	19	1
		Expected Count	18,0	5,8
	Agree	Count	16	5
		Expected Count	16,1	5,2
	Strongly agree	Count	7	11
		Expected Count	16,1	5,2
Total		Count	62	20
		Expected Count	62,0	20,0

Crosstab

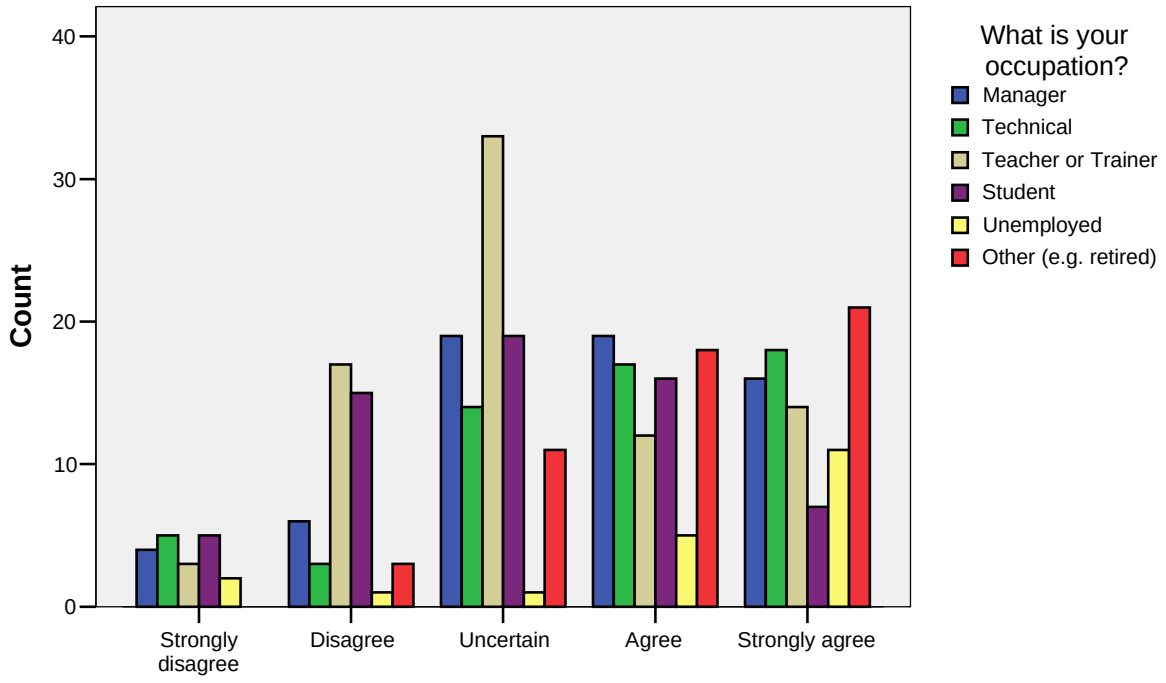
			What is Other (e.g. retired)	Total
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Strongly disagree	Count	0	19
		Expected Count	3,0	19,0
	Disagree	Count	3	45
		Expected Count	7,1	45,0
	Uncertain	Count	11	97
		Expected Count	15,3	97,0
	Agree	Count	18	87
		Expected Count	13,8	87,0
	Strongly agree	Count	21	87
		Expected Count	13,8	87,0
Total		Count	53	335
		Expected Count	53,0	335,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	55,899[a]	20	,000
Likelihood Ratio	60,642	20	,000
Linear-by-Linear Association	3,407	1	,065
N of Valid Cases	335		

a. 7 cells (23,3%) have expected count less than 5. The minimum expected count is 1,13.

Bar Chart



University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Strongly disagree	Count	4	5	6
		Expected Count	4,2	3,7	5,2
	Disagree	Count	15	10	20
		Expected Count	13,6	11,9	16,8
	Uncertain	Count	25	19	32
		Expected Count	24,0	21,0	29,6
	Agree	Count	12	14	16
		Expected Count	13,8	12,1	17,0
	Strongly agree	Count	8	8	5
		Expected Count	8,4	7,4	10,4
Total		Count	64	56	79
		Expected Count	64,0	56,0	79,0

Crosstab

			What is your occupation?	
			Student	Unemployed
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Strongly disagree	Count	6	1
		Expected Count	4,1	1,3
	Disagree	Count	16	3
		Expected Count	13,2	4,3
	Uncertain	Count	22	5
		Expected Count	23,2	7,5
	Agree	Count	11	4
		Expected Count	13,4	4,3
	Strongly agree	Count	7	7
		Expected Count	8,2	2,6
Total		Count	62	20
		Expected Count	62,0	20,0

Crosstab

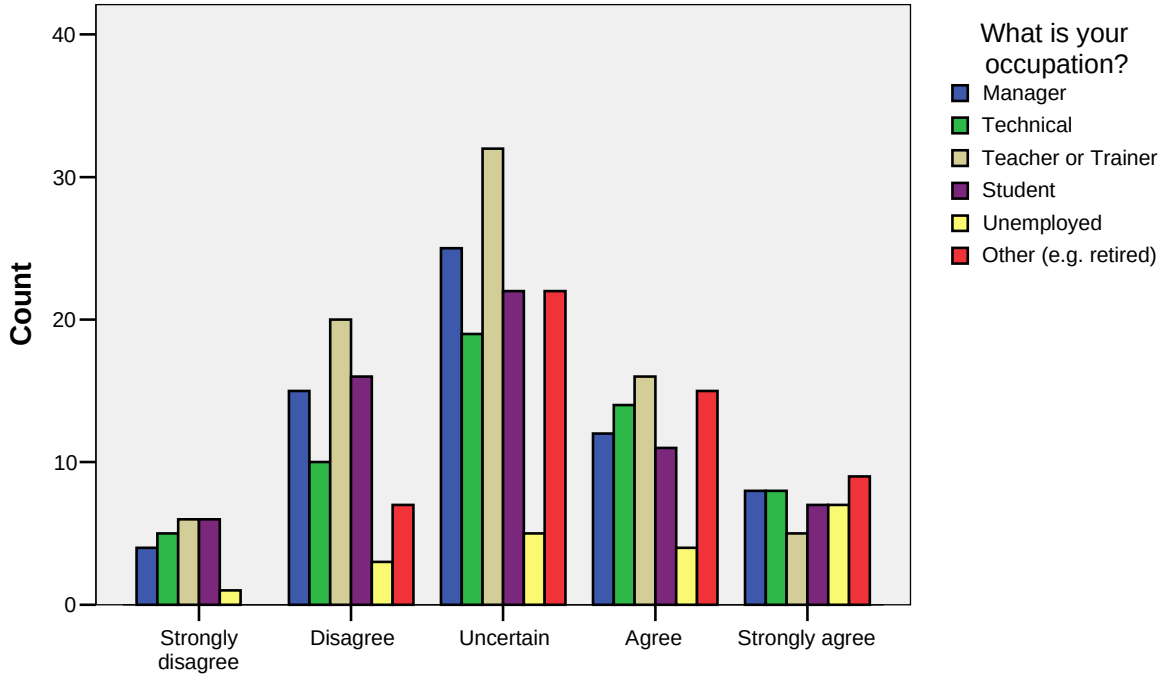
			What is Other (e.g. retired)	Total
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Strongly disagree	Count	0	22
		Expected Count	3,5	22,0
	Disagree	Count	7	71
		Expected Count	11,3	71,0
	Uncertain	Count	22	125
		Expected Count	19,8	125,0
	Agree	Count	15	72
		Expected Count	11,4	72,0
	Strongly agree	Count	9	44
		Expected Count	7,0	44,0
Total		Count	53	334
		Expected Count	53,0	334,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23,297[a]	20	,274
Likelihood Ratio	25,239	20	,192
Linear-by-Linear Association	4,536	1	,033
N of Valid Cases	334		

a. 8 cells (26,7%) have expected count less than 5. The minimum expected count is 1,32.

Bar Chart



There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Study at an Open University is especially of advantage to adults who have work and family obligations * What is your occupation?

Crosstab

			What is your occupation?		
			Manager	Technical	Teacher or Trainer
Study at an Open University is especially of advantage to adults who have work and family obligations	Strongly disagree	Count	1	0	0
		Expected Count	1,0	,8	1,2
	Disagree	Count	1	0	0
		Expected Count	1,0	,8	1,2
	Uncertain	Count	1	2	1
		Expected Count	1,9	1,7	2,4
	Agree	Count	12	5	16
		Expected Count	11,0	9,7	13,4
	Strongly agree	Count	50	50	62
		Expected Count	50,1	43,9	60,9
Total		Count	65	57	79
		Expected Count	65,0	57,0	79,0

Crosstab

			What is your occupation?	
			Student	Unemployed
Study at an Open University is especially of advantage to adults who have work and family obligations	Strongly disagree	Count	3	1
		Expected Count	,9	,3
	Disagree	Count	4	0
		Expected Count	,9	,3
	Uncertain	Count	6	0
		Expected Count	1,8	,6
	Agree	Count	17	1
		Expected Count	10,5	3,4
	Strongly agree	Count	32	18
		Expected Count	47,8	15,4
Total		Count	62	20
		Expected Count	62,0	20,0

Crosstab

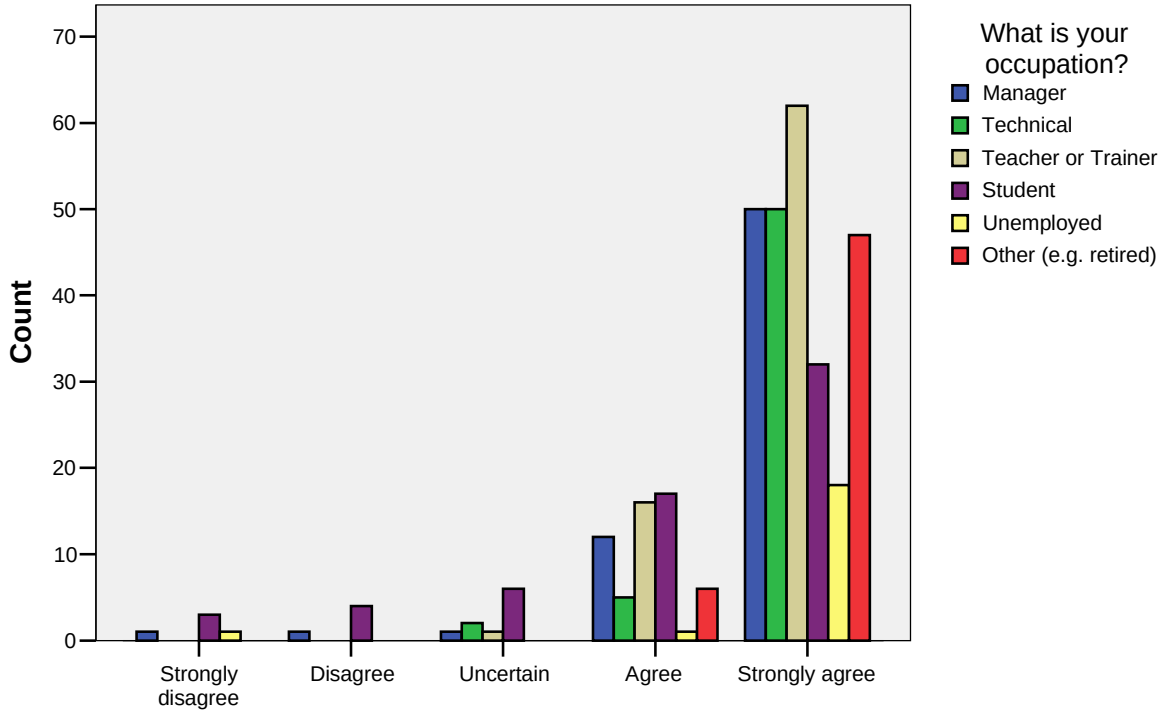
			What is	
			Other (e.g. retired)	Total
Study at an Open University is especially of advantage to adults who have work and family obligations	Strongly disagree	Count	0	5
		Expected Count	,8	5,0
	Disagree	Count	0	5
		Expected Count	,8	5,0
	Uncertain	Count	0	10
		Expected Count	1,6	10,0
	Agree	Count	6	57
		Expected Count	9,0	57,0
	Strongly agree	Count	47	259
		Expected Count	40,9	259,0
Total		Count	53	336
		Expected Count	53,0	336,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	52,289[a]	20	,000
Likelihood Ratio	51,302	20	,000
Linear-by-Linear Association	,056	1	,813
N of Valid Cases	336		

a. 19 cells (63,3%) have expected count less than 5. The minimum expected count is ,30.

Bar Chart



Study at an Open University is especially of advantage to adults who have work and family obligations

B.9 Spearman’s Correlations

Correlations

			What is your age grouping?	To what extent have you used advanced technological equipment in your professional life?
Spearman's rho	What is your age grouping?	Correlation Coefficient	1,000	-,081
		Sig. (2-tailed)	.	,126
		N	359	357
	To what extent have you used advanced technological equipment in your professional life?	Correlation Coefficient	-,081	1,000
		Sig. (2-tailed)	,126	.
		N	357	357
	Have you had to change your way of working because of technological developments?	Correlation Coefficient	-,221**	,170**
		Sig. (2-tailed)	,000	,001
		N	355	355
	Thanks to technology, the problems of access to learning for students with disabilities have been	Correlation Coefficient	,005	-,061
		Sig. (2-tailed)	,927	,253
		N	359	357
	Contacts between students and teachers can have the same intensity in online education as in	Correlation Coefficient	,093	-,014
		Sig. (2-tailed)	,080	,787
		N	356	354
	Online communication allows increased amounts of communication between teachers and students	Correlation Coefficient	,074	-,036
		Sig. (2-tailed)	,161	,495
		N	357	355
	Only optimistic people think that the impact of technology on learning is beneficial	Correlation Coefficient	,001	-,100
		Sig. (2-tailed)	,979	,059
		N	357	355
	From my personal study experience I find that the impact of technology on learning is valuable	Correlation Coefficient	,024	-,196**
		Sig. (2-tailed)	,654	,000
		N	357	356
	Information and communications technology has usually been used to encourage	Correlation Coefficient	-,073	,092
		Sig. (2-tailed)	,168	,085
		N	357	356
	Information and communications technology has been used to support the	Correlation Coefficient	-,215**	,120*
		Sig. (2-tailed)	,000	,023
		N	358	356
	Information and communications technology has been used to support more	Correlation Coefficient	-,105*	,010
		Sig. (2-tailed)	,048	,853
		N	355	353
	Learning is enhanced when text and pictures are integrated in a multimedia environment	Correlation Coefficient	-,115*	-,076
		Sig. (2-tailed)	,030	,155
		N	357	355
	Educational games motivate learners and contribute to developing skills such as teamwork	Correlation Coefficient	-,125*	-,011
		Sig. (2-tailed)	,019	,842
		N	356	355

Correlations

			What is your age grouping?	To what extent have you used advanced technological equipment in your professional life?
Spearman's rho	The application of new ICT concepts to support learning and teaching and provide Internet access to	Correlation Coefficient	,110*	-,085
		Sig. (2-tailed)	,045	,123
		N	336	334
	Technology facilitates easier access to material for those studying part-time	Correlation Coefficient	,062	-,135*
		Sig. (2-tailed)	,258	,013
		N	337	335
	University degrees awarded by open universities may be comparable to degrees	Correlation Coefficient	,212**	-,116*
		Sig. (2-tailed)	,000	,034
		N	336	334
	There is no difference in learning outcomes between studying at an Open University or at a	Correlation Coefficient	,180**	-,018
		Sig. (2-tailed)	,001	,744
		N	335	333
	Study at an Open University is especially of advantage to adults who have work and family	Correlation Coefficient	,203**	-,109*
		Sig. (2-tailed)	,000	,046
		N	337	335

Correlations

			Have you had to change your way of working because of technological developments?	Thanks to technology, the problems of access to learning for students with disabilities have been resolved
Spearman's rho	What is your age grouping?	Correlation Coefficient	-,221**	,005
		Sig. (2-tailed)	,000	,927
		N	355	359
	To what extent have you used advanced technological equipment in your professional life?	Correlation Coefficient	,170**	-,061
		Sig. (2-tailed)	,001	,253
		N	355	357
	Have you had to change your way of working because of technological developments?	Correlation Coefficient	1,000	,078
		Sig. (2-tailed)	.	,143
		N	355	355
	Thanks to technology, the problems of access to learning for students with disabilities have been	Correlation Coefficient	,078	1,000
		Sig. (2-tailed)	,143	.
		N	355	359
	Contacts between students and teachers can have the same intensity in online education as in	Correlation Coefficient	-,045	,163**
		Sig. (2-tailed)	,395	,002
		N	352	356
	Online communication allows increased amounts of communication between teachers and students	Correlation Coefficient	,022	,128*
		Sig. (2-tailed)	,675	,016
		N	353	357
	Only optimistic people think that the impact of technology on learning is beneficial	Correlation Coefficient	-,013	,090
		Sig. (2-tailed)	,803	,090
		N	353	357
	From my personal study experience I find that the impact of technology on learning is valuable	Correlation Coefficient	-,092	,183**
		Sig. (2-tailed)	,086	,001
		N	354	357
	Information and communications technology has usually been used to encourage	Correlation Coefficient	-,017	,194**
		Sig. (2-tailed)	,752	,000
		N	354	357
	Information and communications technology has been used to support the	Correlation Coefficient	-,066	,202**
		Sig. (2-tailed)	,216	,000
		N	354	358
	Information and communications technology has been used to support more	Correlation Coefficient	-,072	,160**
		Sig. (2-tailed)	,179	,002
		N	351	355
	Learning is enhanced when text and pictures are integrated in a multimedia environment	Correlation Coefficient	-,048	,085
		Sig. (2-tailed)	,373	,108
		N	353	357
	Educational games motivate learners and contribute to developing skills such as teamwork	Correlation Coefficient	,055	,053
		Sig. (2-tailed)	,306	,314
		N	353	356

Correlations

			Have you had to change your way of working because of technological developments?	Thanks to technology, the problems of access to learning for students with disabilities have been resolved
Spearman's rho	The application of new ICT concepts to support learning and teaching and provide Internet access to	Correlation Coefficient	-,080	,270**
		Sig. (2-tailed)	,146	,000
		N	332	336
	Technology facilitates easier access to material for those studying part-time	Correlation Coefficient	-,121*	,144**
		Sig. (2-tailed)	,027	,008
		N	333	337
	University degrees awarded by open universities may be comparable to degrees	Correlation Coefficient	,019	,144**
		Sig. (2-tailed)	,736	,008
		N	332	336
	There is no difference in learning outcomes between studying at an Open University or at a	Correlation Coefficient	,029	,150**
		Sig. (2-tailed)	,602	,006
		N	331	335
	Study at an Open University is especially of advantage to adults who have work and family	Correlation Coefficient	-,105	,128*
		Sig. (2-tailed)	,056	,019
		N	333	337

Correlations

			Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Online communication allows increased amounts of communication between teachers and students when compared with other forms of education
Spearman's rho	What is your age grouping?	Correlation Coefficient	,093	,074
		Sig. (2-tailed)	,080	,161
		N	356	357
	To what extent have you used advanced technological equipment in your professional life?	Correlation Coefficient	-,014	-,036
		Sig. (2-tailed)	,787	,495
		N	354	355
	Have you had to change your way of working because of technological developments?	Correlation Coefficient	-,045	,022
		Sig. (2-tailed)	,395	,675
		N	352	353
	Thanks to technology, the problems of access to learning for students with disabilities have been	Correlation Coefficient	,163**	,128*
		Sig. (2-tailed)	,002	,016
		N	356	357
	Contacts between students and teachers can have the same intensity in online education as in	Correlation Coefficient	1,000	,454**
		Sig. (2-tailed)	.	,000
		N	356	354
	Online communication allows increased amounts of communication between teachers and students	Correlation Coefficient	,454**	1,000
		Sig. (2-tailed)	,000	.
		N	354	357
	Only optimistic people think that the impact of technology on learning is beneficial	Correlation Coefficient	,133*	,160**
		Sig. (2-tailed)	,012	,003
		N	354	356
	From my personal study experience I find that the impact of technology on learning is valuable	Correlation Coefficient	,192**	,211**
		Sig. (2-tailed)	,000	,000
		N	354	355
	Information and communications technology has usually been used to encourage	Correlation Coefficient	,211**	,161**
		Sig. (2-tailed)	,000	,002
		N	354	356
	Information and communications technology has been used to support the	Correlation Coefficient	,163**	,073
		Sig. (2-tailed)	,002	,169
		N	356	356
	Information and communications technology has been used to support more	Correlation Coefficient	,153**	-,029
		Sig. (2-tailed)	,004	,583
		N	354	353
	Learning is enhanced when text and pictures are integrated in a multimedia environment	Correlation Coefficient	,028	,030
		Sig. (2-tailed)	,593	,577
		N	355	355
	Educational games motivate learners and contribute to developing skills such as teamwork	Correlation Coefficient	,018	,061
		Sig. (2-tailed)	,733	,254
		N	353	354

Correlations

			Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Online communication allows increased amounts of communication between teachers and students when compared with other forms of education
Spearman's rho	The application of new ICT concepts to support learning and teaching and provide Internet access to	Correlation Coefficient	,162**	,141**
		Sig. (2-tailed)	,003	,010
		N	335	334
	Technology facilitates easier access to material for those studying part-time	Correlation Coefficient	,068	,133*
		Sig. (2-tailed)	,216	,015
		N	335	335
	University degrees awarded by open universities may be comparable to degrees	Correlation Coefficient	,314**	,191**
		Sig. (2-tailed)	,000	,000
		N	334	335
	There is no difference in learning outcomes between studying at an Open University or at a	Correlation Coefficient	,299**	,232**
		Sig. (2-tailed)	,000	,000
		N	333	334
	Study at an Open University is especially of advantage to adults who have work and family	Correlation Coefficient	,095	,123*
		Sig. (2-tailed)	,084	,025
		N	335	335

Correlations

			Only optimistic people think that the impact of technology on learning is beneficial	From my personal study experience I find that the impact of technology on learning is valuable
Spearman's rho	What is your age grouping?	Correlation Coefficient	,001	,024
		Sig. (2-tailed)	,979	,654
		N	357	357
	To what extent have you used advanced technological equipment in your professional life?	Correlation Coefficient	-,100	-,196**
		Sig. (2-tailed)	,059	,000
		N	355	356
	Have you had to change your way of working because of technological developments?	Correlation Coefficient	-,013	-,092
		Sig. (2-tailed)	,803	,086
		N	353	354
	Thanks to technology, the problems of access to learning for students with disabilities have been	Correlation Coefficient	,090	,183**
		Sig. (2-tailed)	,090	,001
		N	357	357
	Contacts between students and teachers can have the same intensity in online education as in	Correlation Coefficient	,133*	,192**
		Sig. (2-tailed)	,012	,000
		N	354	354
	Online communication allows increased amounts of communication between teachers and students	Correlation Coefficient	,160**	,211**
		Sig. (2-tailed)	,003	,000
		N	356	355
	Only optimistic people think that the impact of technology on learning is beneficial	Correlation Coefficient	1,000	,222**
		Sig. (2-tailed)	.	,000
		N	357	355
	From my personal study experience I find that the impact of technology on learning is valuable	Correlation Coefficient	,222**	1,000
		Sig. (2-tailed)	,000	.
		N	355	357
	Information and communications technology has usually been used to encourage	Correlation Coefficient	,090	,272**
		Sig. (2-tailed)	,089	,000
		N	356	356
	Information and communications technology has been used to support the	Correlation Coefficient	,075	,213**
		Sig. (2-tailed)	,161	,000
		N	356	356
	Information and communications technology has been used to support more	Correlation Coefficient	-,012	,139**
		Sig. (2-tailed)	,819	,009
		N	353	353
	Learning is enhanced when text and pictures are integrated in a multimedia environment	Correlation Coefficient	,061	,327**
		Sig. (2-tailed)	,250	,000
		N	355	355
	Educational games motivate learners and contribute to developing skills such as teamwork	Correlation Coefficient	-,035	,220**
		Sig. (2-tailed)	,511	,000
		N	354	355

Correlations

			Only optimistic people think that the impact of technology on learning is beneficial	From my personal study experience I find that the impact of technology on learning is valuable
Spearman's rho	The application of new ICT concepts to support learning and teaching and provide Internet access to	Correlation Coefficient	,074	,258**
		Sig. (2-tailed)	,176	,000
		N	335	334
	Technology facilitates easier access to material for those studying part-time	Correlation Coefficient	,150**	,283**
		Sig. (2-tailed)	,006	,000
		N	336	335
	University degrees awarded by open universities may be comparable to degrees	Correlation Coefficient	,108*	,139*
		Sig. (2-tailed)	,048	,011
		N	336	334
	There is no difference in learning outcomes between studying at an Open University or at a	Correlation Coefficient	,001	,085
		Sig. (2-tailed)	,992	,121
		N	335	333
	Study at an Open University is especially of advantage to adults who have work and family	Correlation Coefficient	,051	,261**
		Sig. (2-tailed)	,356	,000
		N	336	335

Correlations

			Information and communications technology has usually been used to encourage us to be active participants in learning	Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving
Spearman's rho	What is your age grouping?	Correlation Coefficient	-,073	-,215**
		Sig. (2-tailed)	,168	,000
		N	357	358
	To what extent have you used advanced technological equipment in your professional life?	Correlation Coefficient	,092	,120*
		Sig. (2-tailed)	,085	,023
		N	356	356
	Have you had to change your way of working because of technological developments?	Correlation Coefficient	-,017	-,066
		Sig. (2-tailed)	,752	,216
		N	354	354
	Thanks to technology, the problems of access to learning for students with disabilities have been	Correlation Coefficient	,194**	,202**
		Sig. (2-tailed)	,000	,000
		N	357	358
	Contacts between students and teachers can have the same intensity in online education as in	Correlation Coefficient	,211**	,163**
		Sig. (2-tailed)	,000	,002
		N	354	356
	Online communication allows increased amounts of communication between teachers and students	Correlation Coefficient	,161**	,073
		Sig. (2-tailed)	,002	,169
		N	356	356
	Only optimistic people think that the impact of technology on learning is beneficial	Correlation Coefficient	,090	,075
		Sig. (2-tailed)	,089	,161
		N	356	356
	From my personal study experience I find that the impact of technology on learning is valuable	Correlation Coefficient	,272**	,213**
		Sig. (2-tailed)	,000	,000
		N	356	356
	Information and communications technology has usually been used to encourage	Correlation Coefficient	1,000	,396**
		Sig. (2-tailed)	.	,000
		N	357	356
	Information and communications technology has been used to support the	Correlation Coefficient	,396**	1,000
		Sig. (2-tailed)	,000	.
		N	356	358
	Information and communications technology has been used to support more	Correlation Coefficient	,176**	,244**
		Sig. (2-tailed)	,001	,000
		N	353	355
	Learning is enhanced when text and pictures are integrated in a multimedia environment	Correlation Coefficient	,173**	,263**
		Sig. (2-tailed)	,001	,000
		N	355	356
	Educational games motivate learners and contribute to developing skills such as teamwork	Correlation Coefficient	,187**	,201**
		Sig. (2-tailed)	,000	,000
		N	355	355

Correlations

			Information and communications technology has usually been used to encourage us to be active participants in learning	Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving
Spearman's rho	The application of new ICT concepts to support learning and teaching and provide Internet access to	Correlation Coefficient	,161**	,145**
		Sig. (2-tailed)	,003	,008
		N	334	336
	Technology facilitates easier access to material for those studying part-time	Correlation Coefficient	,116*	,096
		Sig. (2-tailed)	,034	,078
		N	335	337
	University degrees awarded by open universities may be comparable to degrees	Correlation Coefficient	,094	,028
		Sig. (2-tailed)	,084	,611
		N	335	336
	There is no difference in learning outcomes between studying at an Open University or at a	Correlation Coefficient	,155**	-,009
		Sig. (2-tailed)	,004	,863
		N	334	335
	Study at an Open University is especially of advantage to adults who have work and family	Correlation Coefficient	,032	-,011
		Sig. (2-tailed)	,562	,834
		N	335	337

Correlations

			Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Learning is enhanced when text and pictures are integrated in a multimedia environment
Spearman's rho	What is your age grouping?	Correlation Coefficient	-,105*	-,115*
		Sig. (2-tailed)	,048	,030
		N	355	357
	To what extent have you used advanced technological equipment in your professional life?	Correlation Coefficient	,010	-,076
		Sig. (2-tailed)	,853	,155
		N	353	355
	Have you had to change your way of working because of technological developments?	Correlation Coefficient	-,072	-,048
		Sig. (2-tailed)	,179	,373
		N	351	353
	Thanks to technology, the problems of access to learning for students with disabilities have been	Correlation Coefficient	,160**	,085
		Sig. (2-tailed)	,002	,108
		N	355	357
	Contacts between students and teachers can have the same intensity in online education as in	Correlation Coefficient	,153**	,028
		Sig. (2-tailed)	,004	,593
		N	354	355
	Online communication allows increased amounts of communication between teachers and students	Correlation Coefficient	-,029	,030
		Sig. (2-tailed)	,583	,577
		N	353	355
	Only optimistic people think that the impact of technology on learning is beneficial	Correlation Coefficient	-,012	,061
		Sig. (2-tailed)	,819	,250
		N	353	355
	From my personal study experience I find that the impact of technology on learning is valuable	Correlation Coefficient	,139**	,327**
		Sig. (2-tailed)	,009	,000
		N	353	355
	Information and communications technology has usually been used to encourage	Correlation Coefficient	,176**	,173**
		Sig. (2-tailed)	,001	,001
		N	353	355
	Information and communications technology has been used to support the	Correlation Coefficient	,244**	,263**
		Sig. (2-tailed)	,000	,000
		N	355	356
	Information and communications technology has been used to support more	Correlation Coefficient	1,000	,206**
		Sig. (2-tailed)	.	,000
		N	355	354
	Learning is enhanced when text and pictures are integrated in a multimedia environment	Correlation Coefficient	,206**	1,000
		Sig. (2-tailed)	,000	.
		N	354	357
	Educational games motivate learners and contribute to developing skills such as teamwork	Correlation Coefficient	,181**	,317**
		Sig. (2-tailed)	,001	,000
		N	353	354

Correlations

			Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Learning is enhanced when text and pictures are integrated in a multimedia environment
Spearman's rho	The application of new ICT concepts to support learning and teaching and provide Internet access to	Correlation Coefficient	,261**	,101
		Sig. (2-tailed)	,000	,066
		N	335	335
	Technology facilitates easier access to material for those studying part-time	Correlation Coefficient	,206**	,161**
		Sig. (2-tailed)	,000	,003
		N	335	335
	University degrees awarded by open universities may be comparable to degrees	Correlation Coefficient	-,092	,063
		Sig. (2-tailed)	,094	,248
		N	334	334
	There is no difference in learning outcomes between studying at an Open University or at a	Correlation Coefficient	-,046	-,033
		Sig. (2-tailed)	,402	,544
		N	333	333
	Study at an Open University is especially of advantage to adults who have work and family	Correlation Coefficient	,038	,192**
		Sig. (2-tailed)	,488	,000
		N	335	335

Correlations

			Educational games motivate learners and contribute to developing skills such as teamwork	The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education
Spearman's rho	What is your age grouping?	Correlation Coefficient	-,125*	,110*
		Sig. (2-tailed)	,019	,045
		N	356	336
	To what extent have you used advanced technological equipment in your professional life?	Correlation Coefficient	-,011	-,085
		Sig. (2-tailed)	,842	,123
		N	355	334
	Have you had to change your way of working because of technological developments?	Correlation Coefficient	,055	-,080
		Sig. (2-tailed)	,306	,146
		N	353	332
	Thanks to technology, the problems of access to learning for students with disabilities have been	Correlation Coefficient	,053	,270**
		Sig. (2-tailed)	,314	,000
		N	356	336
	Contacts between students and teachers can have the same intensity in online education as in	Correlation Coefficient	,018	,162**
		Sig. (2-tailed)	,733	,003
		N	353	335
	Online communication allows increased amounts of communication between teachers and students	Correlation Coefficient	,061	,141**
		Sig. (2-tailed)	,254	,010
		N	354	334
	Only optimistic people think that the impact of technology on learning is beneficial	Correlation Coefficient	-,035	,074
		Sig. (2-tailed)	,511	,176
		N	354	335
	From my personal study experience I find that the impact of technology on learning is valuable	Correlation Coefficient	,220**	,258**
		Sig. (2-tailed)	,000	,000
		N	355	334
	Information and communications technology has usually been used to encourage	Correlation Coefficient	,187**	,161**
		Sig. (2-tailed)	,000	,003
		N	355	334
	Information and communications technology has been used to support the	Correlation Coefficient	,201**	,145**
		Sig. (2-tailed)	,000	,008
		N	355	336
	Information and communications technology has been used to support more	Correlation Coefficient	,181**	,261**
		Sig. (2-tailed)	,001	,000
		N	353	335
	Learning is enhanced when text and pictures are integrated in a multimedia environment	Correlation Coefficient	,317**	,101
		Sig. (2-tailed)	,000	,066
		N	354	335
	Educational games motivate learners and contribute to developing skills such as teamwork	Correlation Coefficient	1,000	,139*
		Sig. (2-tailed)	.	,011
		N	356	333

Correlations

			Educational games motivate learners and contribute to developing skills such as teamwork	The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education
Spearman's rho	The application of new ICT concepts to support learning and teaching and provide Internet access to	Correlation Coefficient	,139*	1,000
		Sig. (2-tailed)	,011	.
		N	333	336
	Technology facilitates easier access to material for those studying part-time	Correlation Coefficient	,271**	,443**
		Sig. (2-tailed)	,000	,000
		N	334	336
	University degrees awarded by open universities may be comparable to degrees	Correlation Coefficient	-,120*	,233**
		Sig. (2-tailed)	,029	,000
		N	333	335
	There is no difference in learning outcomes between studying at an Open University or at a	Correlation Coefficient	-,041	,149**
		Sig. (2-tailed)	,452	,006
		N	332	334
	Study at an Open University is especially of advantage to adults who have work and family	Correlation Coefficient	,061	,358**
		Sig. (2-tailed)	,269	,000
		N	334	336

Correlations

			Technology facilitates easier access to material for those studying part-time	University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities
Spearman's rho	What is your age grouping?	Correlation Coefficient	,062	,212**
		Sig. (2-tailed)	,258	,000
		N	337	336
	To what extent have you used advanced technological equipment in your professional life?	Correlation Coefficient	-,135*	-,116*
		Sig. (2-tailed)	,013	,034
		N	335	334
	Have you had to change your way of working because of technological developments?	Correlation Coefficient	-,121*	,019
		Sig. (2-tailed)	,027	,736
		N	333	332
	Thanks to technology, the problems of access to learning for students with disabilities have been	Correlation Coefficient	,144**	,144**
		Sig. (2-tailed)	,008	,008
		N	337	336
	Contacts between students and teachers can have the same intensity in online education as in	Correlation Coefficient	,068	,314**
		Sig. (2-tailed)	,216	,000
		N	335	334
	Online communication allows increased amounts of communication between teachers and students	Correlation Coefficient	,133*	,191**
		Sig. (2-tailed)	,015	,000
		N	335	335
	Only optimistic people think that the impact of technology on learning is beneficial	Correlation Coefficient	,150**	,108*
		Sig. (2-tailed)	,006	,048
		N	336	336
	From my personal study experience I find that the impact of technology on learning is valuable	Correlation Coefficient	,283**	,139*
		Sig. (2-tailed)	,000	,011
		N	335	334
	Information and communications technology has usually been used to encourage	Correlation Coefficient	,116*	,094
		Sig. (2-tailed)	,034	,084
		N	335	335
	Information and communications technology has been used to support the	Correlation Coefficient	,096	,028
		Sig. (2-tailed)	,078	,611
		N	337	336
	Information and communications technology has been used to support more	Correlation Coefficient	,206**	-,092
		Sig. (2-tailed)	,000	,094
		N	335	334
	Learning is enhanced when text and pictures are integrated in a multimedia environment	Correlation Coefficient	,161**	,063
		Sig. (2-tailed)	,003	,248
		N	335	334
	Educational games motivate learners and contribute to developing skills such as teamwork	Correlation Coefficient	,271**	-,120*
		Sig. (2-tailed)	,000	,029
		N	334	333

Correlations

			Technology facilitates easier access to material for those studying part-time	University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities
Spearman's rho	The application of new ICT concepts to support learning and teaching and provide Internet access to	Correlation Coefficient	,443**	,233**
		Sig. (2-tailed)	,000	,000
		N	336	335
	Technology facilitates easier access to material for those studying part-time	Correlation Coefficient	1,000	,071
		Sig. (2-tailed)	.	,192
		N	337	336
	University degrees awarded by open universities may be comparable to degrees	Correlation Coefficient	,071	1,000
		Sig. (2-tailed)	,192	.
		N	336	336
	There is no difference in learning outcomes between studying at an Open University or at a	Correlation Coefficient	-,004	,614**
		Sig. (2-tailed)	,948	,000
		N	335	335
	Study at an Open University is especially of advantage to adults who have work and family	Correlation Coefficient	,336**	,328**
		Sig. (2-tailed)	,000	,000
		N	337	336

Correlations

			There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Study at an Open University is especially of advantage to adults who have work and family obligations
Spearman's rho	What is your age grouping?	Correlation Coefficient	,180**	,203**
		Sig. (2-tailed)	,001	,000
		N	335	337
	To what extent have you used advanced technological equipment in your professional life?	Correlation Coefficient	-,018	-,109*
		Sig. (2-tailed)	,744	,046
		N	333	335
	Have you had to change your way of working because of technological developments?	Correlation Coefficient	,029	-,105
		Sig. (2-tailed)	,602	,056
		N	331	333
	Thanks to technology, the problems of access to learning for students with disabilities have been	Correlation Coefficient	,150**	,128*
		Sig. (2-tailed)	,006	,019
		N	335	337
	Contacts between students and teachers can have the same intensity in online education as in	Correlation Coefficient	,299**	,095
		Sig. (2-tailed)	,000	,084
		N	333	335
	Online communication allows increased amounts of communication between teachers and students	Correlation Coefficient	,232**	,123*
		Sig. (2-tailed)	,000	,025
		N	334	335
	Only optimistic people think that the impact of technology on learning is beneficial	Correlation Coefficient	,001	,051
		Sig. (2-tailed)	,992	,356
		N	335	336
	From my personal study experience I find that the impact of technology on learning is valuable	Correlation Coefficient	,085	,261**
		Sig. (2-tailed)	,121	,000
		N	333	335
	Information and communications technology has usually been used to encourage	Correlation Coefficient	,155**	,032
		Sig. (2-tailed)	,004	,562
		N	334	335
	Information and communications technology has been used to support the	Correlation Coefficient	-,009	-,011
		Sig. (2-tailed)	,863	,834
		N	335	337
	Information and communications technology has been used to support more	Correlation Coefficient	-,046	,038
		Sig. (2-tailed)	,402	,488
		N	333	335
	Learning is enhanced when text and pictures are integrated in a multimedia environment	Correlation Coefficient	-,033	,192**
		Sig. (2-tailed)	,544	,000
		N	333	335
	Educational games motivate learners and contribute to developing skills such as teamwork	Correlation Coefficient	-,041	,061
		Sig. (2-tailed)	,452	,269
		N	332	334

Correlations

			There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Study at an Open University is especially of advantage to adults who have work and family obligations
Spearman's rho	The application of new ICT concepts to support learning and teaching and provide Internet access to	Correlation Coefficient	,149**	,358**
		Sig. (2-tailed)	,006	,000
		N	334	336
	Technology facilitates easier access to material for those studying part-time	Correlation Coefficient	-,004	,336**
		Sig. (2-tailed)	,948	,000
		N	335	337
	University degrees awarded by open universities may be comparable to degrees	Correlation Coefficient	,614**	,328**
		Sig. (2-tailed)	,000	,000
		N	335	336
	There is no difference in learning outcomes between studying at an Open University or at a	Correlation Coefficient	1,000	,264**
		Sig. (2-tailed)	.	,000
		N	335	335
	Study at an Open University is especially of advantage to adults who have work and family	Correlation Coefficient	,264**	1,000
		Sig. (2-tailed)	,000	.
		N	335	337

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

B.10 Frequencies

Statistics

		What is your occupation?	What is your age grouping?	Gender	What is your level of education?	To what extent have you used advanced technological equipment in your professional life?	Have you had to change your way of working because of technological developments?
N	Valid	357	359	357	356	357	355
	Missing	2	0	2	3	2	4

Statistics

		Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Only optimistic people think that the impact of technology on learning is beneficial	From my personal study experience I find that the impact of technology on learning is valuable
N	Valid	359	356	357	357	357
	Missing	0	3	2	2	2

Statistics

		Information and communications technology has usually been used to encourage us to be active participants in learning	Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Learning is enhanced when text and pictures are integrated in a multimedia environment	Educational games motivate learners and contribute to developing skills such as teamwork
N	Valid	357	358	355	357	356
	Missing	2	1	4	2	3

Statistics

		The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Technology facilitates easier access to material for those studying part-time	University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university
N	Valid	336	337	336	335
	Missing	23	22	23	24

Statistics

		Study at an Open University is especially of advantage to adults who have work and family obligations	Main group/Control group
N	Valid	337	359
	Missing	22	0

Frequency Table

What is your occupation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manager	66	18,4	18,5	18,5
	Technical	58	16,2	16,2	34,7
	Teacher or Trainer	82	22,8	23,0	57,7
	Student	75	20,9	21,0	78,7
	Unemployed	23	6,4	6,4	85,2
	Other (e.g. retired)	53	14,8	14,8	100,0
	Total	357	99,4	100,0	
Missing	0	2	,6		
Total		359	100,0		

What is your age grouping?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	24 or younger	60	16,7	16,7	16,7
	25-29	90	25,1	25,1	41,8
	30-40	120	33,4	33,4	75,2
	41-50	64	17,8	17,8	93,0
	over 50	25	7,0	7,0	100,0
	Total	359	100,0	100,0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	160	44,6	44,8	44,8
	Female	197	54,9	55,2	100,0
	Total	357	99,4	100,0	
Missing	0	2	,6		
Total		359	100,0		

What is your level of education?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school matriculation	179	49,9	50,3	50,3
	One to three years of post-secondary education	67	18,7	18,8	69,1
	Four or more years of post-secondary education	110	30,6	30,9	100,0
	Total	356	99,2	100,0	
Missing	0	3	,8		
Total		359	100,0		

To what extent have you used advanced technological equipment in your professional life?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A lot	144	40,1	40,3	40,3
	Quite a bit	157	43,7	44,0	84,3
	Little	36	10,0	10,1	94,4
	very little	12	3,3	3,4	97,8
	not at all	8	2,2	2,2	100,0
	Total	357	99,4	100,0	
Missing	0	2	,6		
Total		359	100,0		

Have you had to change your way of working because of technological developments?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, more than once	231	64,3	65,1	65,1
	Yes. Once	29	8,1	8,2	73,2
	No	95	26,5	26,8	100,0
	Total	355	98,9	100,0	
Missing	0	4	1,1		
Total		359	100,0		

Thanks to technology, the problems of access to learning for students with disabilities have been resolved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	1,9	1,9	1,9
	Disagree	42	11,7	11,7	13,6
	Uncertain	116	32,3	32,3	46,0
	Agree	164	45,7	45,7	91,6
	Strongly agree	30	8,4	8,4	100,0
	Total	359	100,0	100,0	

Contacts between students and teachers can have the same intensity in online education as in face-to-face education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	48	13,4	13,5	13,5
	Disagree	156	43,5	43,8	57,3
	Uncertain	57	15,9	16,0	73,3
	Agree	76	21,2	21,3	94,7
	Strongly agree	19	5,3	5,3	100,0
	Total	356	99,2	100,0	
Missing	0	3	,8		
Total		359	100,0		

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	17	4,7	4,8	4,8
	Disagree	89	24,8	24,9	29,7
	Uncertain	78	21,7	21,8	51,5
	Agree	132	36,8	37,0	88,5
	Strongly agree	41	11,4	11,5	100,0
	Total	357	99,4	100,0	
Missing	0	2	,6		
Total		359	100,0		

Only optimistic people think that the impact of technology on learning is beneficial

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	10	2,8	2,8	2,8
	Agree	52	14,5	14,6	17,4
	Uncertain	74	20,6	20,7	38,1
	Disagree	169	47,1	47,3	85,4
	Strongly disagree	52	14,5	14,6	100,0
	Total	357	99,4	100,0	
Missing	0	2	,6		
Total		359	100,0		

From my personal study experience I find that the impact of technology on learning is valuable

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	,8	,8	,8
	Disagree	13	3,6	3,6	4,5
	Uncertain	43	12,0	12,0	16,5
	Agree	180	50,1	50,4	66,9
	Strongly agree	118	32,9	33,1	100,0
	Total	357	99,4	100,0	
Missing	0	2	,6		
Total		359	100,0		

Information and communications technology has usually been used to encourage us to be active participants in learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	1,4	1,4	1,4
	Disagree	48	13,4	13,4	14,8
	Uncertain	114	31,8	31,9	46,8
	Agree	159	44,3	44,5	91,3
	Strongly agree	31	8,6	8,7	100,0
	Total	357	99,4	100,0	
Missing	0	2	,6		
Total		359	100,0		

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	11	3,1	3,1	3,1
	Disagree	47	13,1	13,1	16,2
	Uncertain	117	32,6	32,7	48,9
	Agree	159	44,3	44,4	93,3
	Strongly agree	24	6,7	6,7	100,0
	Total	358	99,7	100,0	
Missing	0	1	,3		
Total		359	100,0		

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	1,9	2,0	2,0
	Disagree	54	15,0	15,2	17,2
	Uncertain	93	25,9	26,2	43,4
	Agree	155	43,2	43,7	87,0
	Strongly agree	46	12,8	13,0	100,0
	Total	355	98,9	100,0	
Missing	0	4	1,1		
Total		359	100,0		

Learning is enhanced when text and pictures are integrated in a multimedia environment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	,6	,6	,6
	Disagree	16	4,5	4,5	5,0
	Uncertain	42	11,7	11,8	16,8
	Agree	176	49,0	49,3	66,1
	Strongly agree	121	33,7	33,9	100,0
	Total	357	99,4	100,0	
Missing	0	2	,6		
Total		359	100,0		

Educational games motivate learners and contribute to developing skills such as teamwork

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	2,5	2,5	2,5
	Disagree	36	10,0	10,1	12,6
	Uncertain	74	20,6	20,8	33,4
	Agree	152	42,3	42,7	76,1
	Strongly agree	85	23,7	23,9	100,0
	Total	356	99,2	100,0	
Missing	0	3	,8		
Total		359	100,0		

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	,6	,6	,6
	Disagree	11	3,1	3,3	3,9
	Uncertain	42	11,7	12,5	16,4
	Agree	125	34,8	37,2	53,6
	Strongly agree	156	43,5	46,4	100,0
	Total	336	93,6	100,0	
Missing	0	23	6,4		
Total		359	100,0		

Technology facilitates easier access to material for those studying part-time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	1,4	1,5	1,5
	Disagree	5	1,4	1,5	3,0
	Uncertain	21	5,8	6,2	9,2
	Agree	109	30,4	32,3	41,5
	Strongly agree	197	54,9	58,5	100,0
	Total	337	93,9	100,0	
Missing	0	22	6,1		
Total		359	100,0		

University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	19	5,3	5,7	5,7
	Disagree	45	12,5	13,4	19,0
	Uncertain	97	27,0	28,9	47,9
	Agree	87	24,2	25,9	73,8
	Strongly agree	88	24,5	26,2	100,0
	Total	336	93,6	100,0	
Missing	0	23	6,4		
Total		359	100,0		

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	22	6,1	6,6	6,6
	Disagree	71	19,8	21,2	27,8
	Uncertain	125	34,8	37,3	65,1
	Agree	73	20,3	21,8	86,9
	Strongly agree	44	12,3	13,1	100,0
	Total	335	93,3	100,0	
Missing	0	24	6,7		
Total		359	100,0		

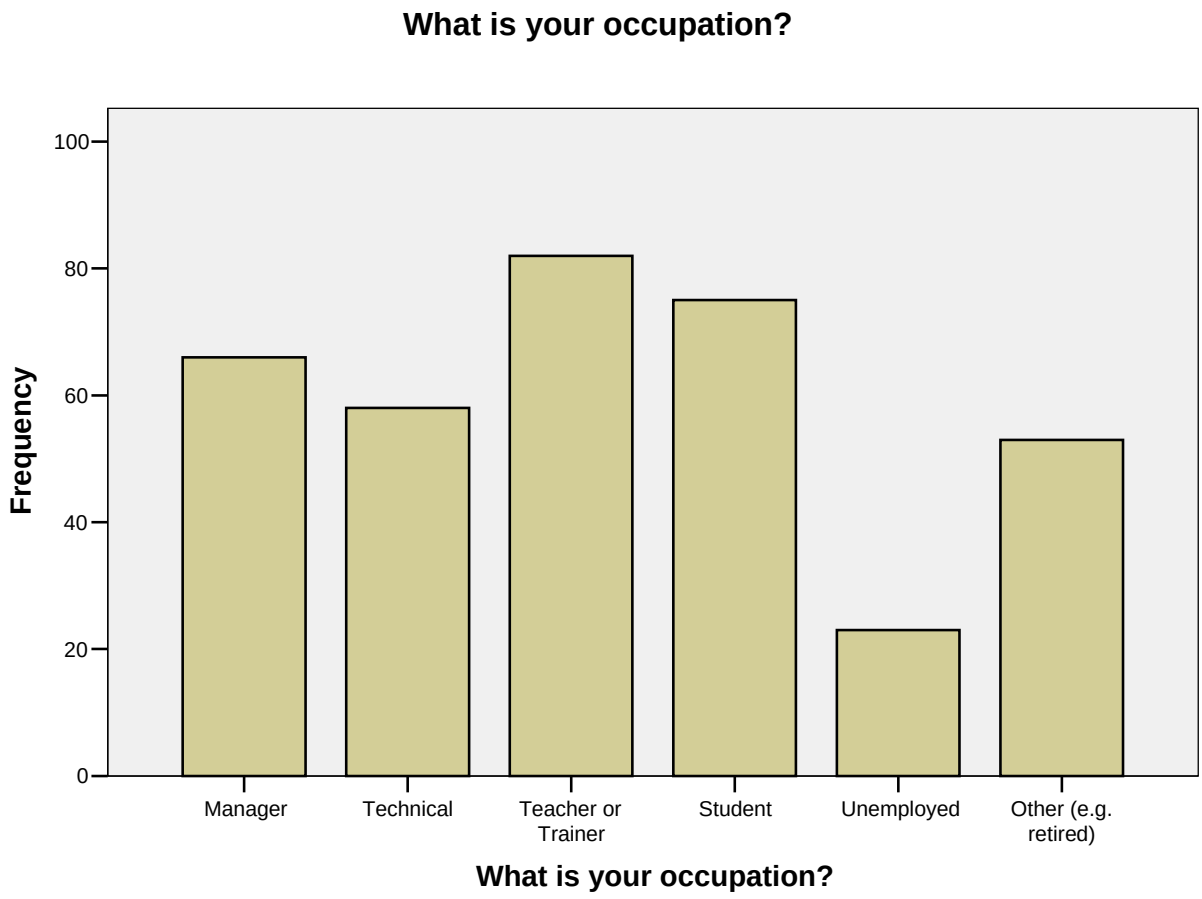
Study at an Open University is especially of advantage to adults who have work and family obligations

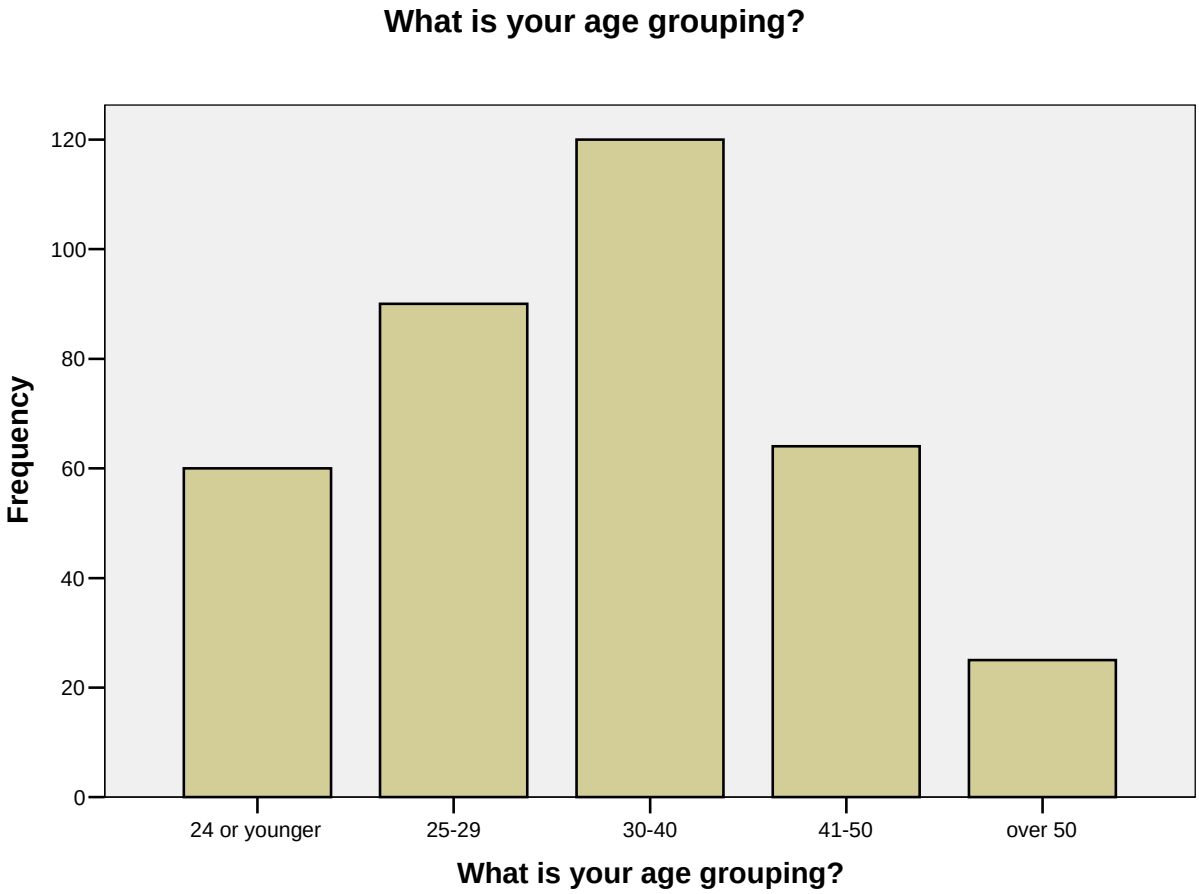
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	1,4	1,5	1,5
	Disagree	5	1,4	1,5	3,0
	Uncertain	10	2,8	3,0	5,9
	Agree	57	15,9	16,9	22,8
	Strongly agree	260	72,4	77,2	100,0
	Total	337	93,9	100,0	
Missing	0	22	6,1		
Total		359	100,0		

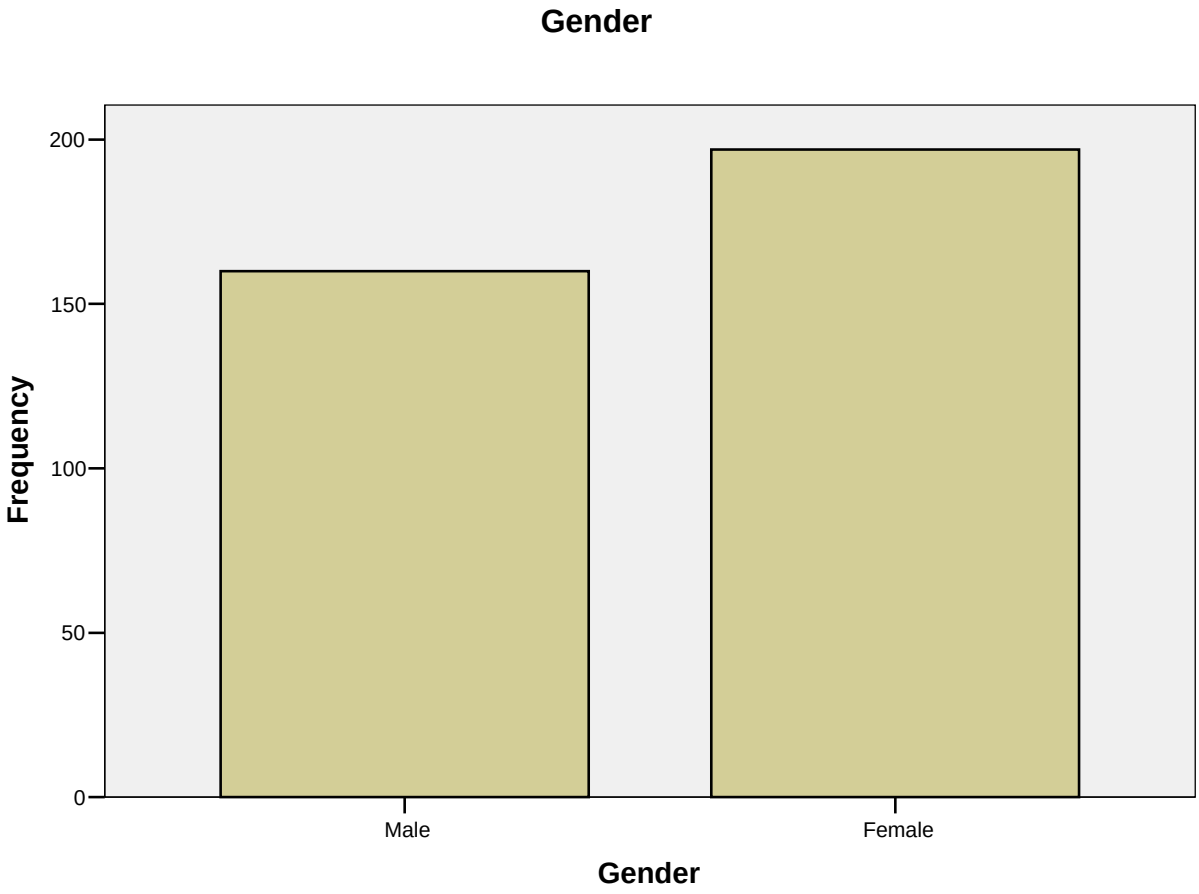
Main group/Control group

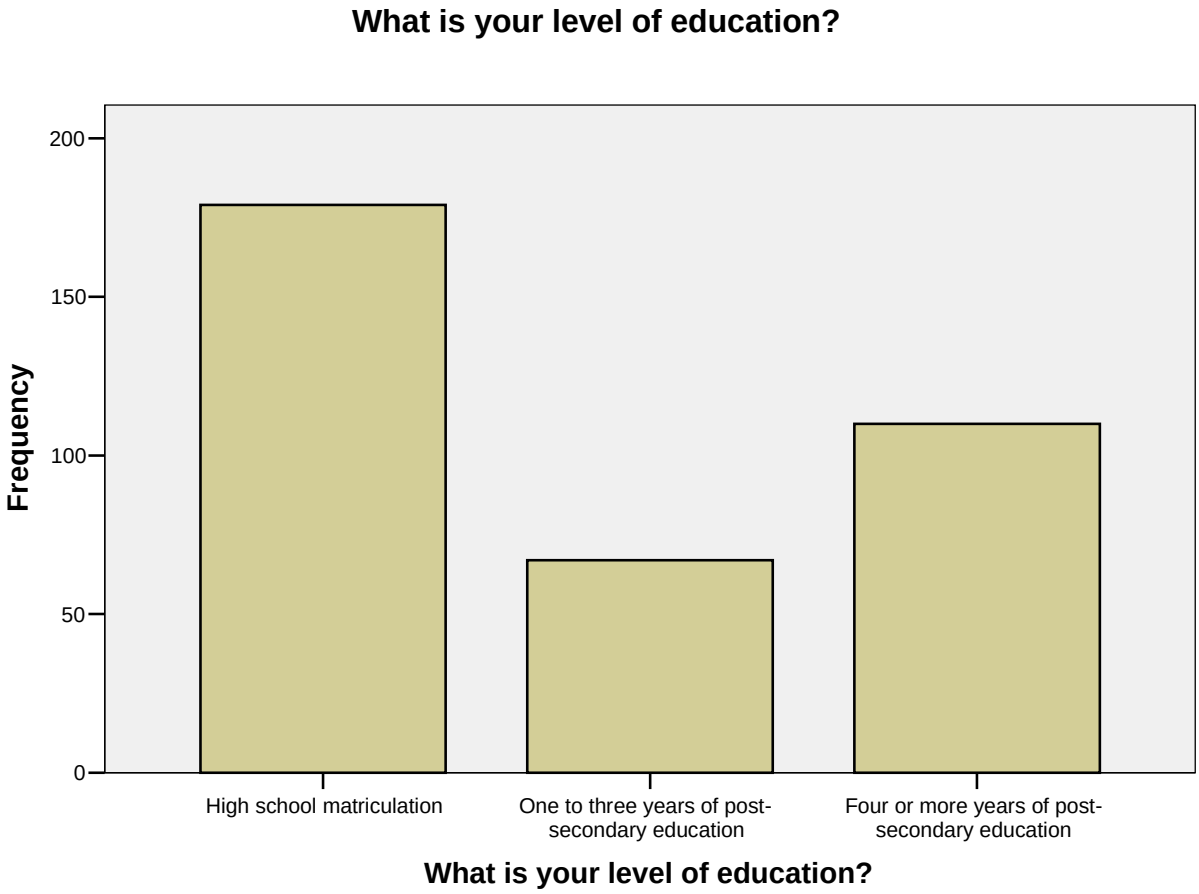
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Main group	183	51,0	51,0	51,0
	Control group	176	49,0	49,0	100,0
	Total	359	100,0	100,0	

Bar Chart

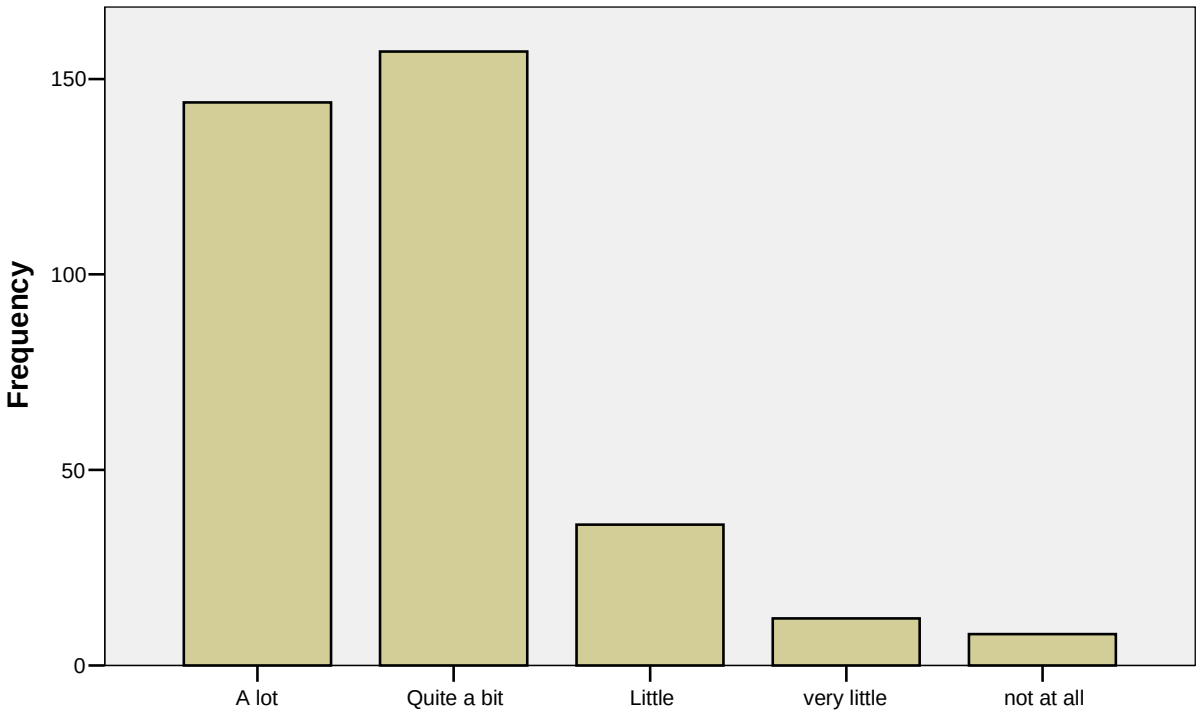



What is your age grouping?
Frequency
120
100
80
60
40
20
0
24 or younger
25-29
30-40
41-50
over 50
What is your age grouping?


Gender
200
150
100
50
0
Frequency
Male
Female
Gender

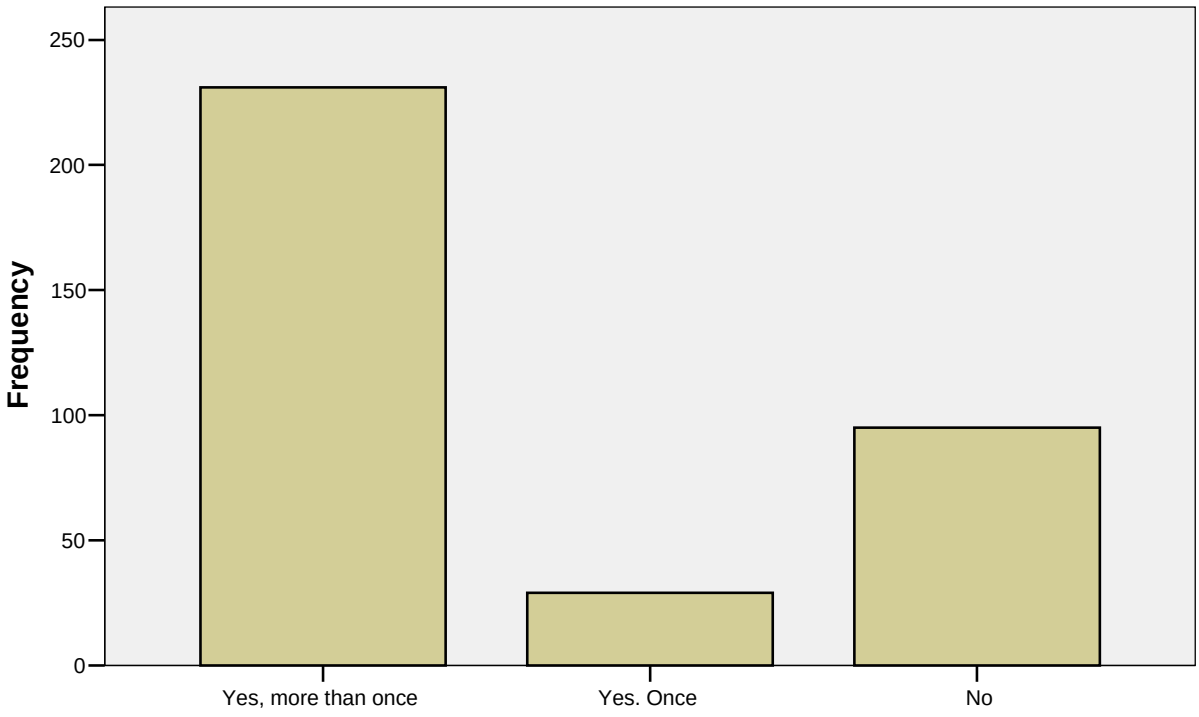

What is your level of education?
Frequency
200
150
100
50
0
High school matriculation
One to three years of post-secondary education
Four or more years of post-secondary education
What is your level of education?

To what extent have you used advanced technological equipment in your professional life?



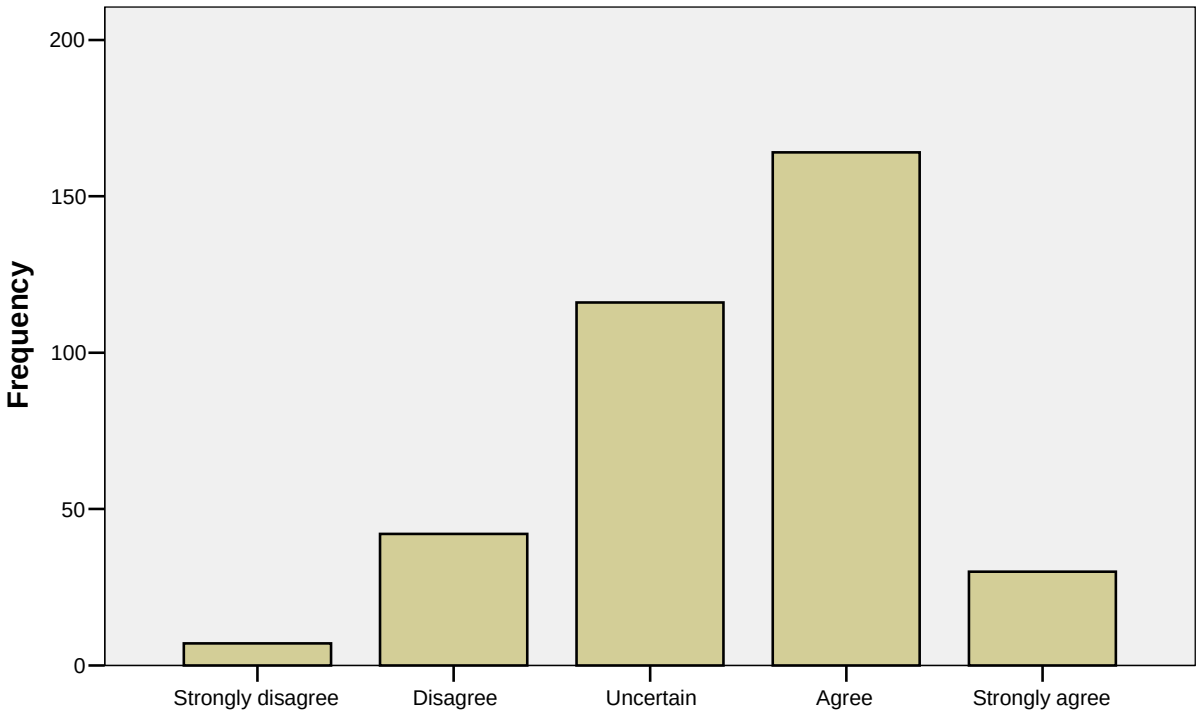
To what extent have you used advanced technological equipment in your professional life?

Have you had to change your way of working because of technological developments?

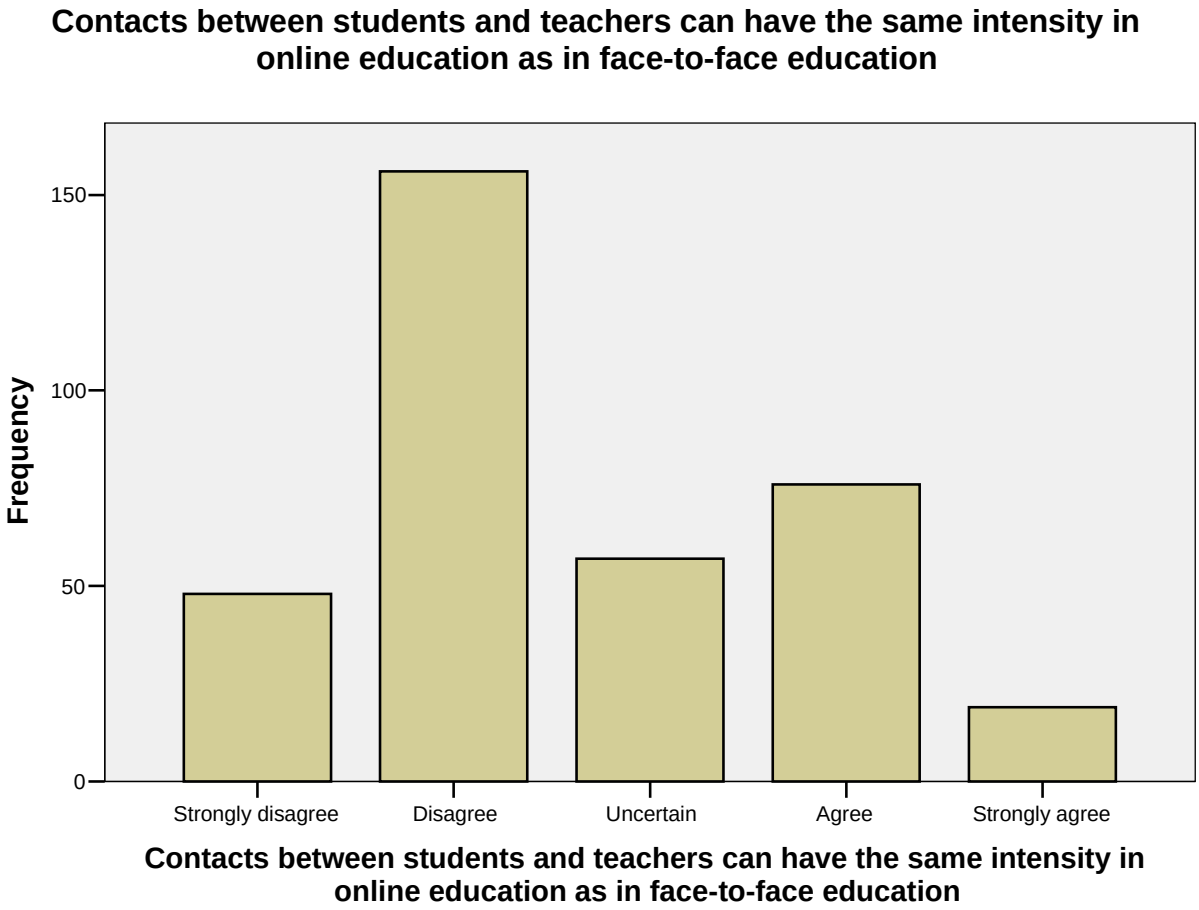


Have you had to change your way of working because of technological developments?

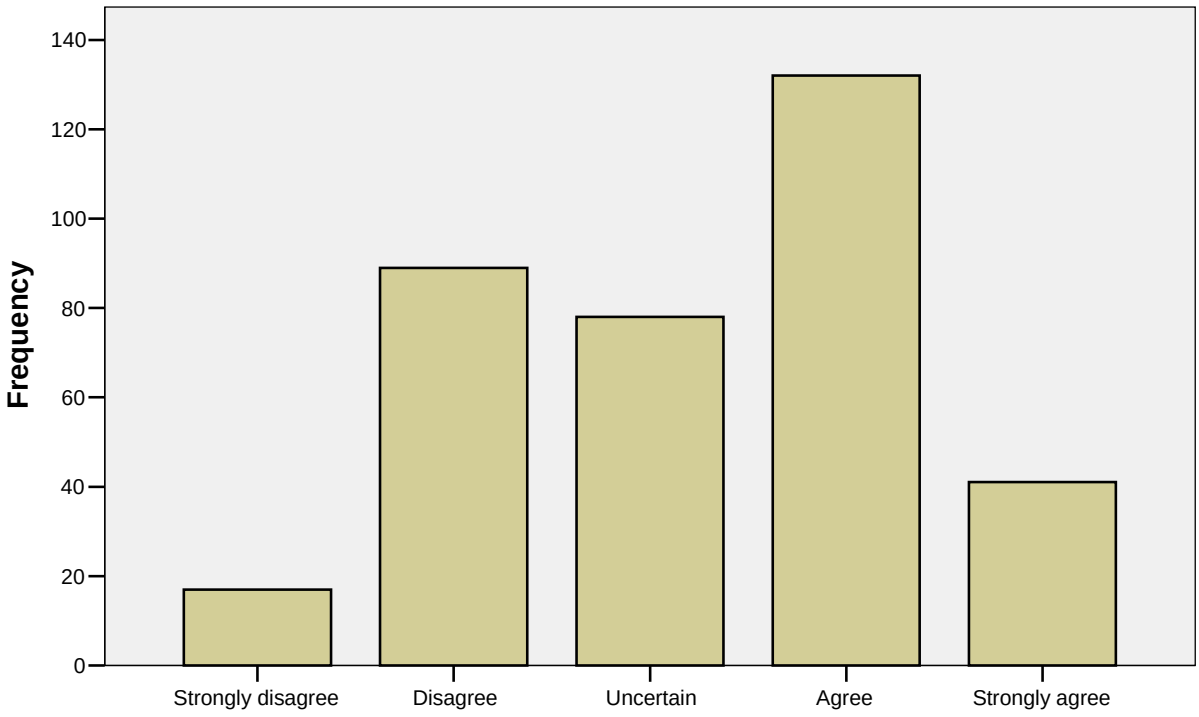
Thanks to technology, the problems of access to learning for students with disabilities have been resolved



Thanks to technology, the problems of access to learning for students with disabilities have been resolved

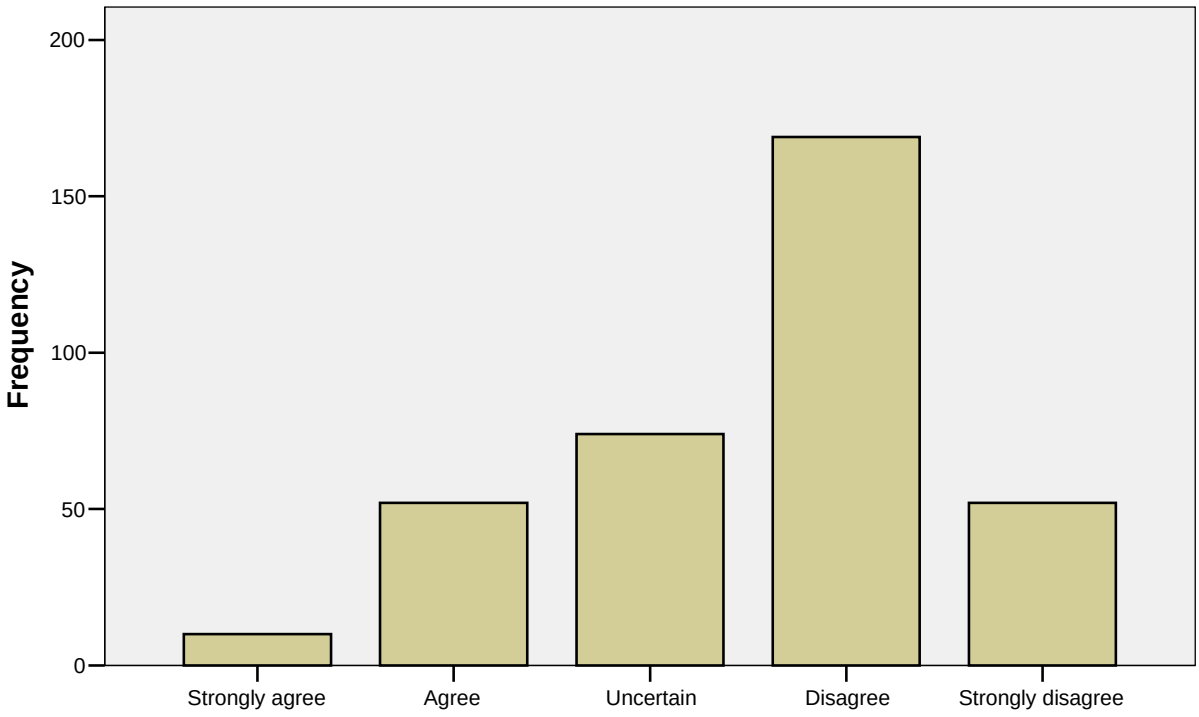

Contacts between students and teachers can have the same intensity in online education as in face-to-face education
Frequency
150
100
50
0
Strongly disagree
Disagree
Uncertain
Agree
Strongly agree
Contacts between students and teachers can have the same intensity in online education as in face-to-face education

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education



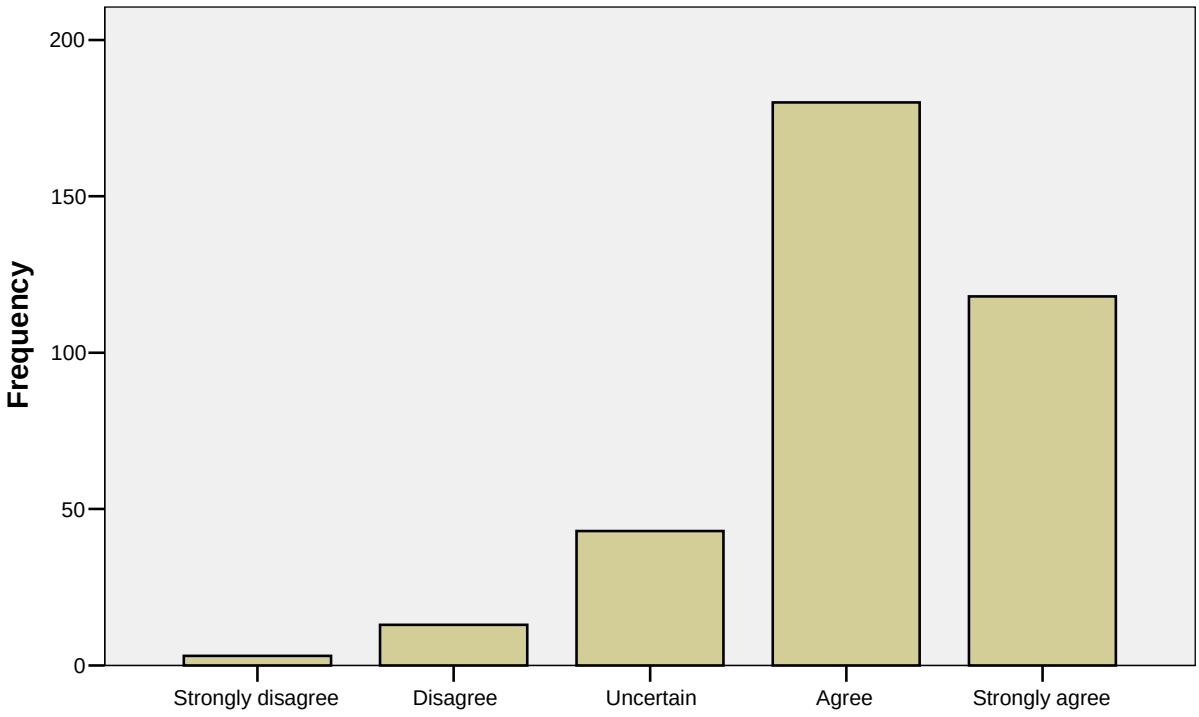
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

Only optimistic people think that the impact of technology on learning is beneficial



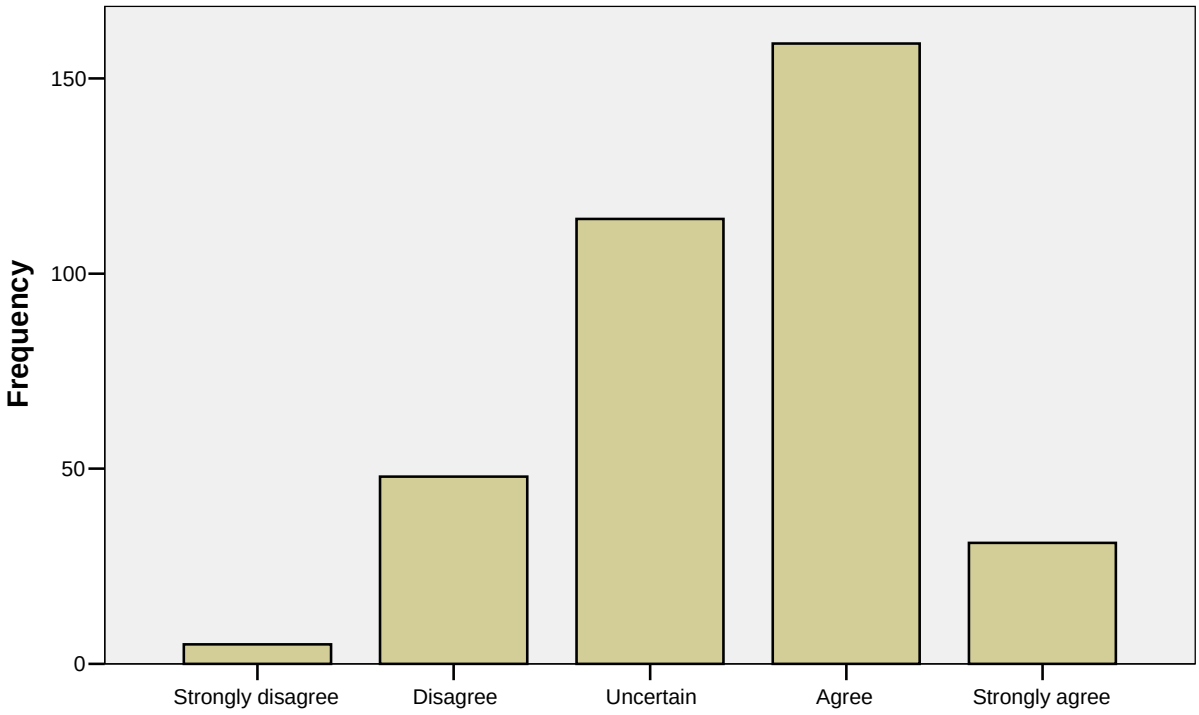
Only optimistic people think that the impact of technology on learning is beneficial

From my personal study experience I find that the impact of technology on learning is valuable



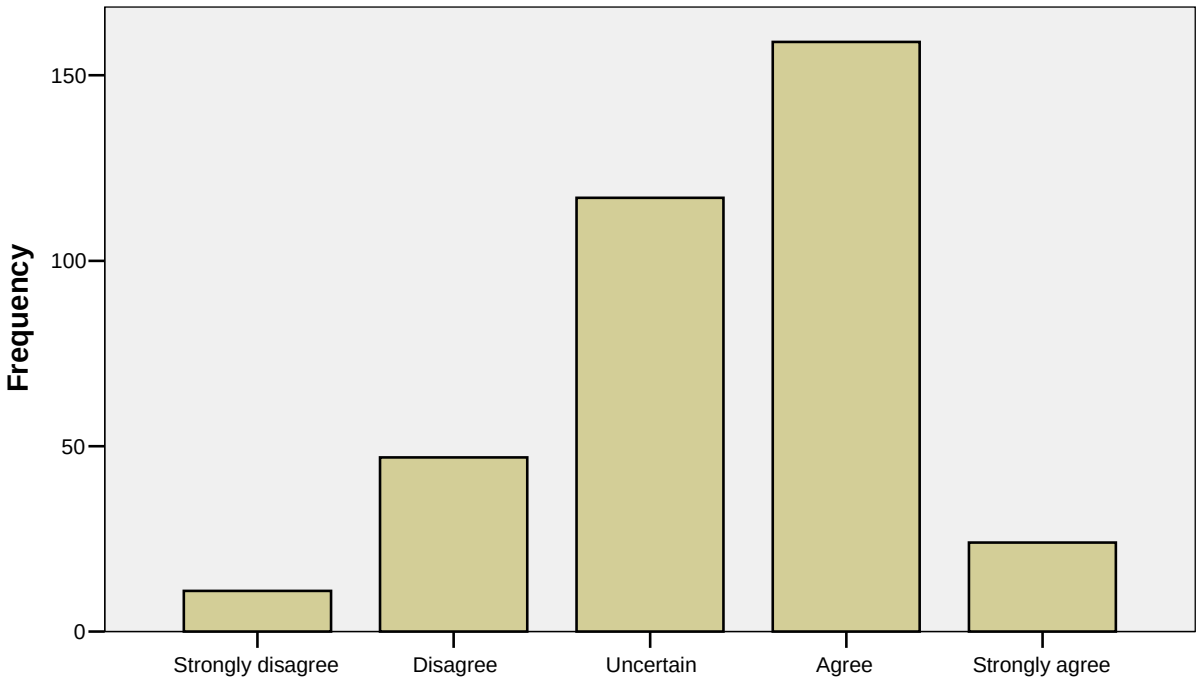
From my personal study experience I find that the impact of technology on learning is valuable

Information and communications technology has usually been used to encourage us to be active participants in learning



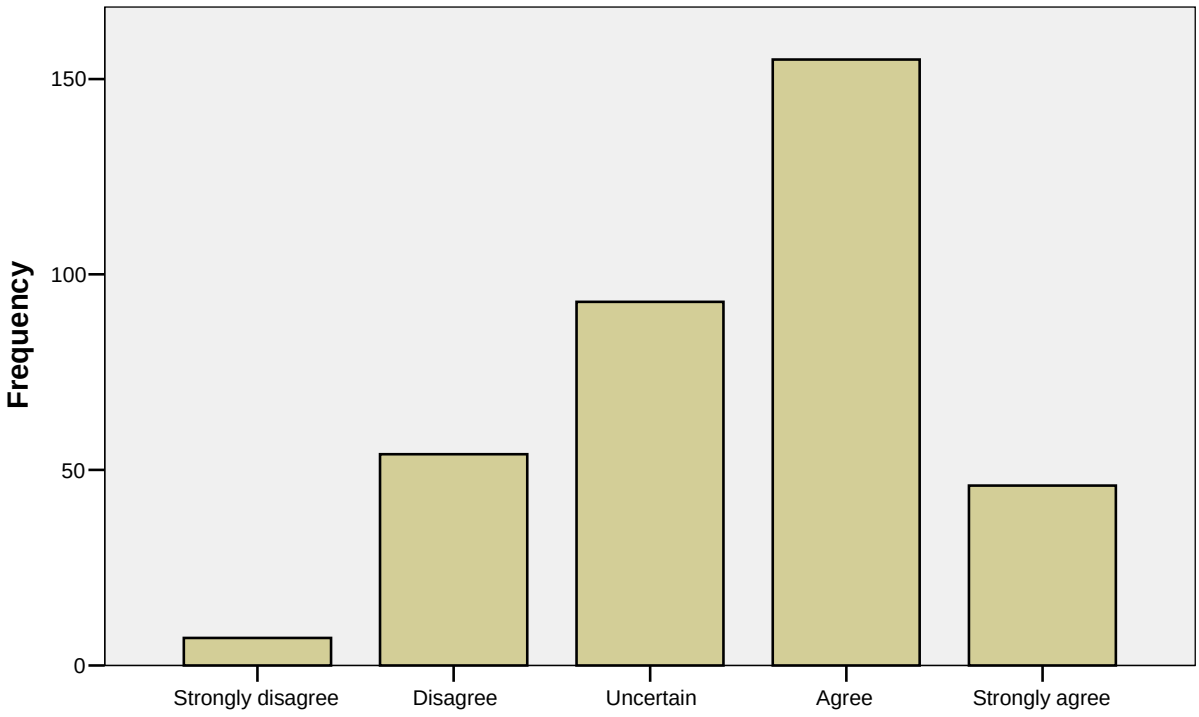
Information and communications technology has usually been used to encourage us to be active participants in learning

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving



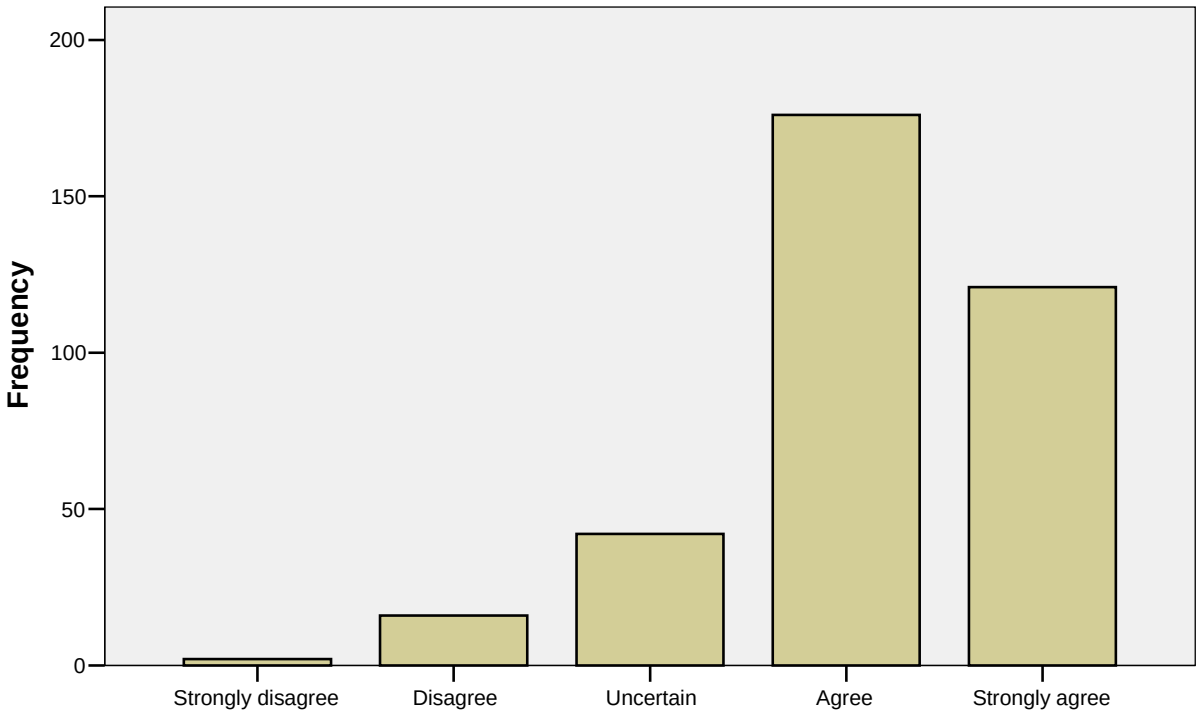
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs



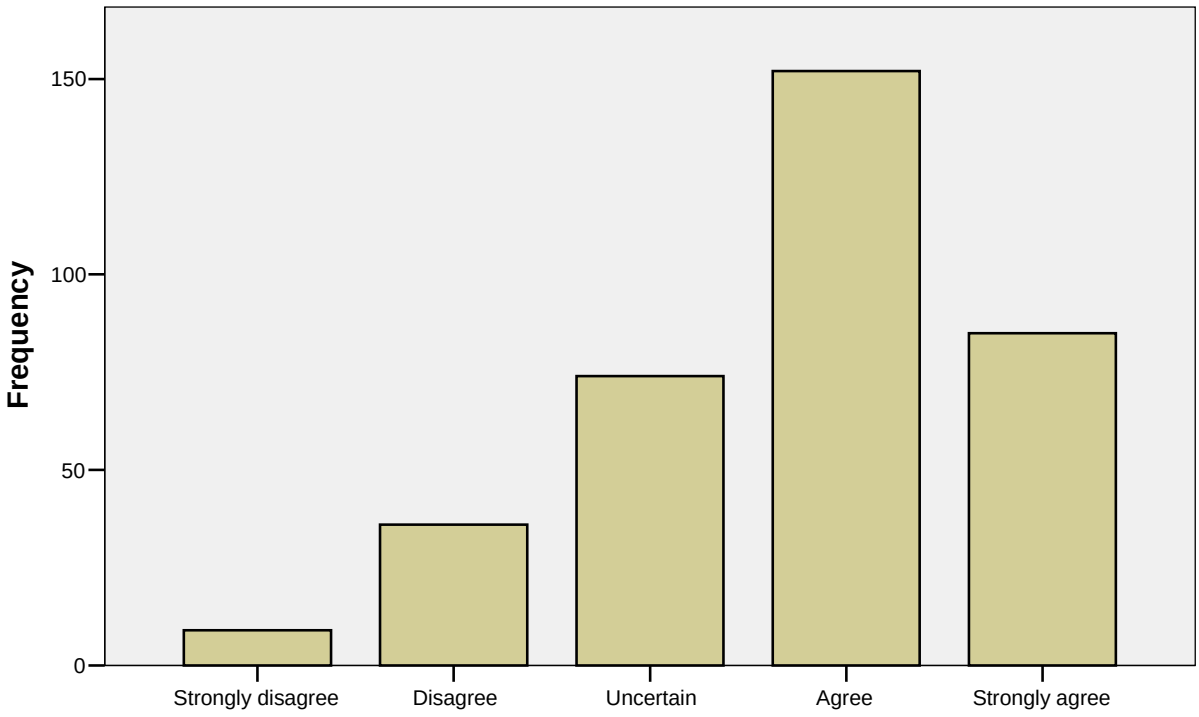
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

Learning is enhanced when text and pictures are integrated in a multimedia environment



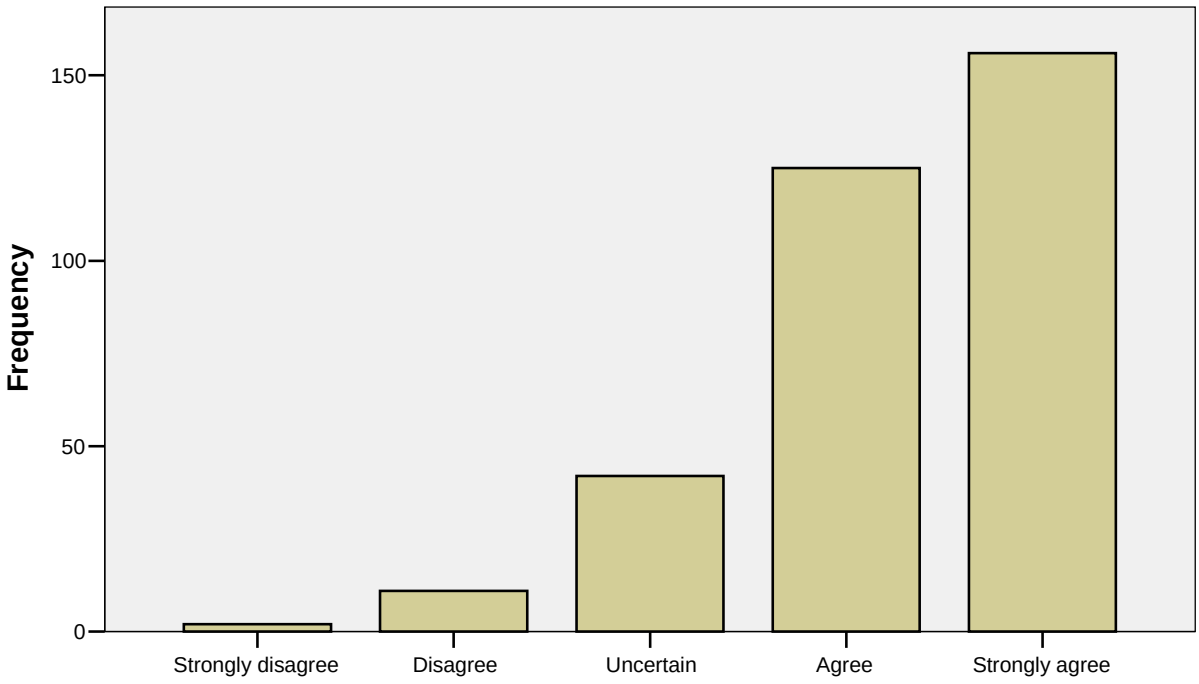
Learning is enhanced when text and pictures are integrated in a multimedia environment

Educational games motivate learners and contribute to developing skills such as teamwork



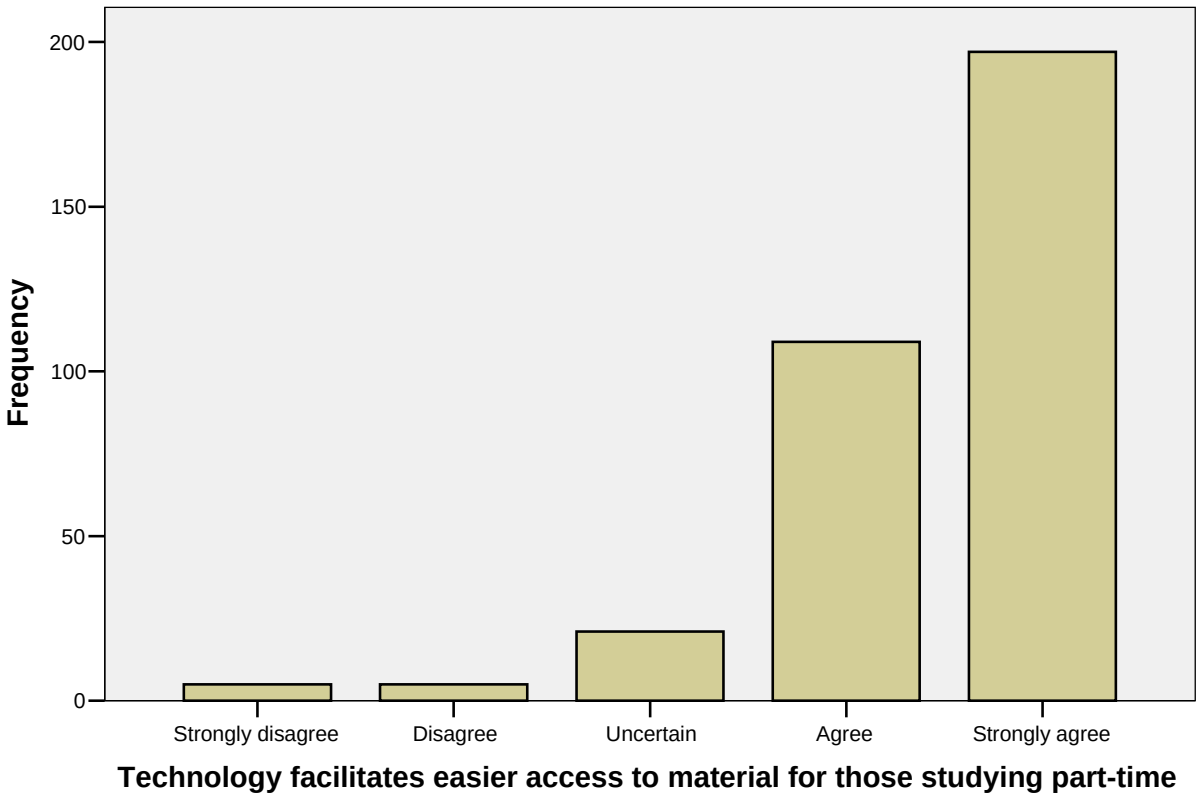
Educational games motivate learners and contribute to developing skills such as teamwork

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

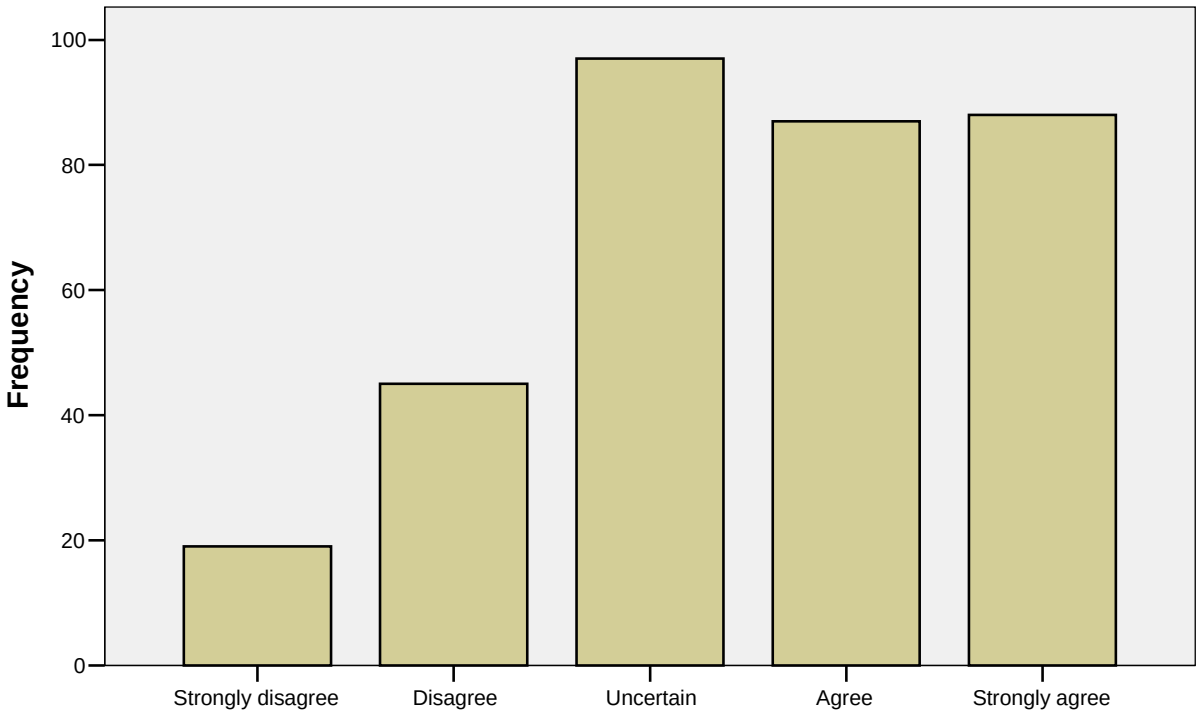


The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Technology facilitates easier access to material for those studying part-time

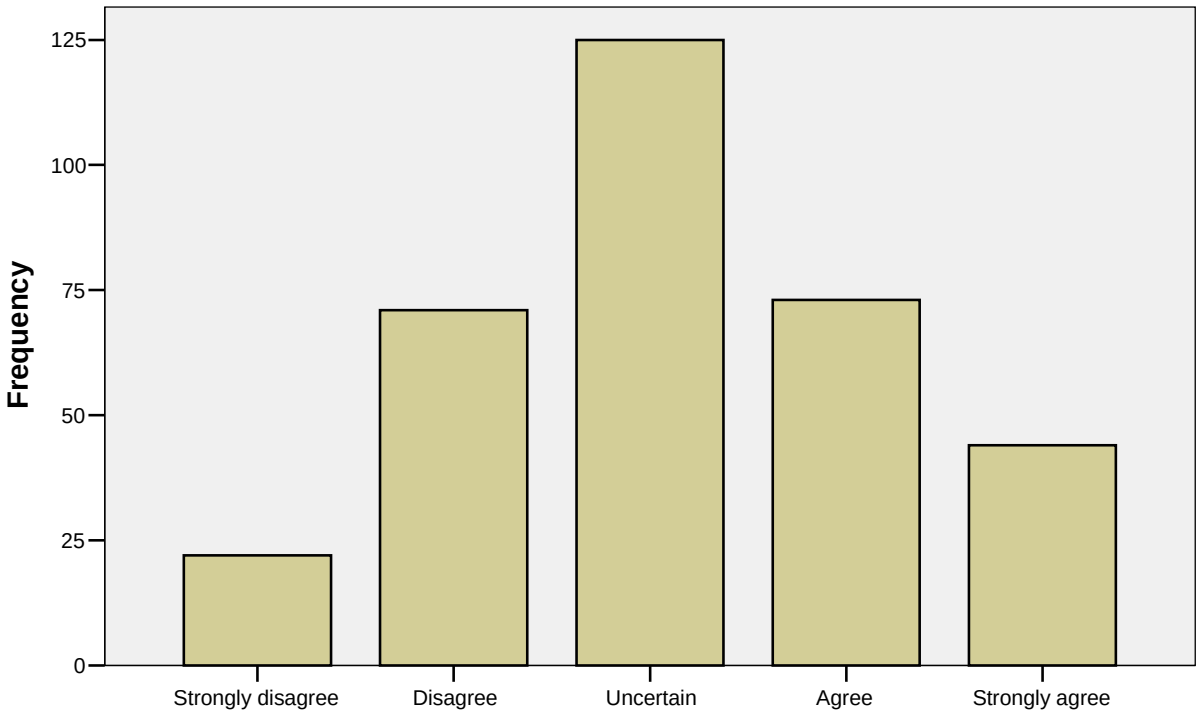


University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities



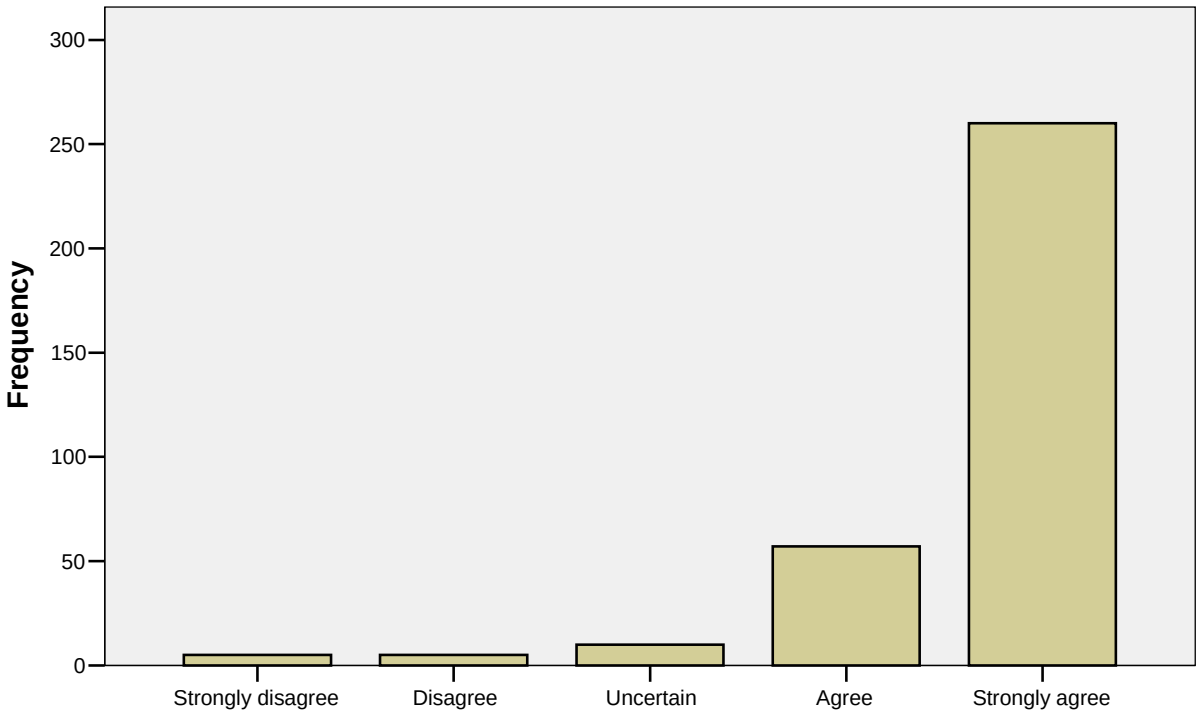
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

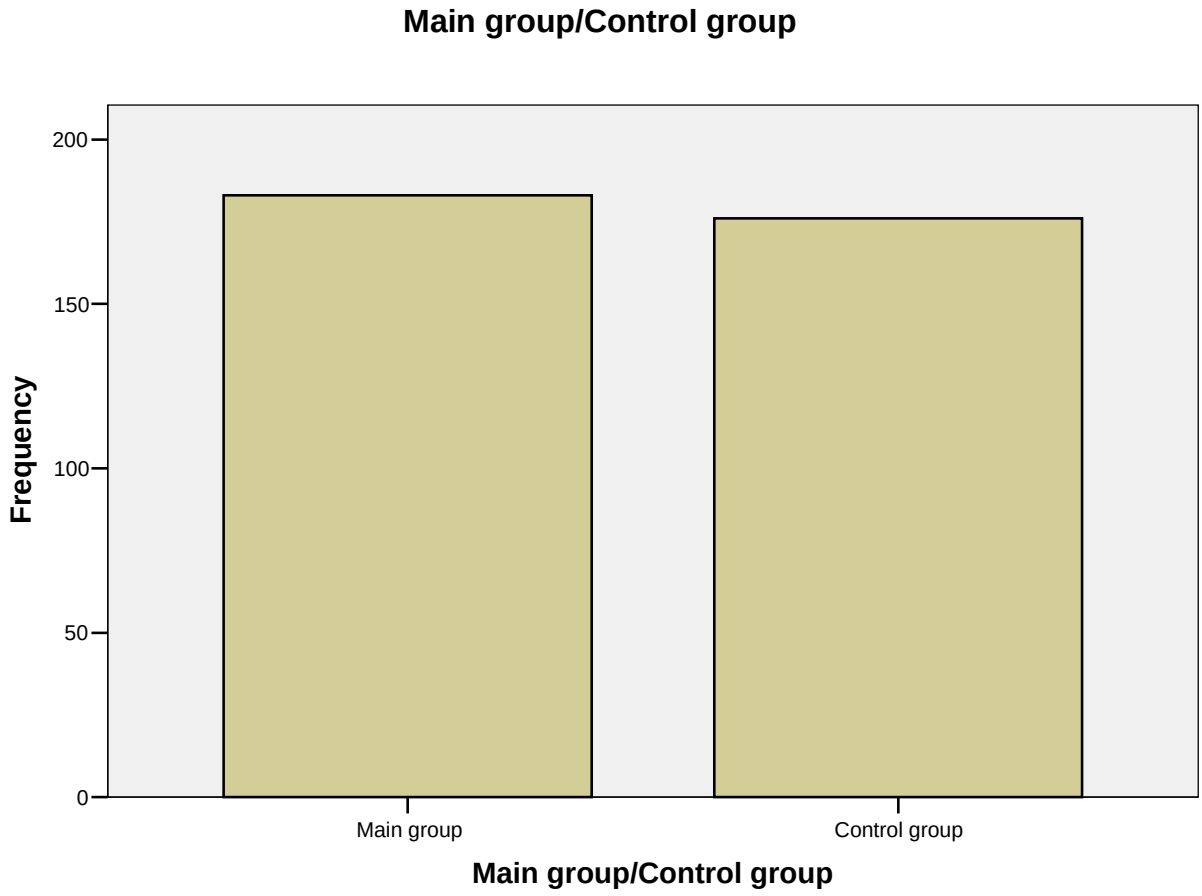


There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Study at an Open University is especially of advantage to adults who have work and family obligations



Study at an Open University is especially of advantage to adults who have work and family obligations



Frequencies

Main group/Control group = Main group

Statistics[a]

		What is your occupation?	What is your age grouping?	Gender	What is your level of education?	To what extent have you used advanced technological equipment in your professional life?	Have you had to change your way of working because of technological developments?
N	Valid	183	183	183	183	183	183
	Missing	0	0	0	0	0	0

Statistics[a]

		Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Only optimistic people think that the impact of technology on learning is beneficial	From my personal study experience I find that the impact of technology on learning is valuable
N	Valid	183	183	183	183	183
	Missing	0	0	0	0	0

Statistics[a]

		Information and communications technology has usually been used to encourage us to be active participants in learning	Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Learning is enhanced when text and pictures are integrated in a multimedia environment	Educational games motivate learners and contribute to developing skills such as teamwork
N	Valid	183	183	183	183	183
	Missing	0	0	0	0	0

Statistics[a]

		The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Technology facilitates easier access to material for those studying part-time	University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university
N	Valid	183	183	183	183
	Missing	0	0	0	0

Statistics[a]

		Study at an Open University is especially of advantage to adults who have work and family obligations	Main group/Control group
N	Valid	183	183
	Missing	0	0

a. Main group/Control group = Main group

Frequency Table

What is your occupation?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manager	36	19,7	19,7	19,7
	Technical	47	25,7	25,7	45,4
	Teacher or Trainer	16	8,7	8,7	54,1
	Student	16	8,7	8,7	62,8
	Unemployed	15	8,2	8,2	71,0
	Other (e.g. retired)	53	29,0	29,0	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

What is your age grouping?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	24 or younger	17	9,3	9,3	9,3
	25-29	47	25,7	25,7	35,0
	30-40	81	44,3	44,3	79,2
	41-50	35	19,1	19,1	98,4
	over 50	3	1,6	1,6	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Gender[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	94	51,4	51,4	51,4
	Female	89	48,6	48,6	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

What is your level of education?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school matriculation	100	54,6	54,6	54,6
	One to three years of post-secondary education	30	16,4	16,4	71,0
	Four or more years of post-secondary education	53	29,0	29,0	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

To what extent have you used advanced technological equipment in your professional life?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A lot	74	40,4	40,4	40,4
	Quite a bit	89	48,6	48,6	89,1
	Little	12	6,6	6,6	95,6
	very little	4	2,2	2,2	97,8
	not at all	4	2,2	2,2	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Have you had to change your way of working because of technological developments?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, more than once	131	71,6	71,6	71,6
	Yes. Once	12	6,6	6,6	78,1
	No	40	21,9	21,9	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Thanks to technology, the problems of access to learning for students with disabilities have been resolved[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	1,6	1,6	1,6
	Disagree	18	9,8	9,8	11,5
	Uncertain	54	29,5	29,5	41,0
	Agree	96	52,5	52,5	93,4
	Strongly agree	12	6,6	6,6	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Contacts between students and teachers can have the same intensity in online education as in face-to-face education[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	15	8,2	8,2	8,2
	Disagree	72	39,3	39,3	47,5
	Uncertain	38	20,8	20,8	68,3
	Agree	43	23,5	23,5	91,8
	Strongly agree	15	8,2	8,2	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	4,4	4,4	4,4
	Disagree	40	21,9	21,9	26,2
	Uncertain	51	27,9	27,9	54,1
	Agree	59	32,2	32,2	86,3
	Strongly agree	25	13,7	13,7	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Only optimistic people think that the impact of technology on learning is beneficial[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	2,7	2,7	2,7
	Agree	20	10,9	10,9	13,7
	Uncertain	38	20,8	20,8	34,4
	Disagree	78	42,6	42,6	77,0
	Strongly disagree	42	23,0	23,0	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

From my personal study experience I find that the impact of technology on learning is valuable[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	,5	,5	,5
	Disagree	5	2,7	2,7	3,3
	Uncertain	27	14,8	14,8	18,0
	Agree	88	48,1	48,1	66,1
	Strongly agree	62	33,9	33,9	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Information and communications technology has usually been used to encourage us to be active participants in learning[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	1,6	1,6	1,6
	Disagree	22	12,0	12,0	13,7
	Uncertain	64	35,0	35,0	48,6
	Agree	80	43,7	43,7	92,3
	Strongly agree	14	7,7	7,7	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	3,8	3,8	3,8
	Disagree	20	10,9	10,9	14,8
	Uncertain	67	36,6	36,6	51,4
	Agree	79	43,2	43,2	94,5
	Strongly agree	10	5,5	5,5	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2,2	2,2	2,2
	Disagree	32	17,5	17,5	19,7
	Uncertain	57	31,1	31,1	50,8
	Agree	73	39,9	39,9	90,7
	Strongly agree	17	9,3	9,3	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Learning is enhanced when text and pictures are integrated in a multimedia environment[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	,5	,5	,5
	Disagree	12	6,6	6,6	7,1
	Uncertain	28	15,3	15,3	22,4
	Agree	78	42,6	42,6	65,0
	Strongly agree	64	35,0	35,0	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Educational games motivate learners and contribute to developing skills such as teamwork[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	2,7	2,7	2,7
	Disagree	28	15,3	15,3	18,0
	Uncertain	52	28,4	28,4	46,4
	Agree	73	39,9	39,9	86,3
	Strongly agree	25	13,7	13,7	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	1,6	1,6	1,6
	Uncertain	14	7,7	7,7	9,3
	Agree	69	37,7	37,7	47,0
	Strongly agree	97	53,0	53,0	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

Technology facilitates easier access to material for those studying part-time[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	2,7	2,7	2,7
	Disagree	2	1,1	1,1	3,8
	Uncertain	12	6,6	6,6	10,4
	Agree	64	35,0	35,0	45,4
	Strongly agree	100	54,6	54,6	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	1,6	1,6	1,6
	Disagree	14	7,7	7,7	9,3
	Uncertain	32	17,5	17,5	26,8
	Agree	63	34,4	34,4	61,2
	Strongly agree	71	38,8	38,8	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2,2	2,2	2,2
	Disagree	33	18,0	18,0	20,2
	Uncertain	61	33,3	33,3	53,6
	Agree	48	26,2	26,2	79,8
	Strongly agree	37	20,2	20,2	100,0
	Total	183	100,0	100,0	

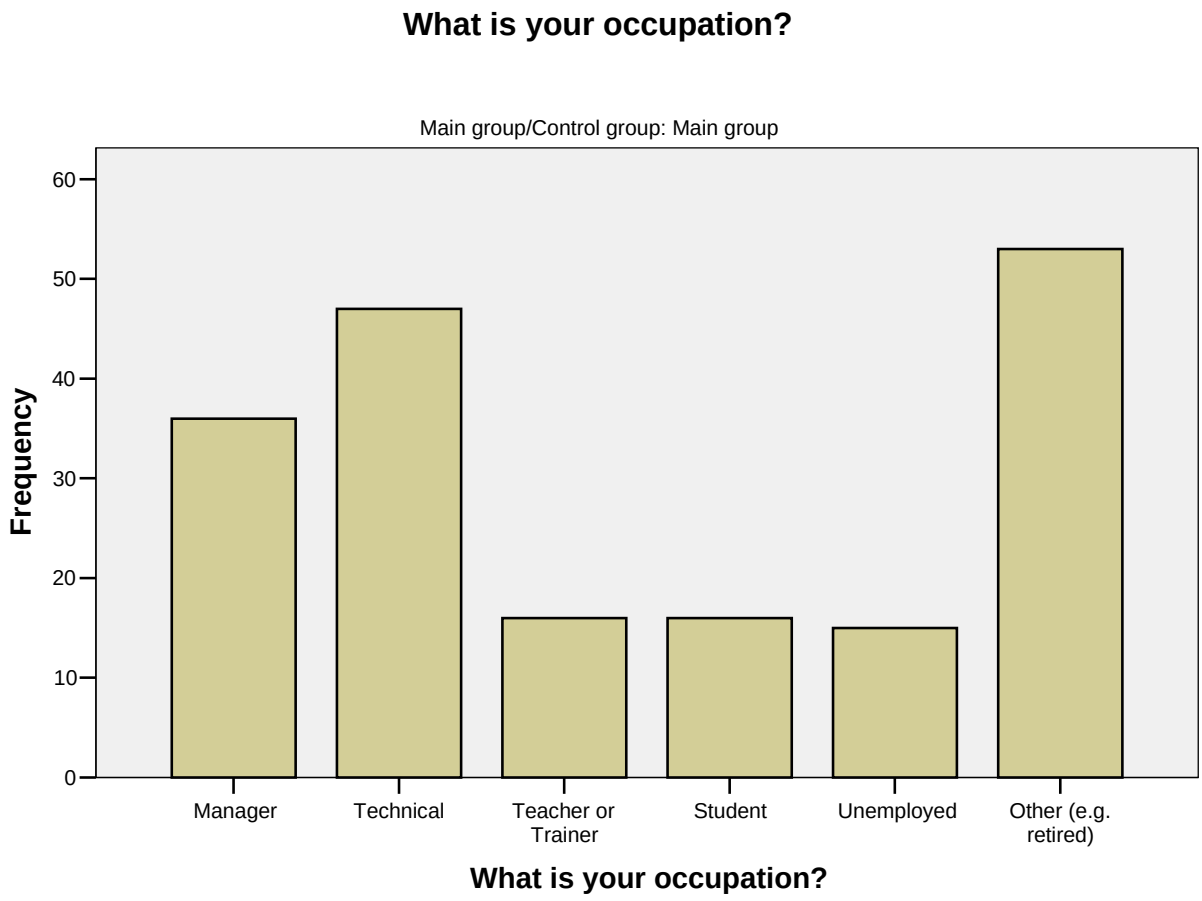
a. Main group/Control group = Main group

Study at an Open University is especially of advantage to adults who have work and family obligations[a]

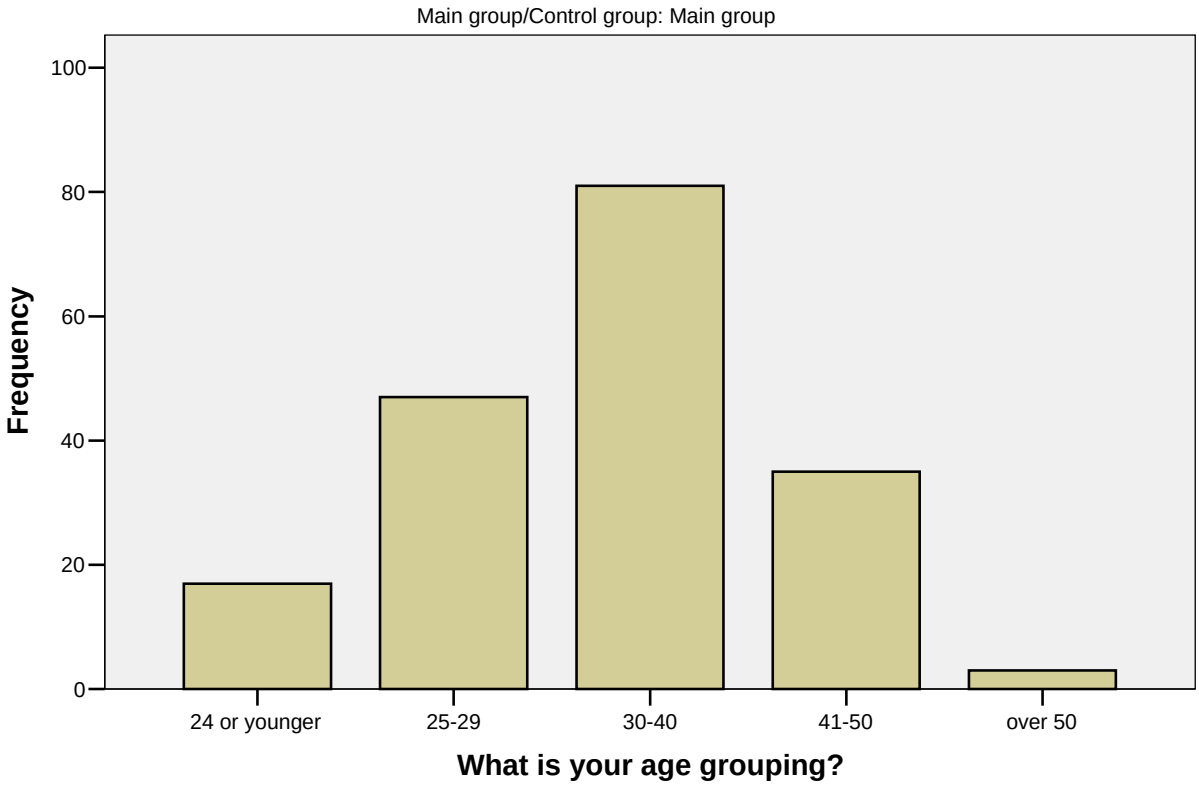
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	,5	,5	,5
	Disagree	1	,5	,5	1,1
	Uncertain	2	1,1	1,1	2,2
	Agree	14	7,7	7,7	9,8
	Strongly agree	165	90,2	90,2	100,0
	Total	183	100,0	100,0	

a. Main group/Control group = Main group

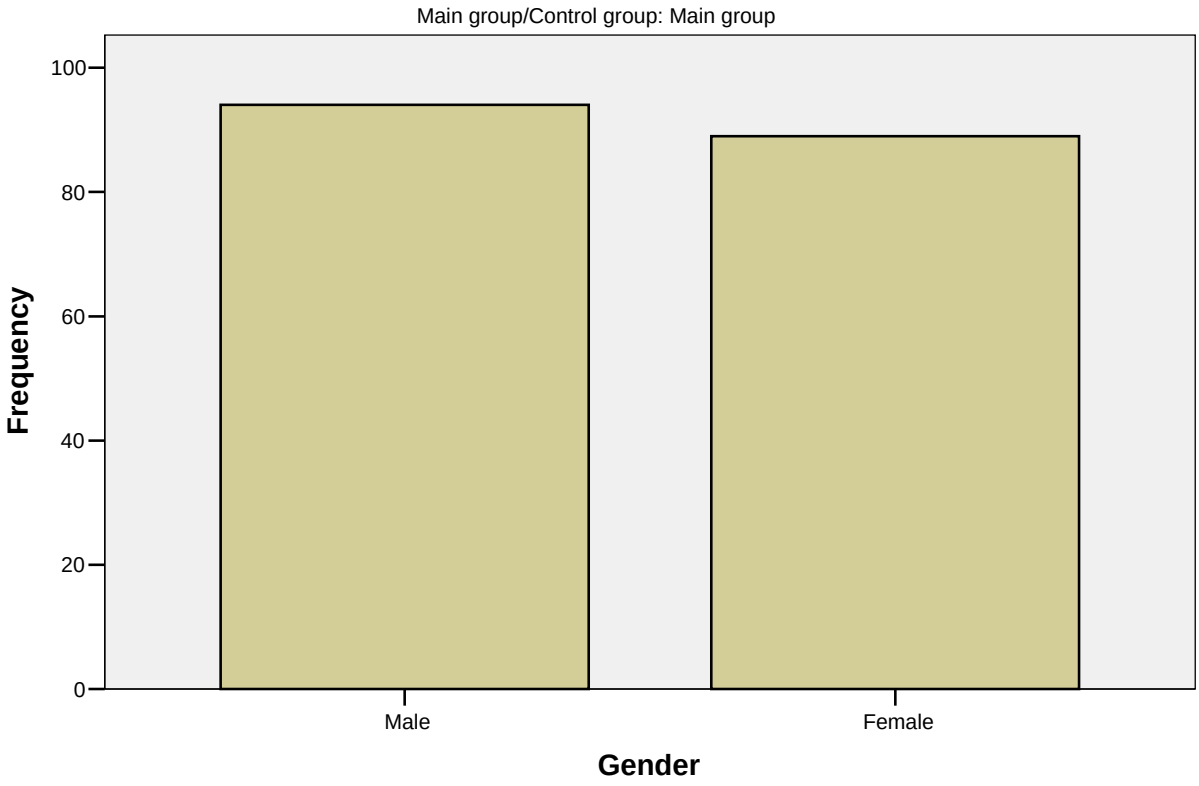
Bar Chart



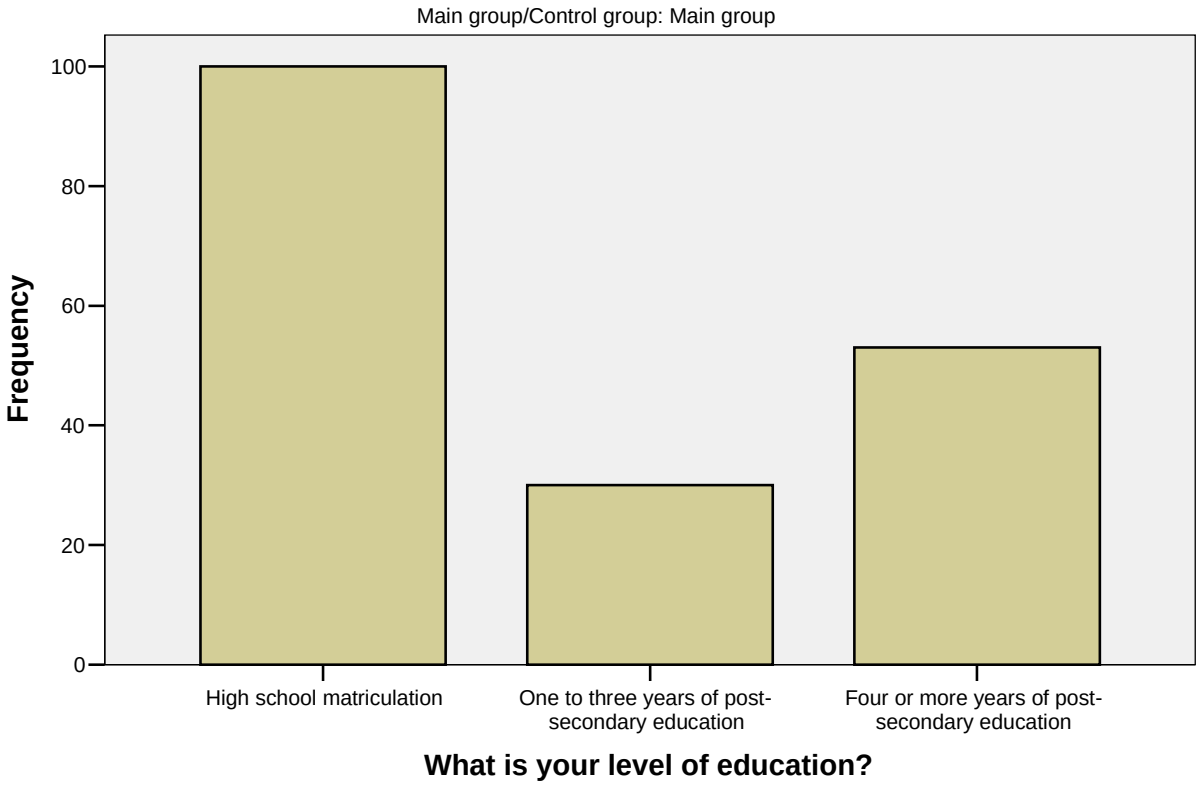
What is your age grouping?



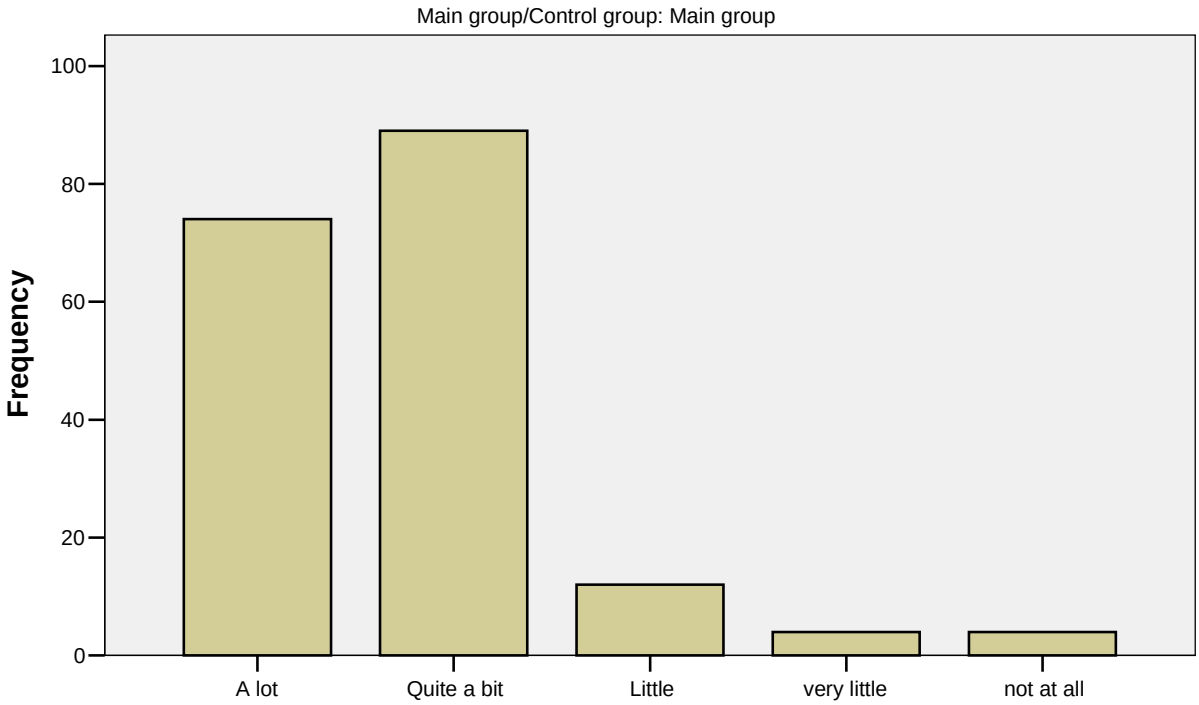
Gender


Main group/Control group: Main group
100
80
60
40
20
0
Frequency
Male
Female
Gender

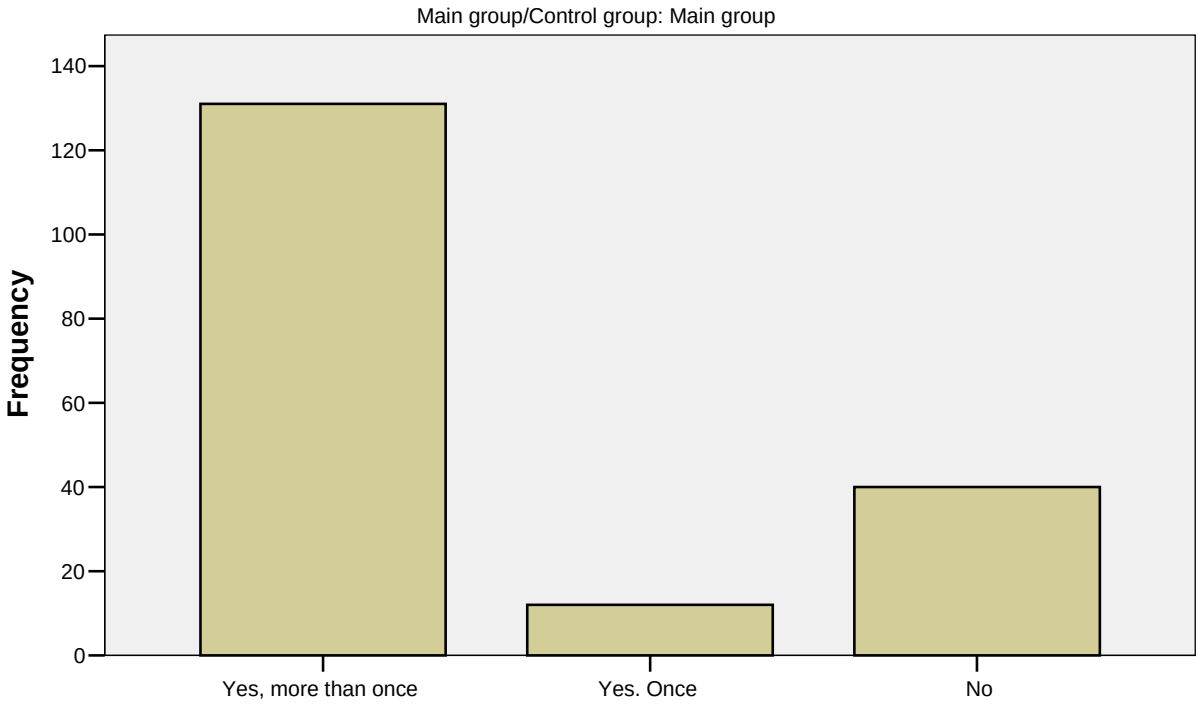
What is your level of education?



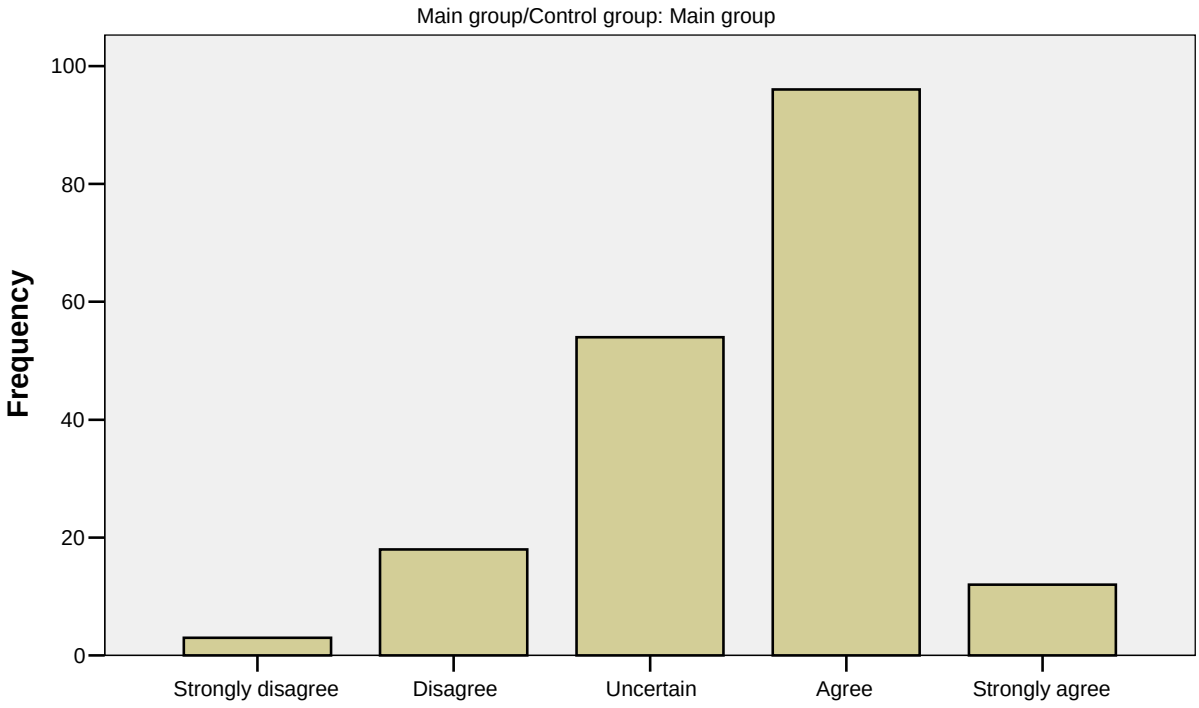
To what extent have you used advanced technological equipment in your professional life?



Have you had to change your way of working because of technological developments?

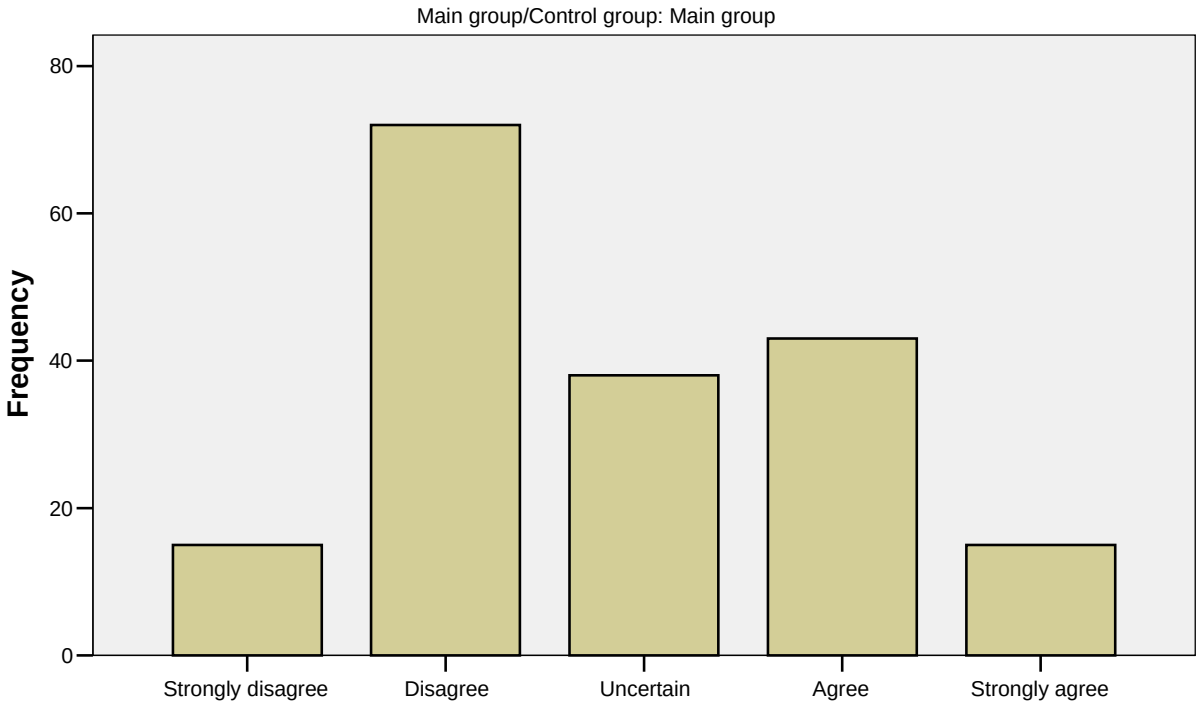


Thanks to technology, the problems of access to learning for students with disabilities have been resolved



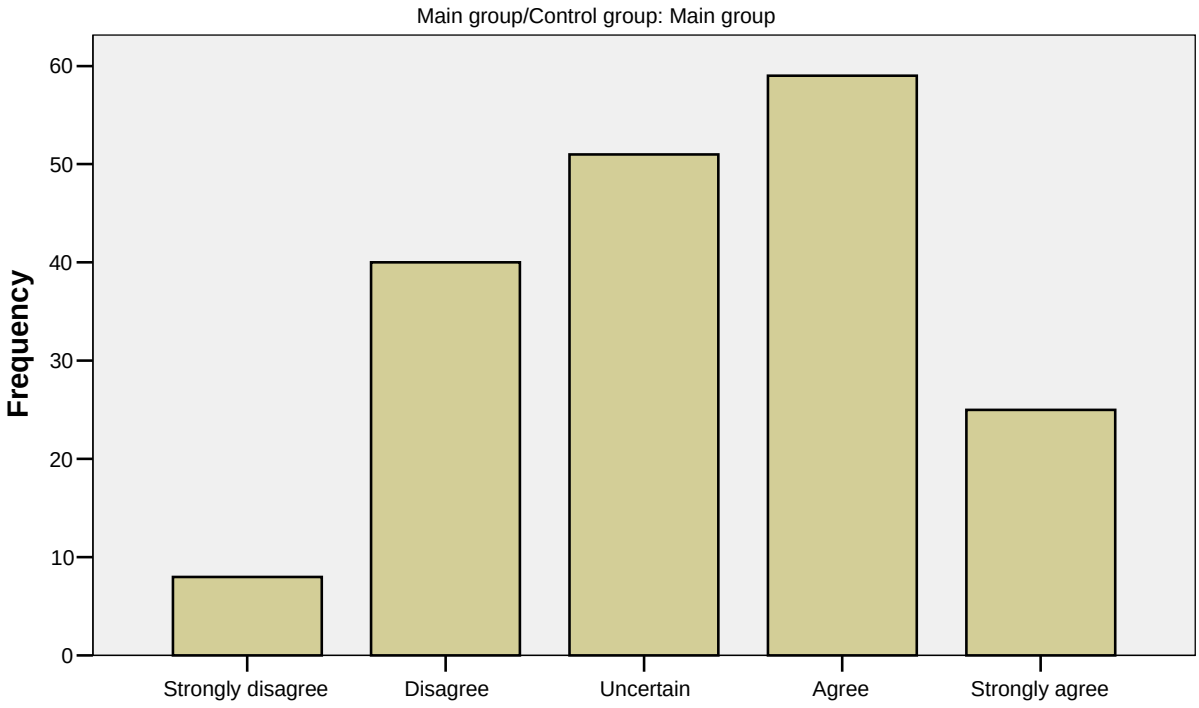
Thanks to technology, the problems of access to learning for students with disabilities have been resolved

Contacts between students and teachers can have the same intensity in online education as in face-to-face education



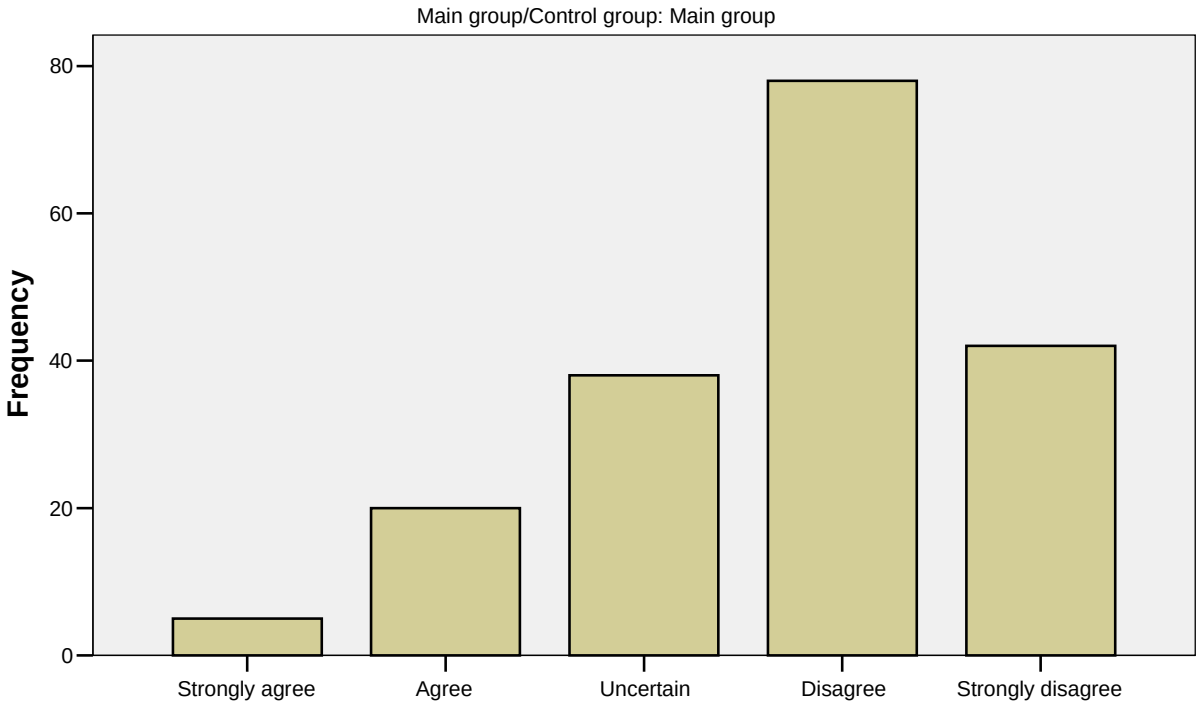
Contacts between students and teachers can have the same intensity in online education as in face-to-face education

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

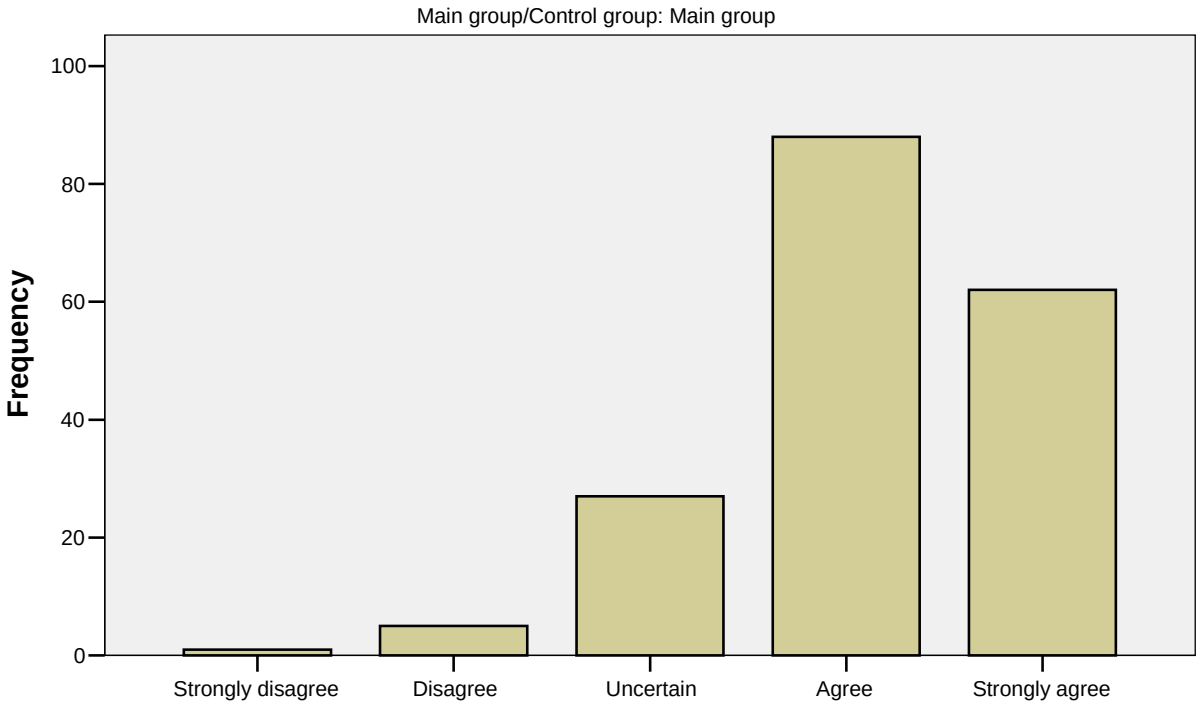


Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

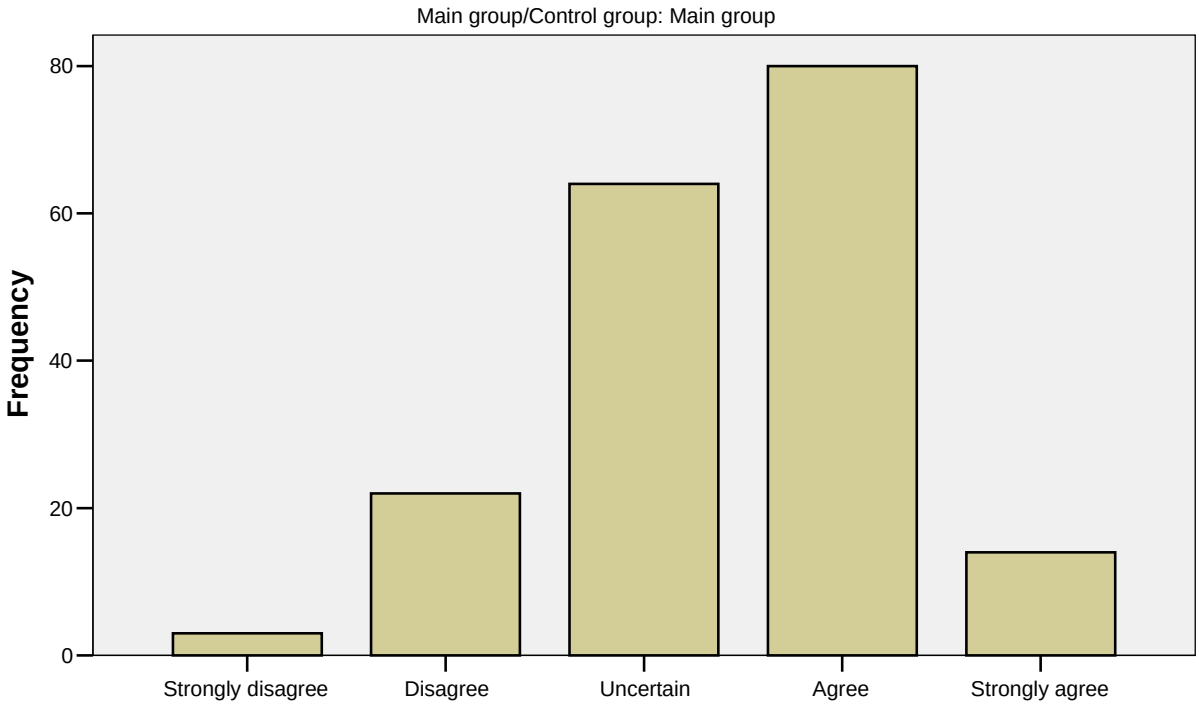
Only optimistic people think that the impact of technology on learning is beneficial



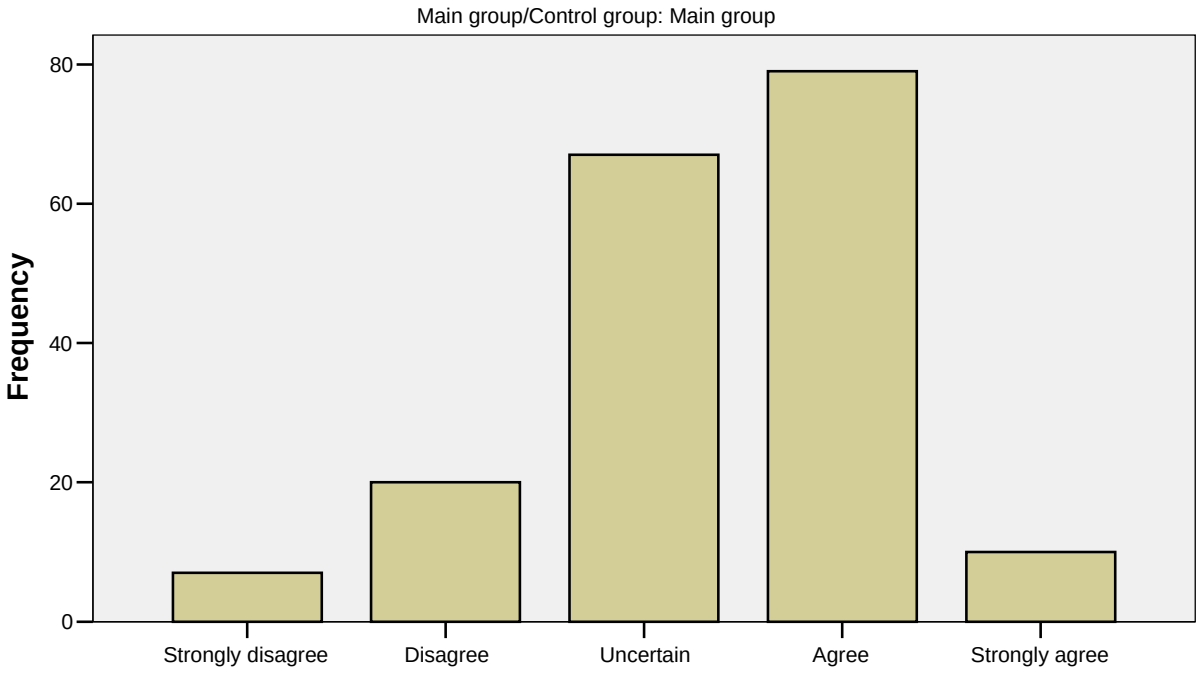
From my personal study experience I find that the impact of technology on learning is valuable



Information and communications technology has usually been used to encourage us to be active participants in learning

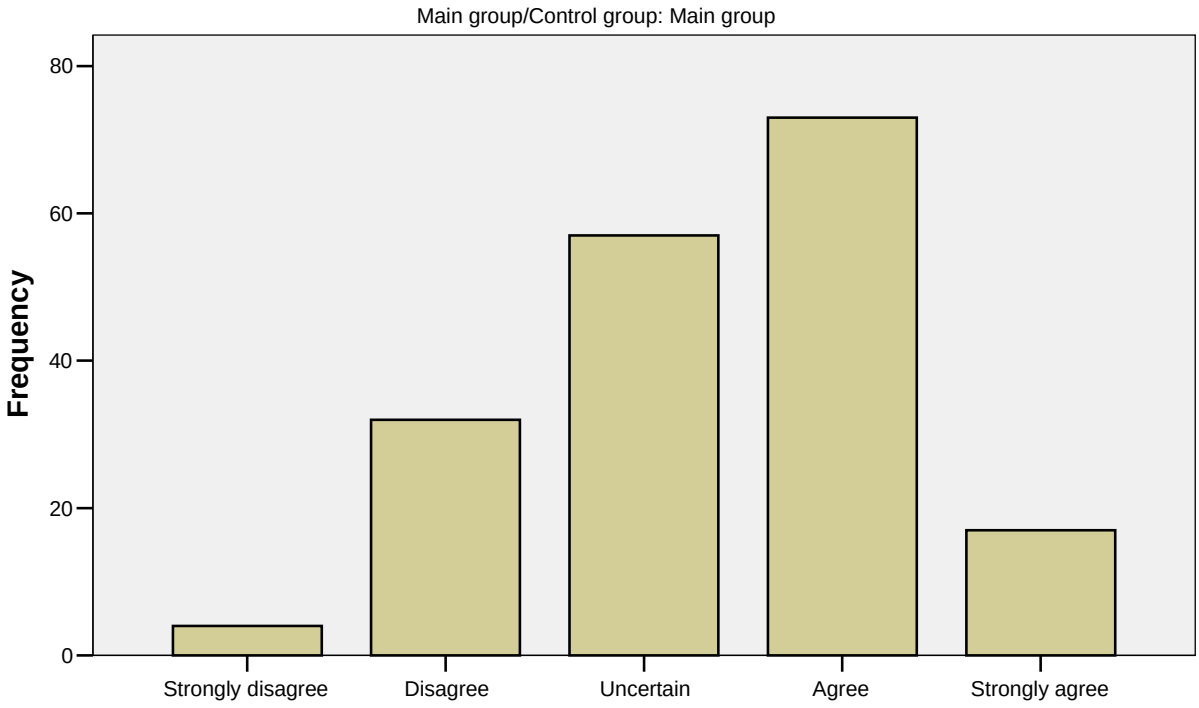


Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving



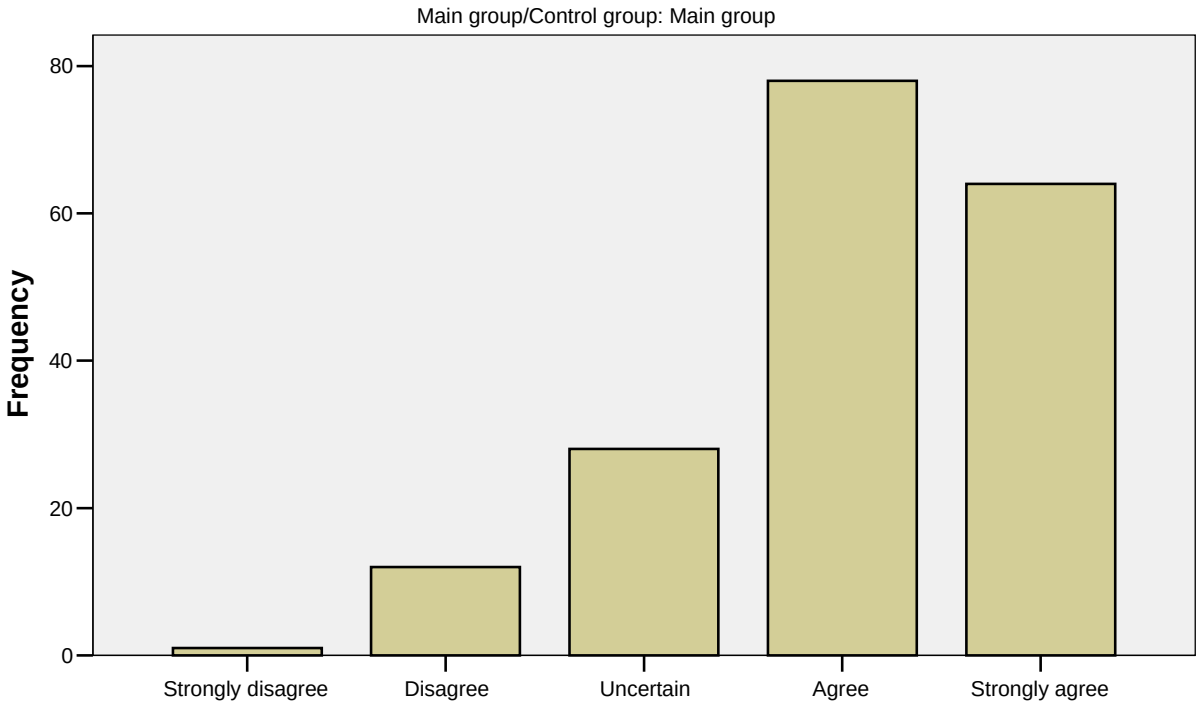
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

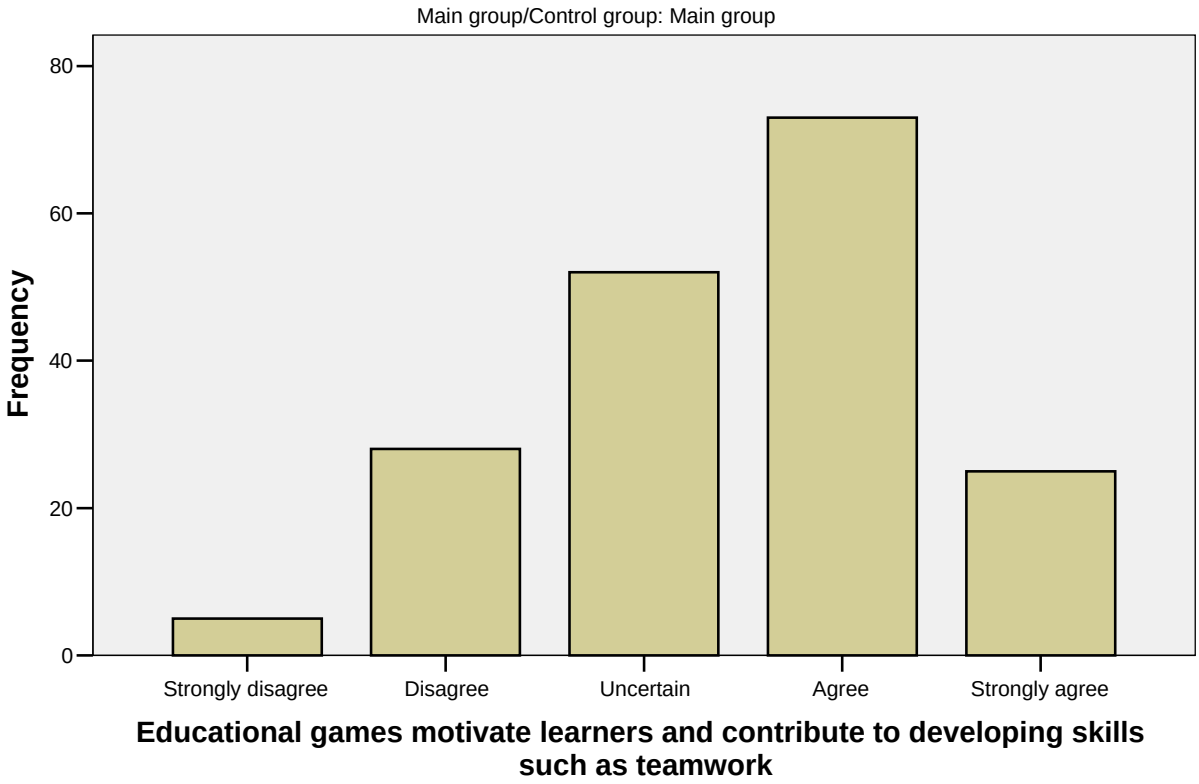


Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

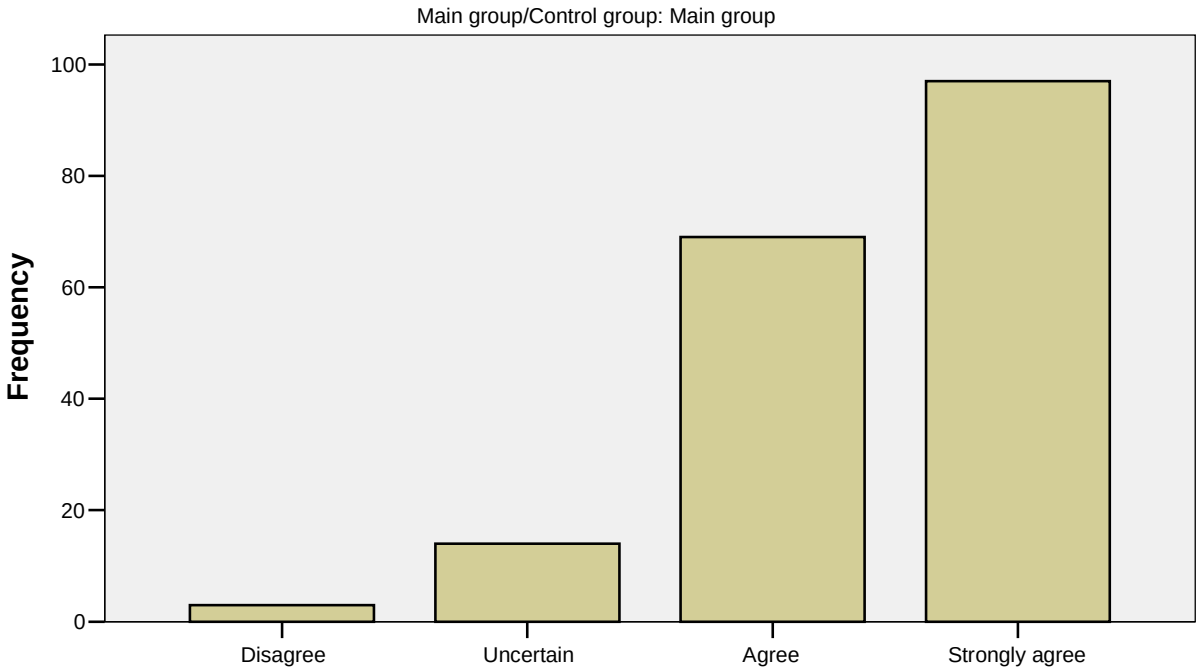
Learning is enhanced when text and pictures are integrated in a multimedia environment



Educational games motivate learners and contribute to developing skills such as teamwork

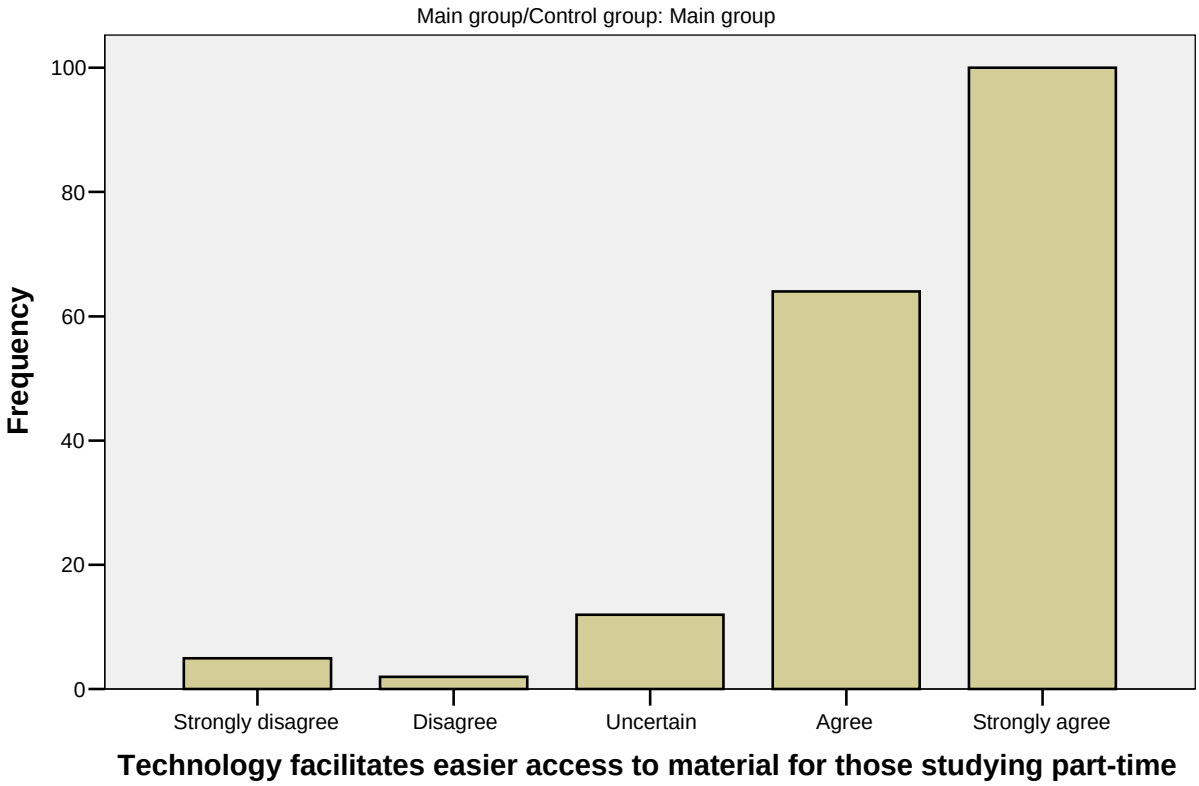


The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

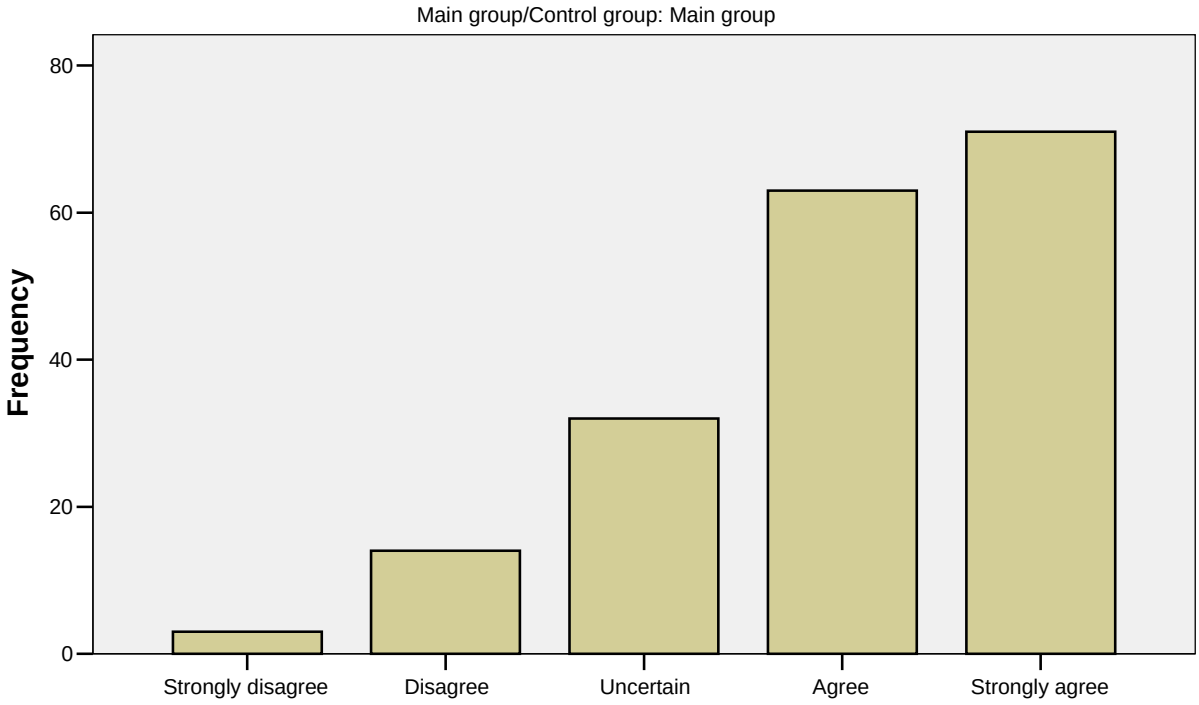


The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Technology facilitates easier access to material for those studying part-time

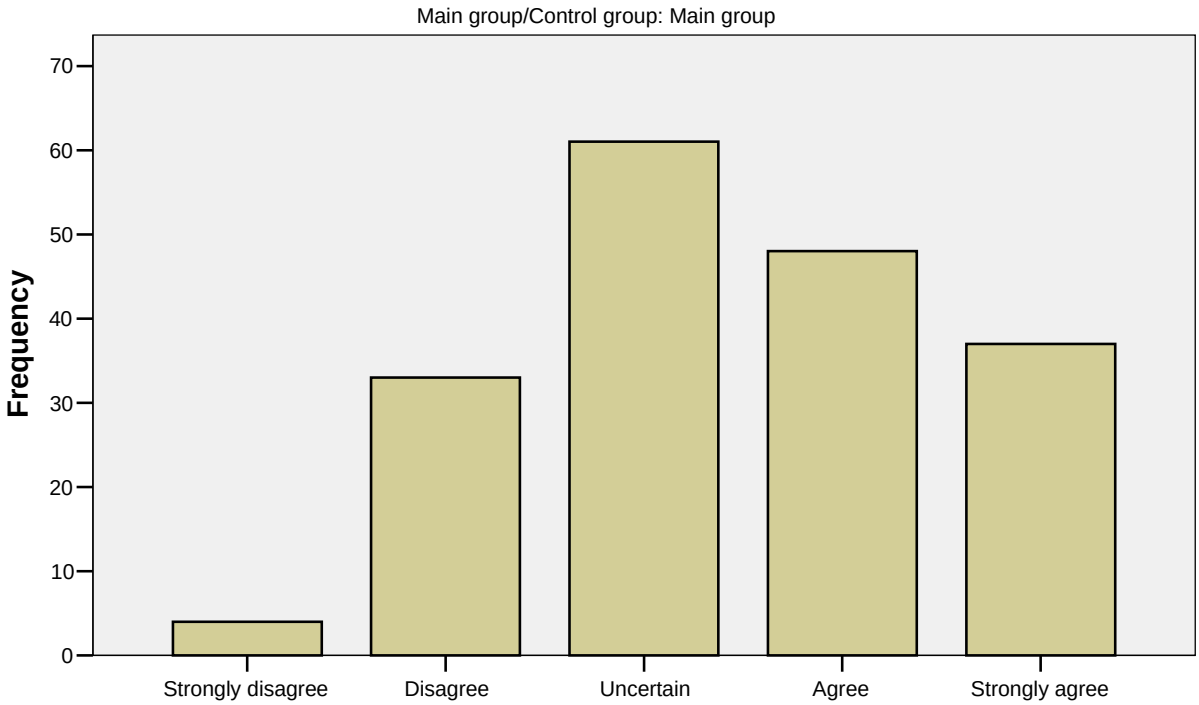


University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities



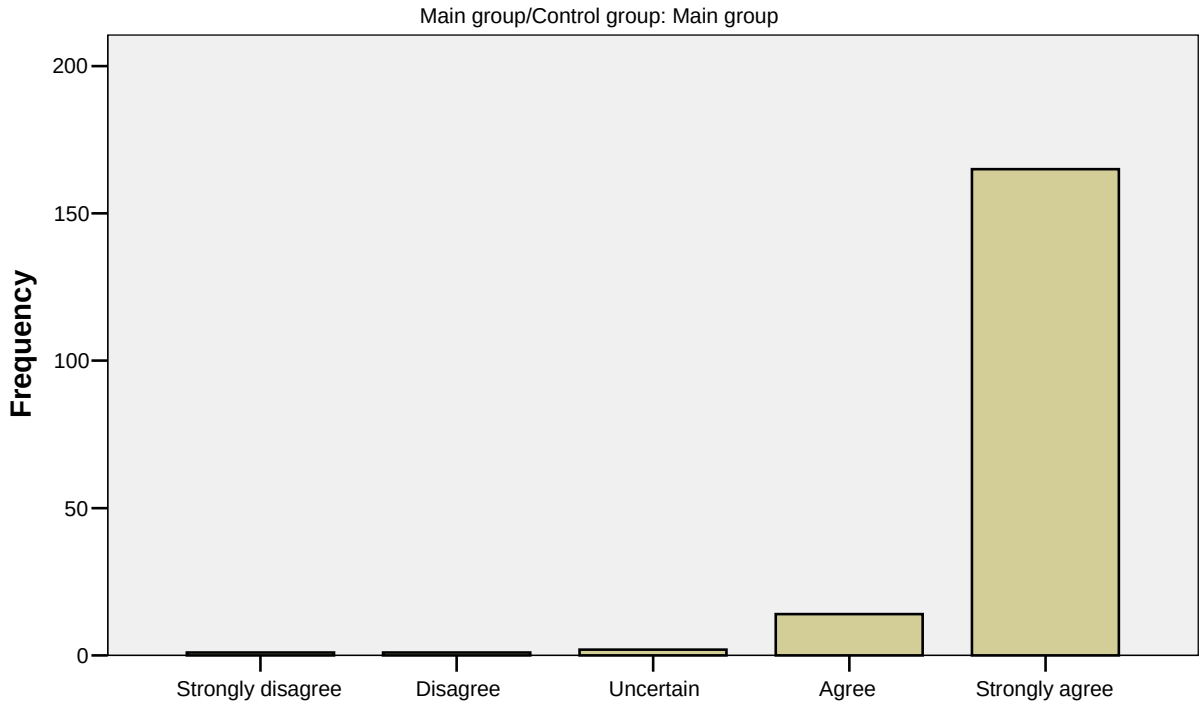
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university



There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Study at an Open University is especially of advantage to adults who have work and family obligations



Study at an Open University is especially of advantage to adults who have work and family obligations

Main group/Control group = Control group

Statistics[a]

		What is your occupation?	What is your age grouping?	Gender	What is your level of education?	To what extent have you used advanced technological equipment in your professional life?	Have you had to change your way of working because of technological developments?
N	Valid	1742	1760	1742	1733	1742	1724
	Missing						

Statistics[a]

		Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Only optimistic people think that the impact of technology on learning is beneficial	From my personal study experience I find that the impact of technology on learning is valuable
N	Valid	176	173	174	174	174
	Missing	0	3	2	2	2

Statistics[a]

		Information and communications technology has usually been used to encourage us to be active participants in learning	Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Learning is enhanced when text and pictures are integrated in a multimedia environment	Educational games motivate learners and contribute to developing skills such as teamwork
N	Valid	174	175	172	174	173
	Missing	2	1	4	2	3

Statistics[a]

		The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Technology facilitates easier access to material for those studying part-time	University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university
N	Valid	153	154	153	152
	Missing	23	22	23	24

Statistics[a]

		Study at an Open University is especially of advantage to adults who have work and family obligations	Main group/Control group
N	Valid	154	176
	Missing	22	0

a. Main group/Control group = Control group

Frequency Table

What is your occupation?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manager	30	17,0	17,2	17,2
	Technical	11	6,3	6,3	23,6
	Teacher or Trainer	66	37,5	37,9	61,5
	Student	59	33,5	33,9	95,4
	Unemployed	8	4,5	4,6	100,0
	Total	174	98,9	100,0	
Missing	0	2	1,1		
Total		176	100,0		

a. Main group/Control group = Control group

What is your age grouping?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	24 or younger	43	24,4	24,4	24,4
	25-29	43	24,4	24,4	48,9
	30-40	39	22,2	22,2	71,0
	41-50	29	16,5	16,5	87,5
	over 50	22	12,5	12,5	100,0
	Total	176	100,0	100,0	

a. Main group/Control group = Control group

Gender[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	66	37,5	37,9	37,9
	Female	108	61,4	62,1	100,0
	Total	174	98,9	100,0	
Missing	0	2	1,1		
Total		176	100,0		

a. Main group/Control group = Control group

What is your level of education?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school matriculation	79	44,9	45,7	45,7
	One to three years of post-secondary education	37	21,0	21,4	67,1
	Four or more years of post-secondary education	57	32,4	32,9	100,0
	Total	173	98,3	100,0	
Missing	0	3	1,7		
Total		176	100,0		

a. Main group/Control group = Control group

To what extent have you used advanced technological equipment in your professional life?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A lot	70	39,8	40,2	40,2
	Quite a bit	68	38,6	39,1	79,3
	Little	24	13,6	13,8	93,1
	very little	8	4,5	4,6	97,7
	not at all	4	2,3	2,3	100,0
	Total	174	98,9	100,0	
Missing	0	2	1,1		
Total		176	100,0		

a. Main group/Control group = Control group

Have you had to change your way of working because of technological developments?[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, more than once	100	56,8	58,1	58,1
	Yes. Once	17	9,7	9,9	68,0
	No	55	31,3	32,0	100,0
	Total	172	97,7	100,0	
Missing	0	4	2,3		
Total		176	100,0		

a. Main group/Control group = Control group

Thanks to technology, the problems of access to learning for students with disabilities have been resolved[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2,3	2,3	2,3
	Disagree	24	13,6	13,6	15,9
	Uncertain	62	35,2	35,2	51,1
	Agree	68	38,6	38,6	89,8
	Strongly agree	18	10,2	10,2	100,0
	Total	176	100,0	100,0	

a. Main group/Control group = Control group

Contacts between students and teachers can have the same intensity in online education as in face-to-face education[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	33	18,8	19,1	19,1
	Disagree	84	47,7	48,6	67,6
	Uncertain	19	10,8	11,0	78,6
	Agree	33	18,8	19,1	97,7
	Strongly agree	4	2,3	2,3	100,0
	Total	173	98,3	100,0	
Missing	0	3	1,7		
Total		176	100,0		

a. Main group/Control group = Control group

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	5,1	5,2	5,2
	Disagree	49	27,8	28,2	33,3
	Uncertain	27	15,3	15,5	48,9
	Agree	73	41,5	42,0	90,8
	Strongly agree	16	9,1	9,2	100,0
	Total	174	98,9	100,0	
Missing	0	2	1,1		
Total		176	100,0		

a. Main group/Control group = Control group

Only optimistic people think that the impact of technology on learning is beneficial[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	2,8	2,9	2,9
	Agree	32	18,2	18,4	21,3
	Uncertain	36	20,5	20,7	42,0
	Disagree	91	51,7	52,3	94,3
	Strongly disagree	10	5,7	5,7	100,0
	Total	174	98,9	100,0	
Missing	0	2	1,1		
Total		176	100,0		

a. Main group/Control group = Control group

From my personal study experience I find that the impact of technology on learning is valuable[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1,1	1,1	1,1
	Disagree	8	4,5	4,6	5,7
	Uncertain	16	9,1	9,2	14,9
	Agree	92	52,3	52,9	67,8
	Strongly agree	56	31,8	32,2	100,0
	Total	174	98,9	100,0	
Missing	0	2	1,1		
Total		176	100,0		

a. Main group/Control group = Control group

Information and communications technology has usually been used to encourage us to be active participants in learning[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1,1	1,1	1,1
	Disagree	26	14,8	14,9	16,1
	Uncertain	50	28,4	28,7	44,8
	Agree	79	44,9	45,4	90,2
	Strongly agree	17	9,7	9,8	100,0
	Total	174	98,9	100,0	
Missing	0	2	1,1		
Total		176	100,0		

a. Main group/Control group = Control group

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2,3	2,3	2,3
	Disagree	27	15,3	15,4	17,7
	Uncertain	50	28,4	28,6	46,3
	Agree	80	45,5	45,7	92,0
	Strongly agree	14	8,0	8,0	100,0
	Total	175	99,4	100,0	
Missing	0	1	,6		
Total		176	100,0		

a. Main group/Control group = Control group

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	1,7	1,7	1,7
	Disagree	22	12,5	12,8	14,5
	Uncertain	36	20,5	20,9	35,5
	Agree	82	46,6	47,7	83,1
	Strongly agree	29	16,5	16,9	100,0
	Total	172	97,7	100,0	
Missing	0	4	2,3		
Total		176	100,0		

a. Main group/Control group = Control group

Learning is enhanced when text and pictures are integrated in a multimedia environment[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	,6	,6	,6
	Disagree	4	2,3	2,3	2,9
	Uncertain	14	8,0	8,0	10,9
	Agree	98	55,7	56,3	67,2
	Strongly agree	57	32,4	32,8	100,0
	Total	174	98,9	100,0	
Missing	0	2	1,1		
Total		176	100,0		

a. Main group/Control group = Control group

Educational games motivate learners and contribute to developing skills such as teamwork[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2,3	2,3	2,3
	Disagree	8	4,5	4,6	6,9
	Uncertain	22	12,5	12,7	19,7
	Agree	79	44,9	45,7	65,3
	Strongly agree	60	34,1	34,7	100,0
	Total	173	98,3	100,0	
Missing	0	3	1,7		
Total		176	100,0		

a. Main group/Control group = Control group

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1,1	1,3	1,3
	Disagree	8	4,5	5,2	6,5
	Uncertain	28	15,9	18,3	24,8
	Agree	56	31,8	36,6	61,4
	Strongly agree	59	33,5	38,6	100,0
	Total	153	86,9	100,0	
Missing	0	23	13,1		
Total		176	100,0		

a. Main group/Control group = Control group

Technology facilitates easier access to material for those studying part-time[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	1,7	1,9	1,9
	Uncertain	9	5,1	5,8	7,8
	Agree	45	25,6	29,2	37,0
	Strongly agree	97	55,1	63,0	100,0
	Total	154	87,5	100,0	
Missing	0	22	12,5		
Total		176	100,0		

a. Main group/Control group = Control group

University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	9,1	10,5	10,5
	Disagree	31	17,6	20,3	30,7
	Uncertain	65	36,9	42,5	73,2
	Agree	24	13,6	15,7	88,9
	Strongly agree	17	9,7	11,1	100,0
	Total	153	86,9	100,0	
Missing	0	23	13,1		
Total		176	100,0		

a. Main group/Control group = Control group

There is no difference in learning outcomes between studying at an Open University[a] or at a traditional face-to-face university

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	18	10,2	11,8	11,8
	Disagree	38	21,6	25,0	36,8
	Uncertain	64	36,4	42,1	78,9
	Agree	25	14,2	16,4	95,4
	Strongly agree	7	4,0	4,6	100,0
	Total	152	86,4	100,0	
Missing	0	24	13,6		
Total		176	100,0		

a. Main group/Control group = Control group

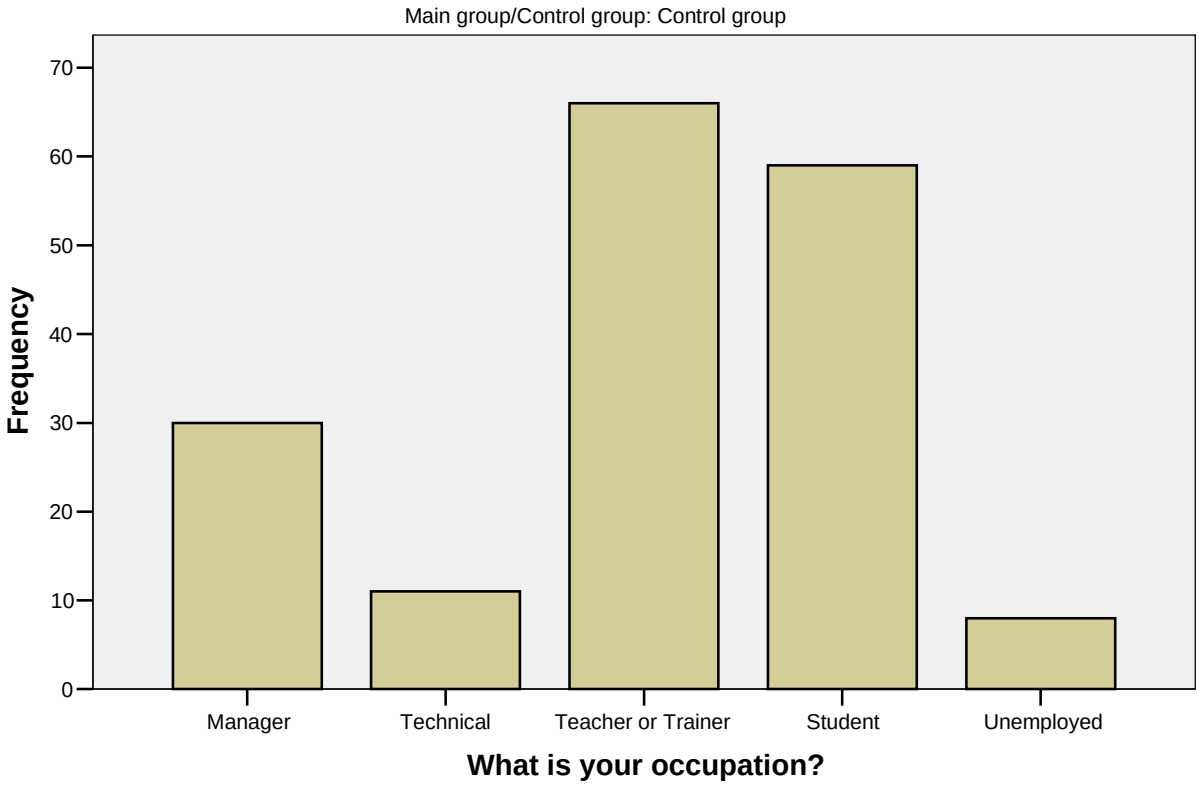
Study at an Open University is especially of advantage to adults who have work and family obligations[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2,3	2,6	2,6
	Disagree	4	2,3	2,6	5,2
	Uncertain	8	4,5	5,2	10,4
	Agree	43	24,4	27,9	38,3
	Strongly agree	95	54,0	61,7	100,0
	Total	154	87,5	100,0	
Missing	0	22	12,5		
Total		176	100,0		

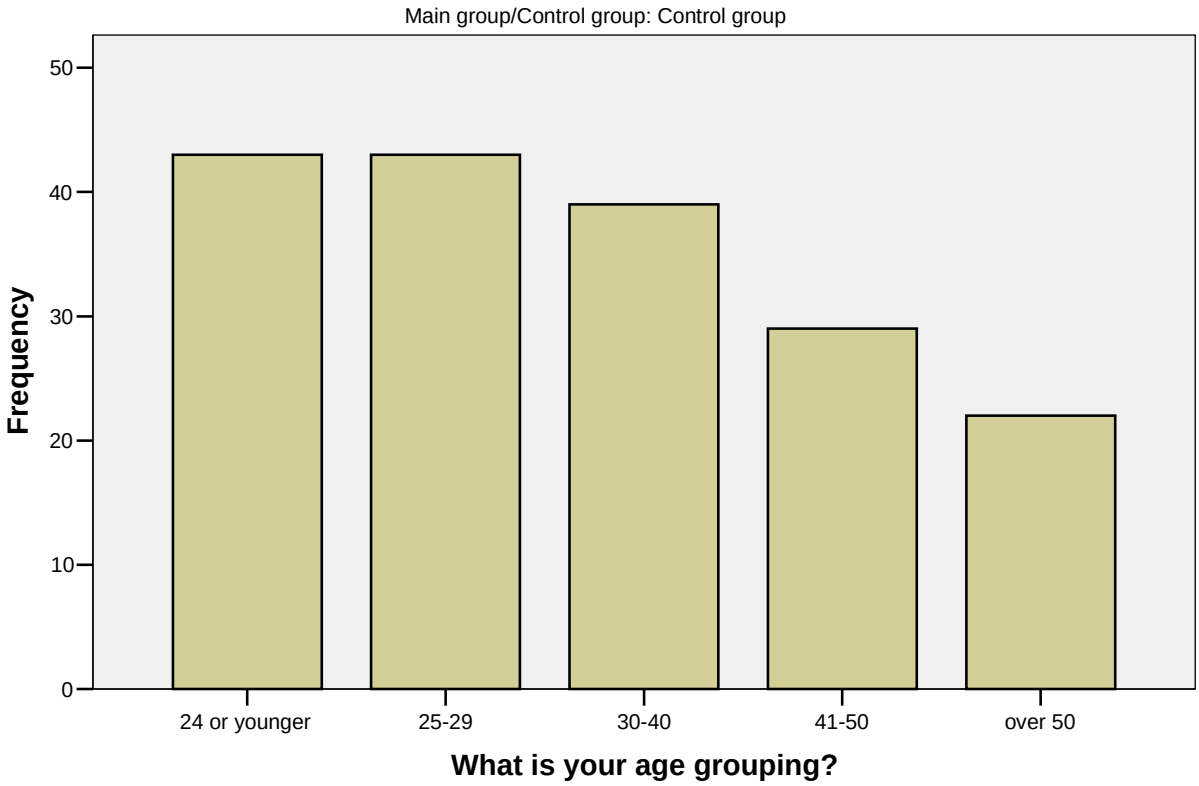
a. Main group/Control group = Control group

Bar Chart

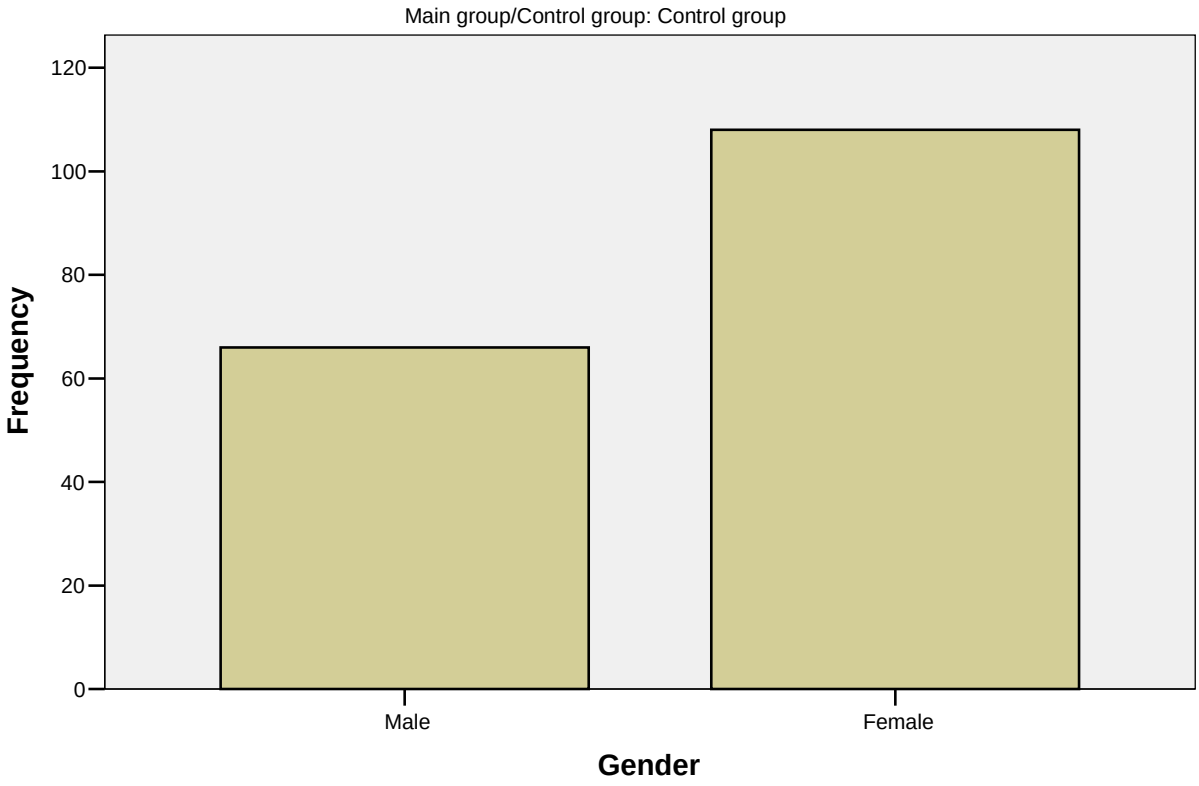
What is your occupation?



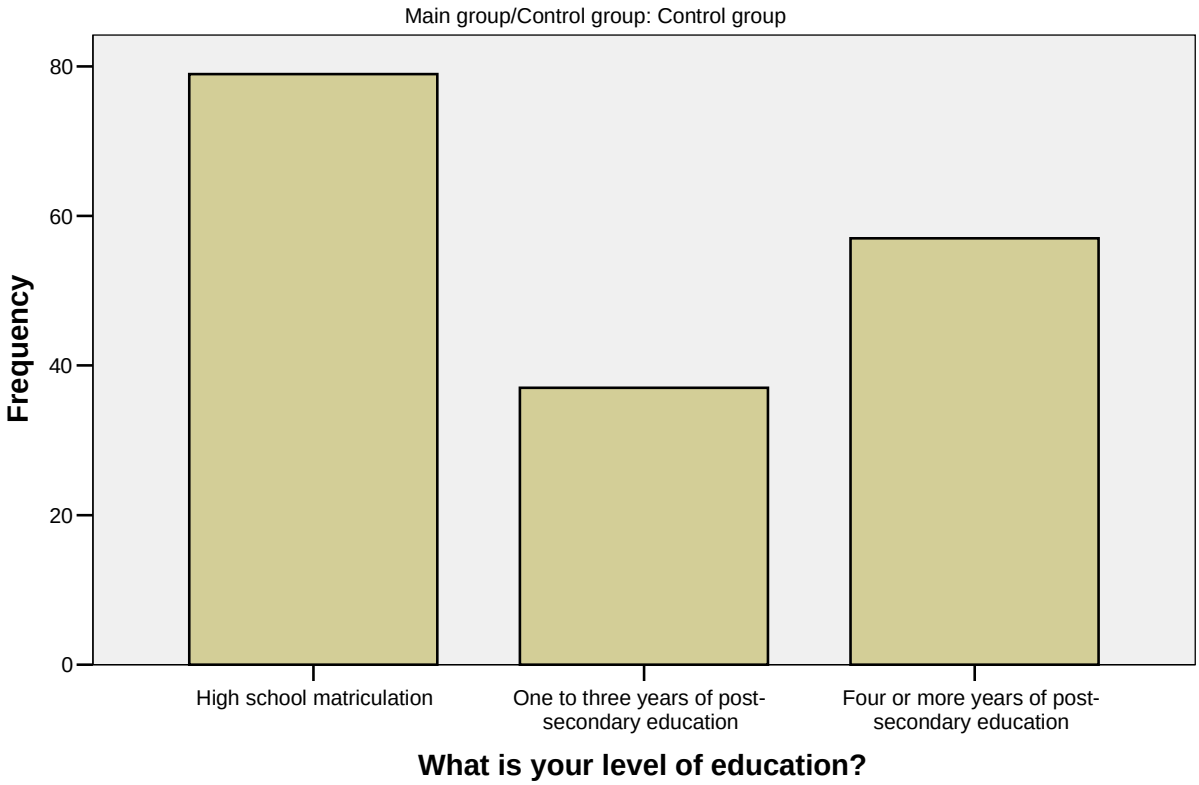
What is your age grouping?



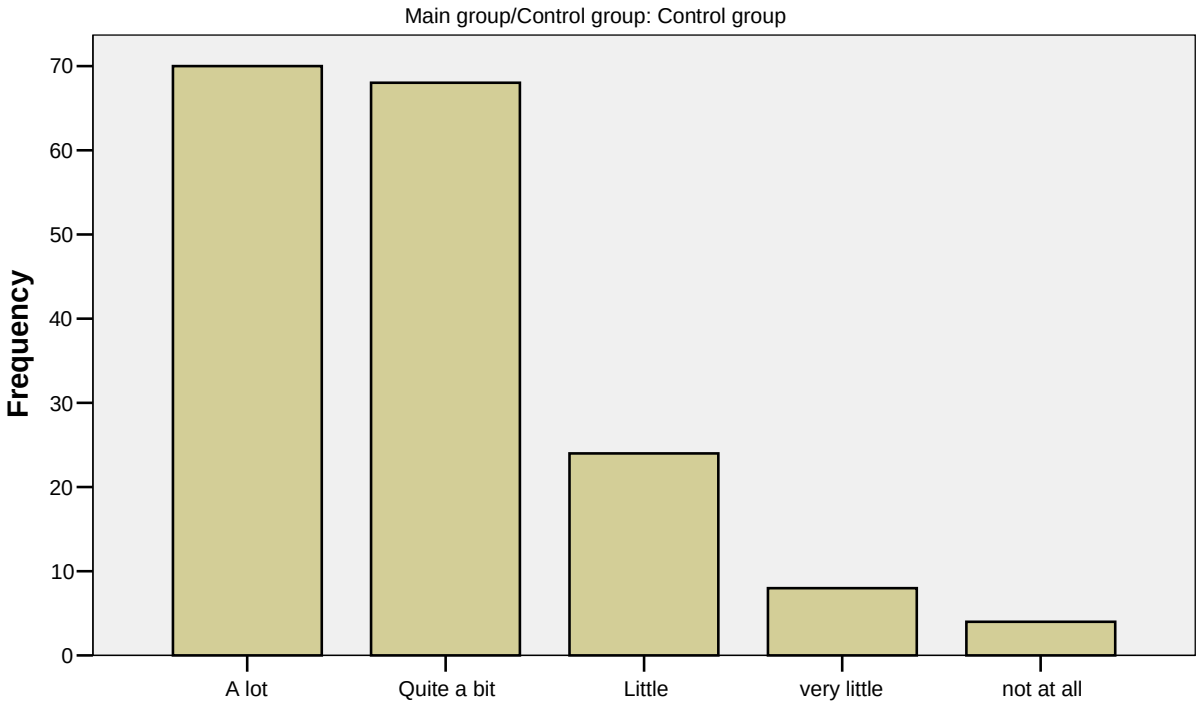
Gender


Main group/Control group: Control group
120
100
80
60
40
20
0
Frequency
Male
Female
Gender

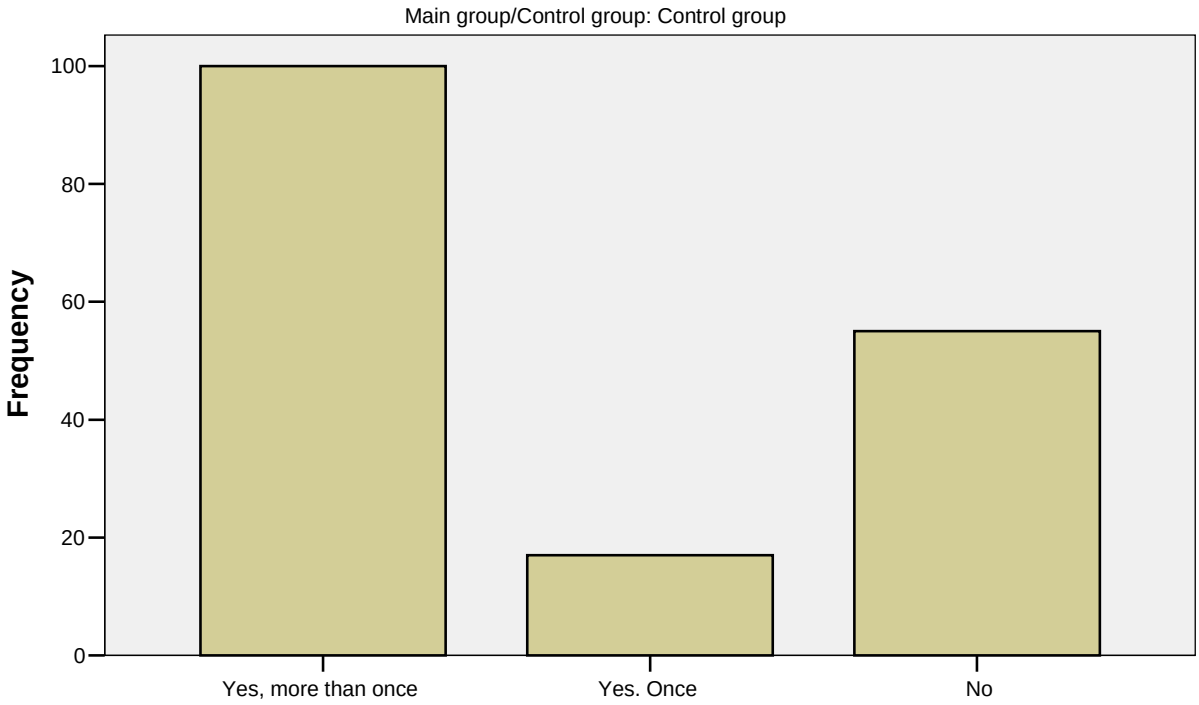
What is your level of education?



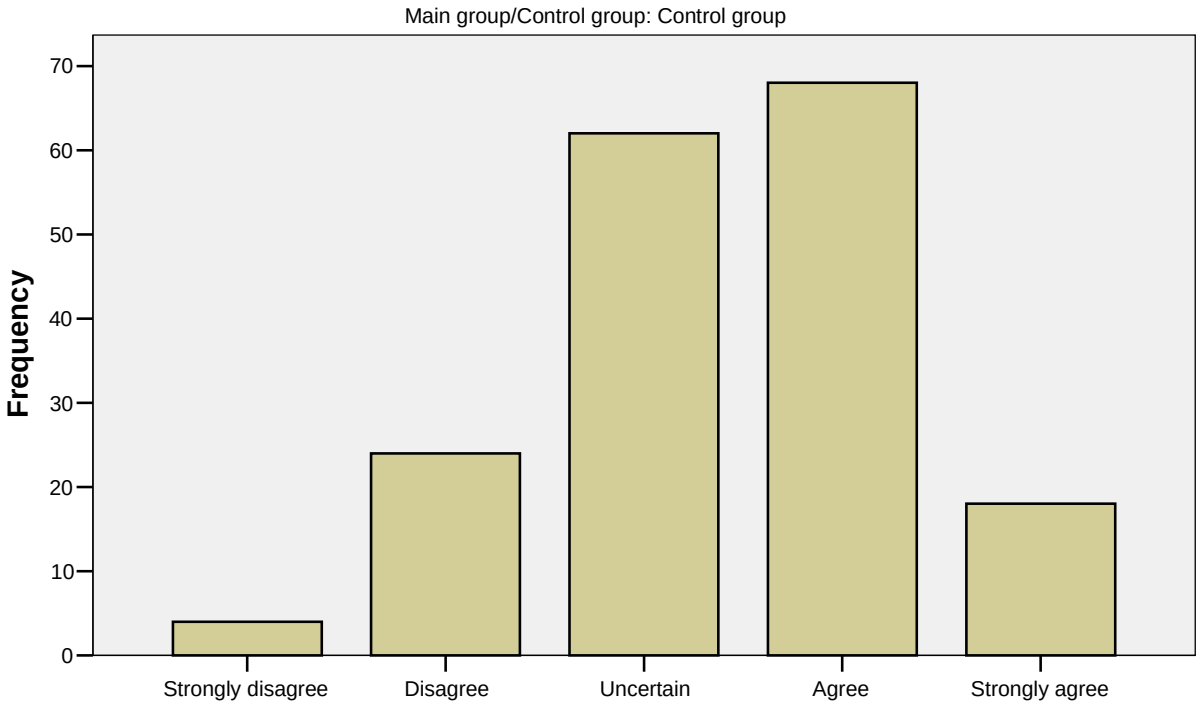
To what extent have you used advanced technological equipment in your professional life?



Have you had to change your way of working because of technological developments?

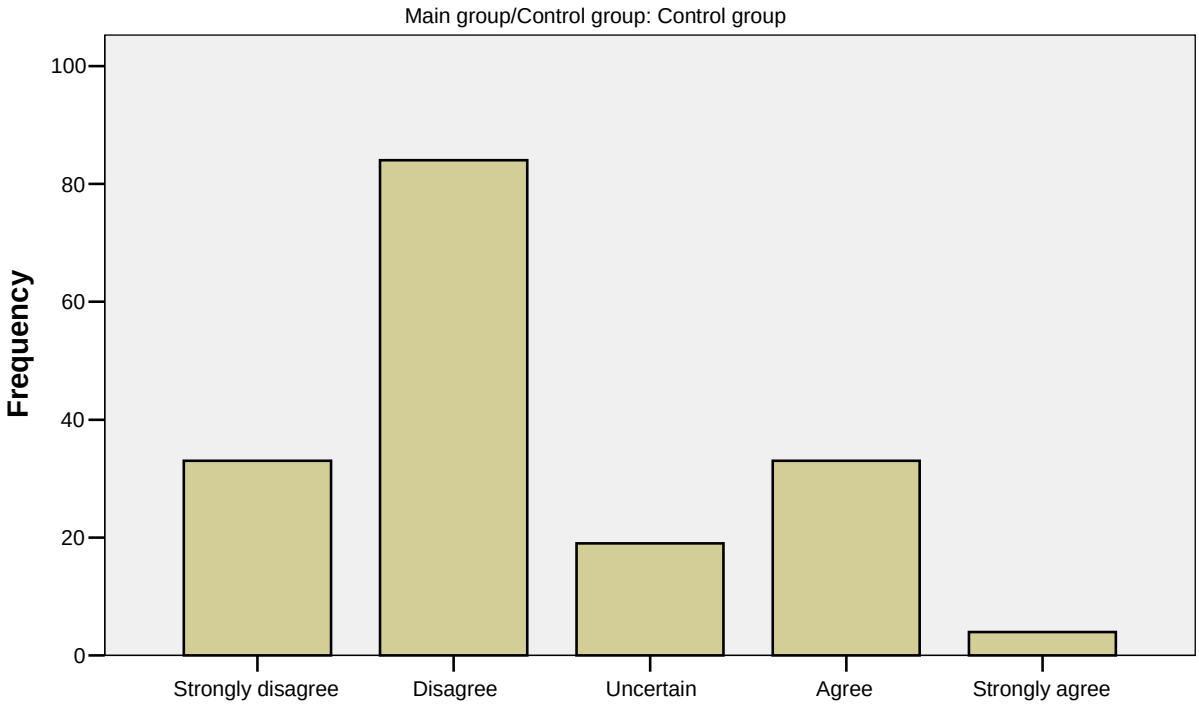


Thanks to technology, the problems of access to learning for students with disabilities have been resolved

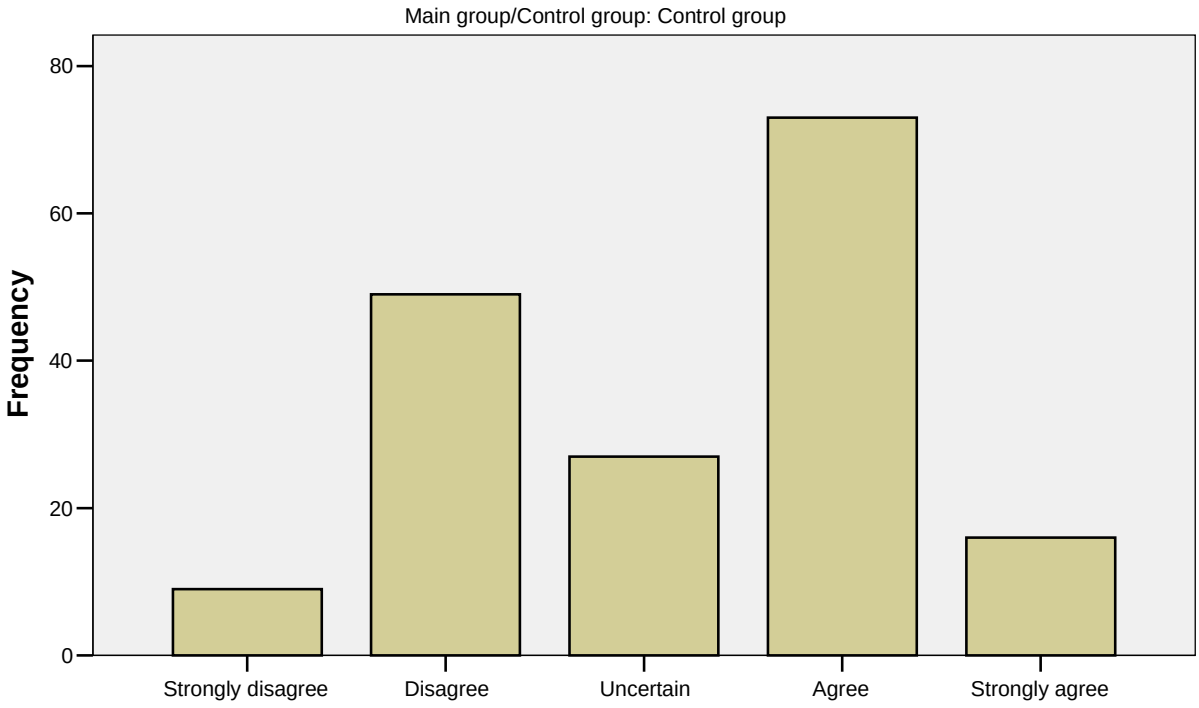


Thanks to technology, the problems of access to learning for students with disabilities have been resolved

Contacts between students and teachers can have the same intensity in online education as in face-to-face education

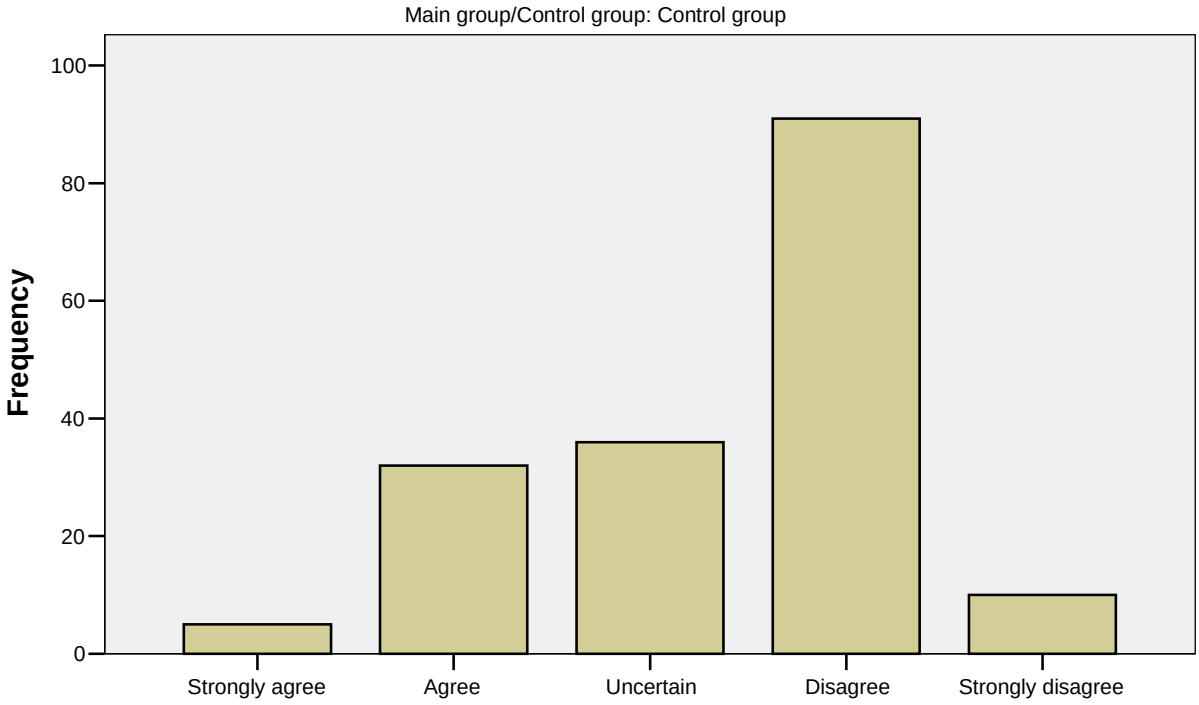


Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

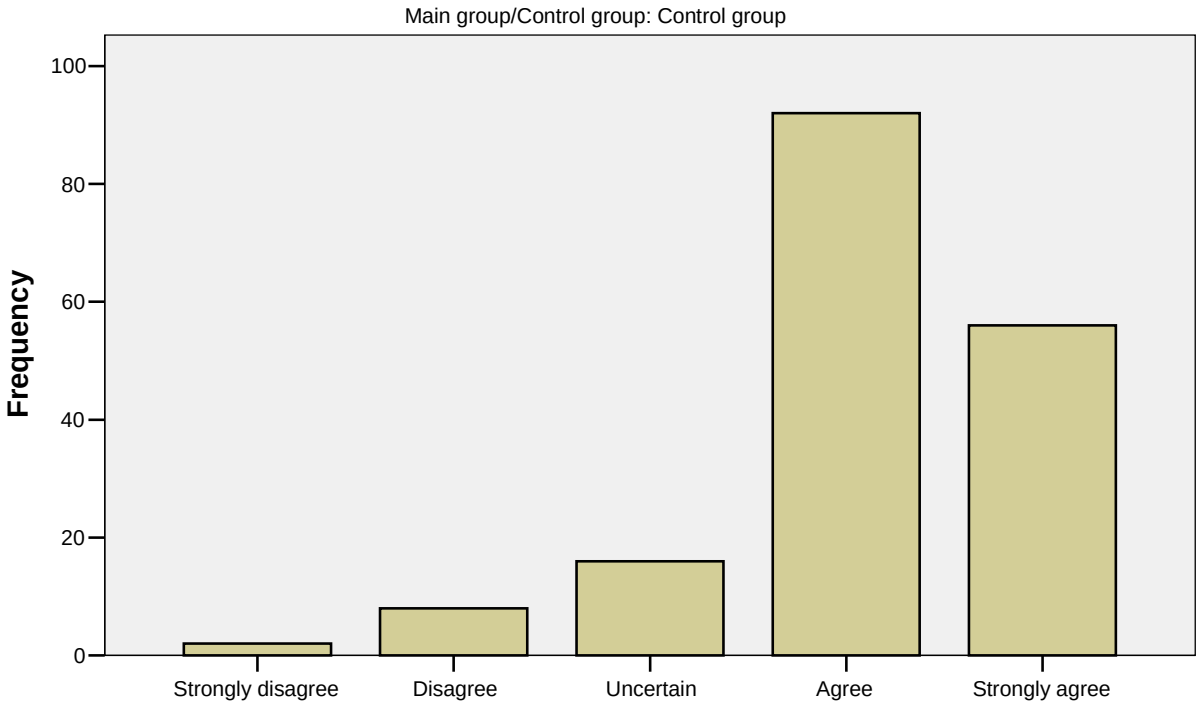


Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

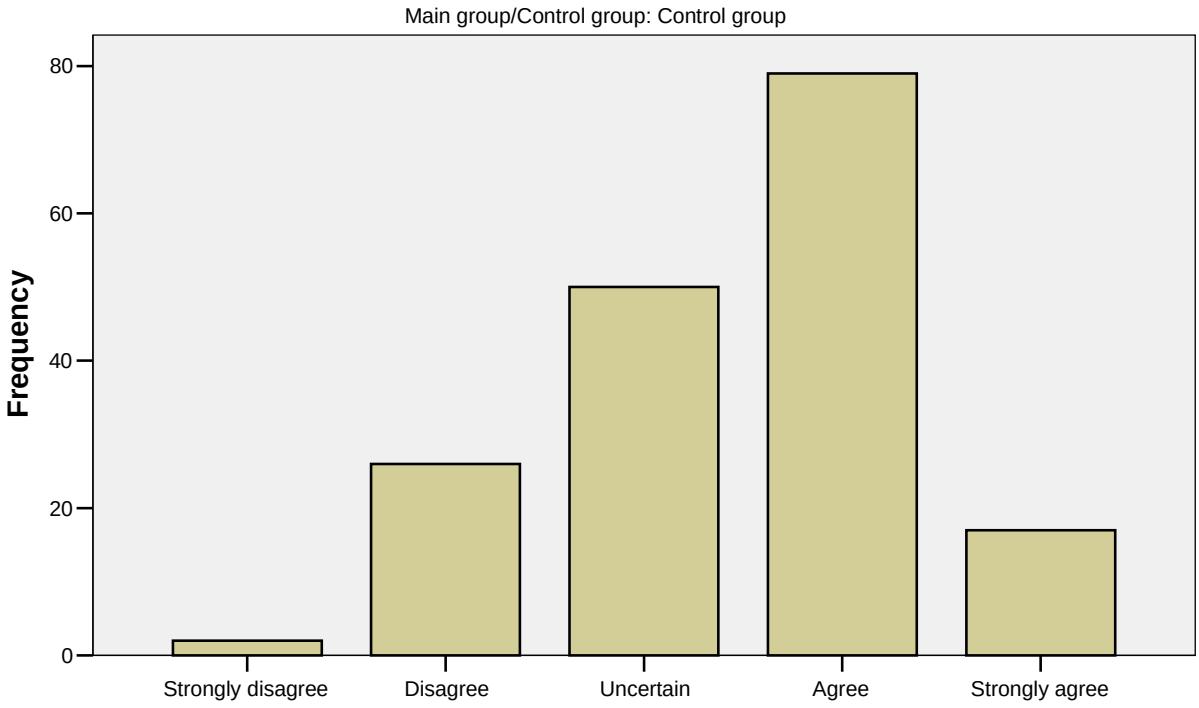
Only optimistic people think that the impact of technology on learning is beneficial



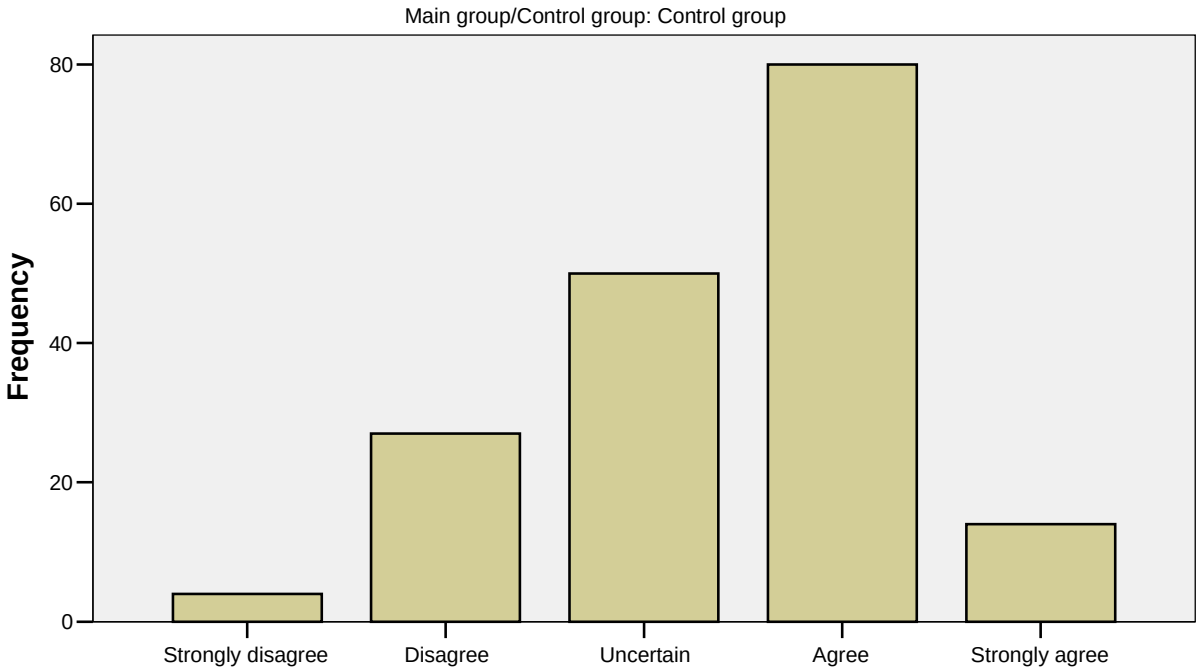
From my personal study experience I find that the impact of technology on learning is valuable



Information and communications technology has usually been used to encourage us to be active participants in learning

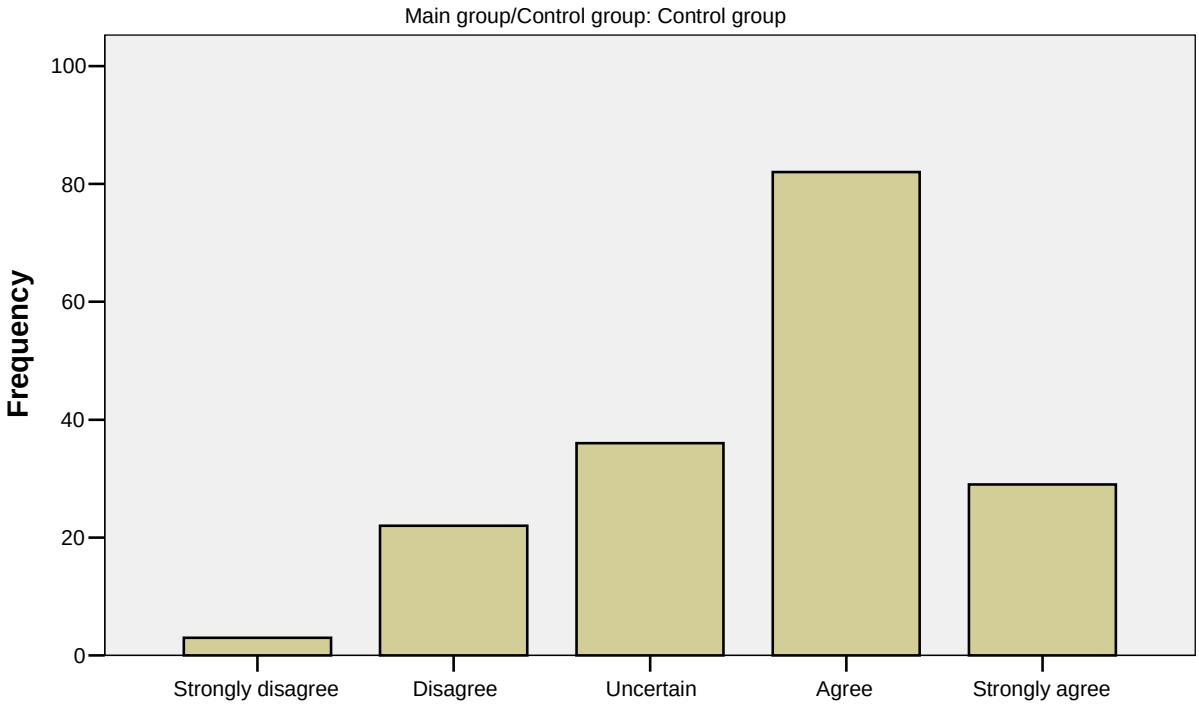


Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

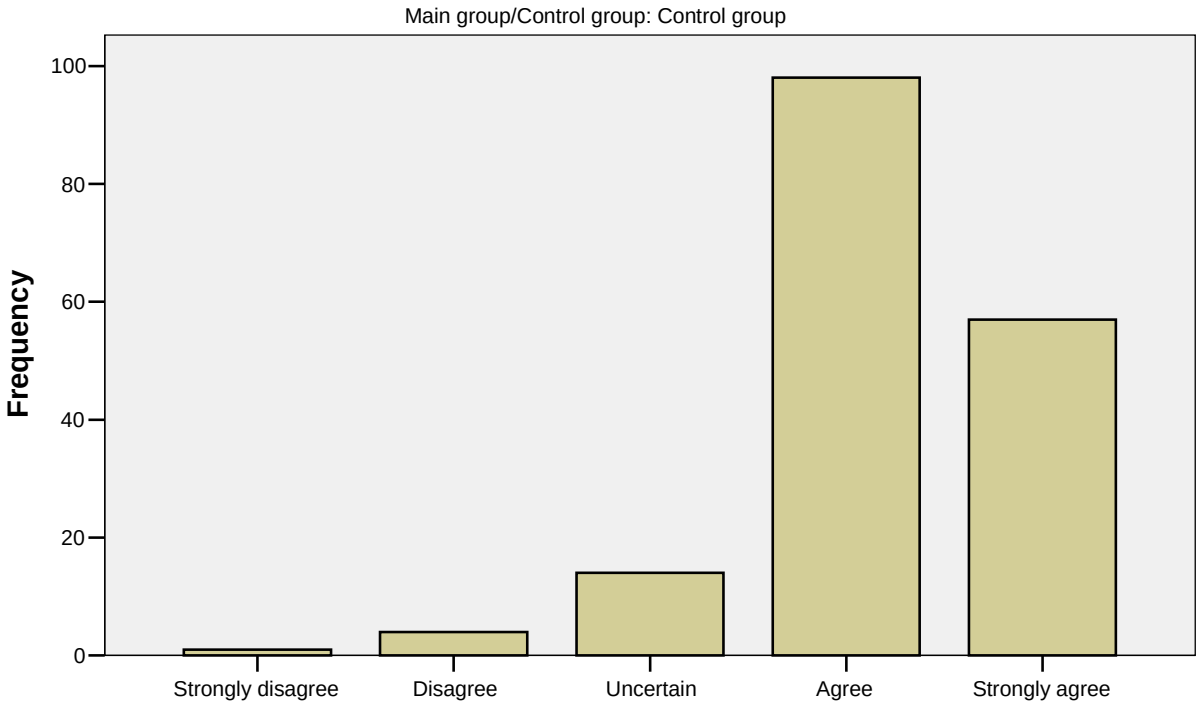


Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

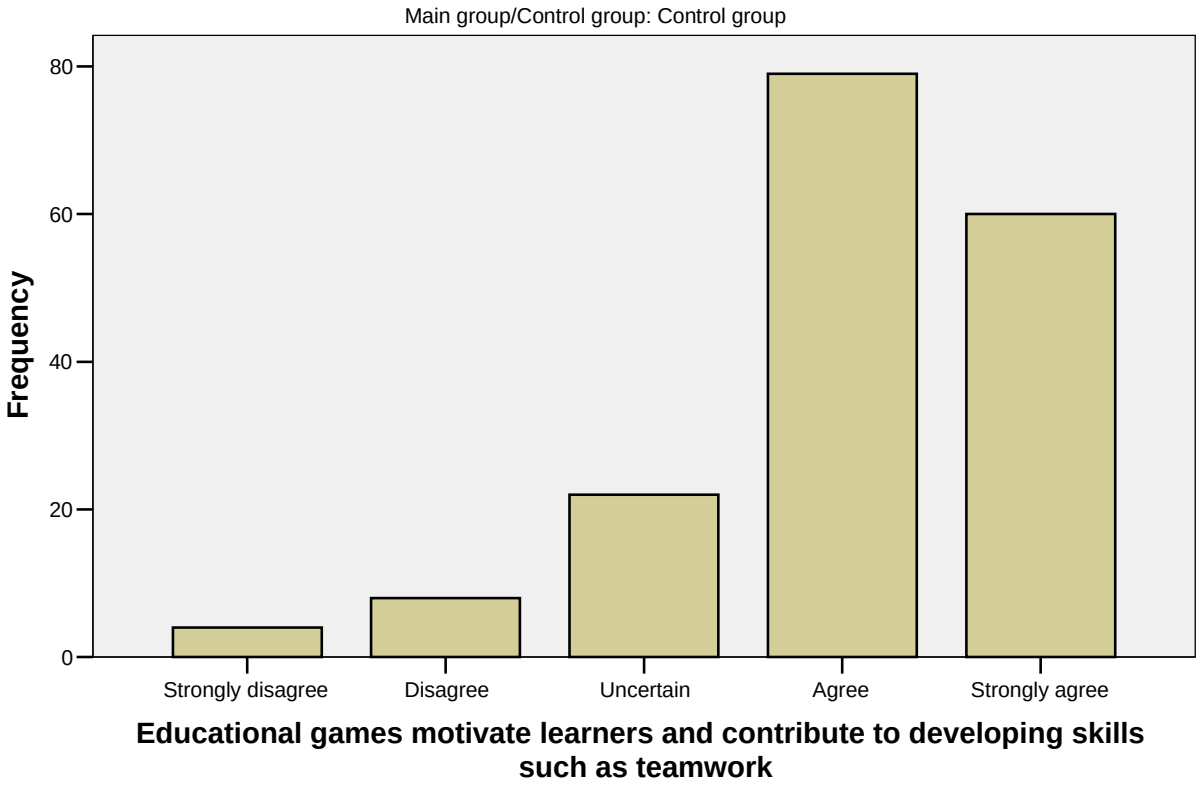
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs



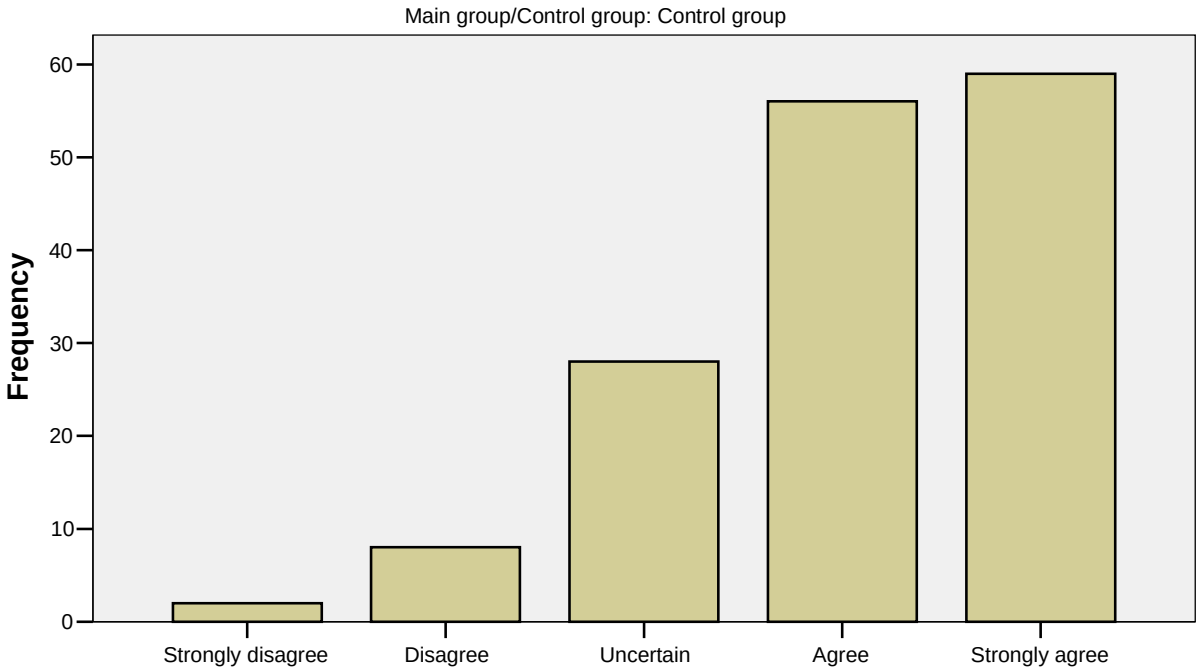
Learning is enhanced when text and pictures are integrated in a multimedia environment



Educational games motivate learners and contribute to developing skills such as teamwork

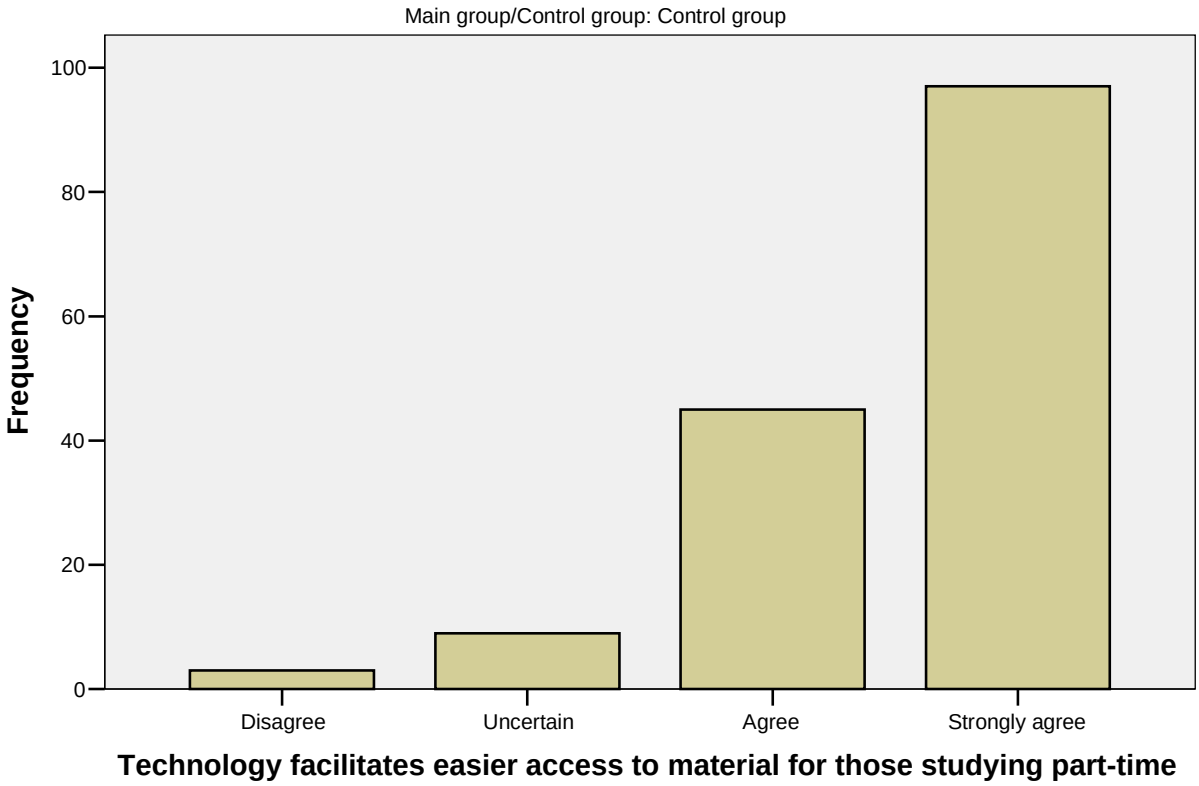


The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

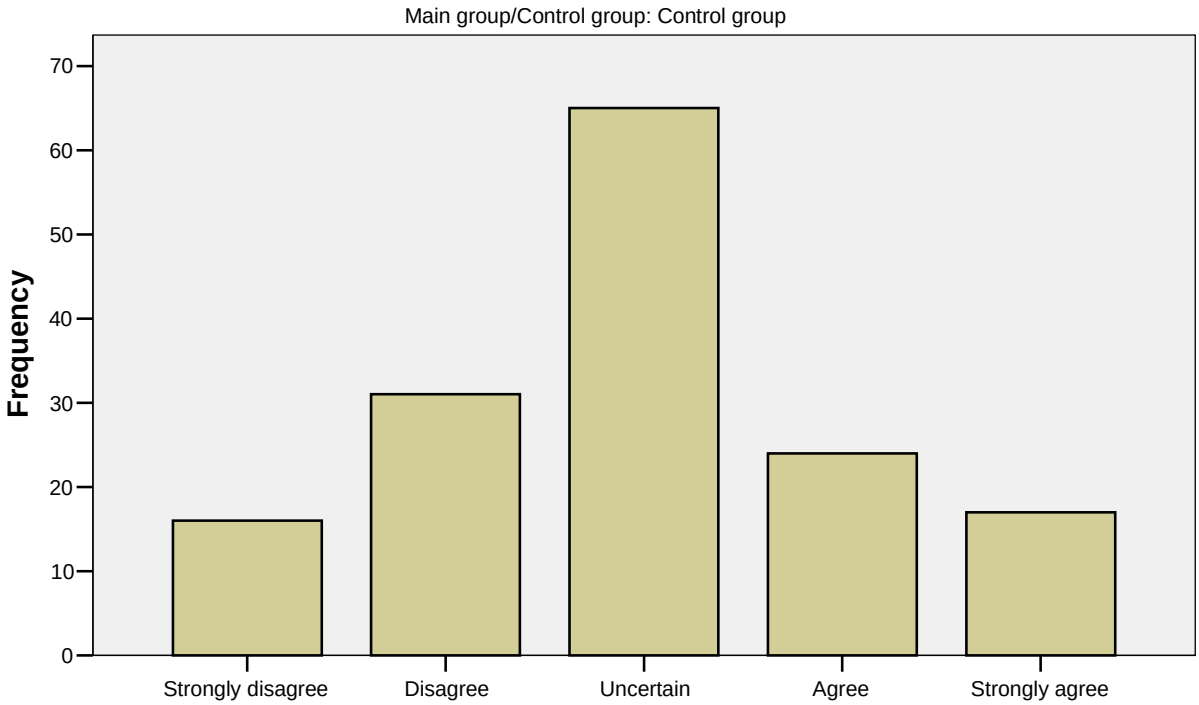


The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Technology facilitates easier access to material for those studying part-time

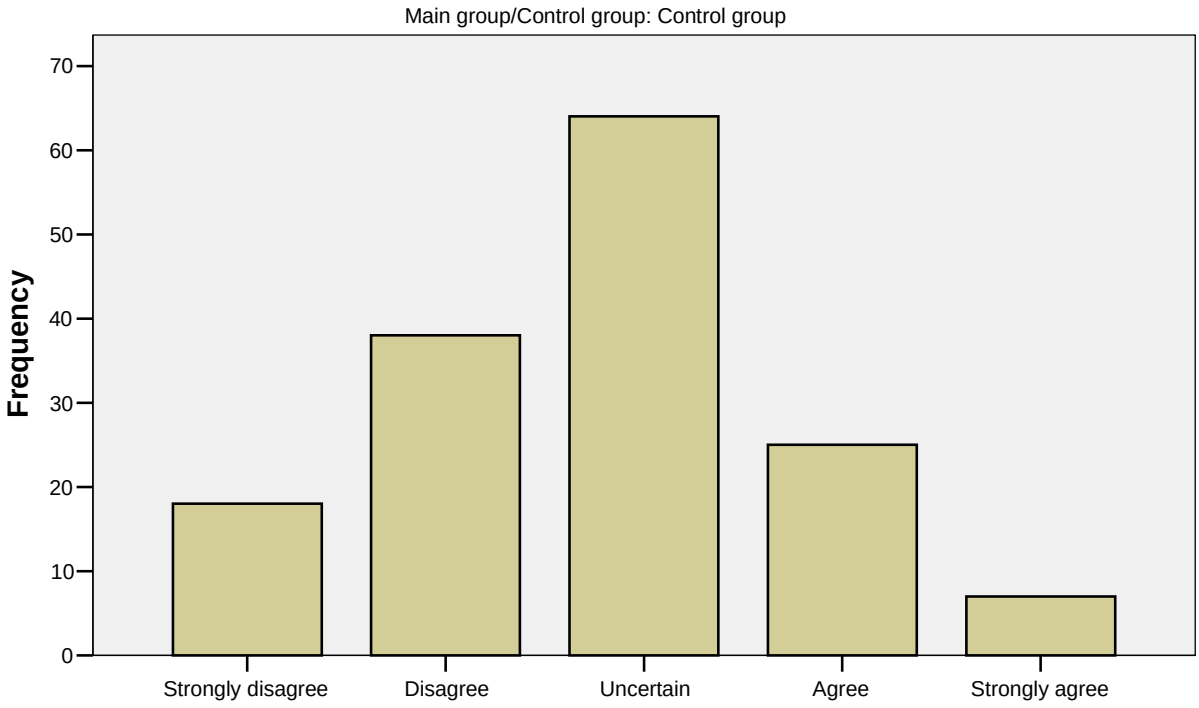


University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities



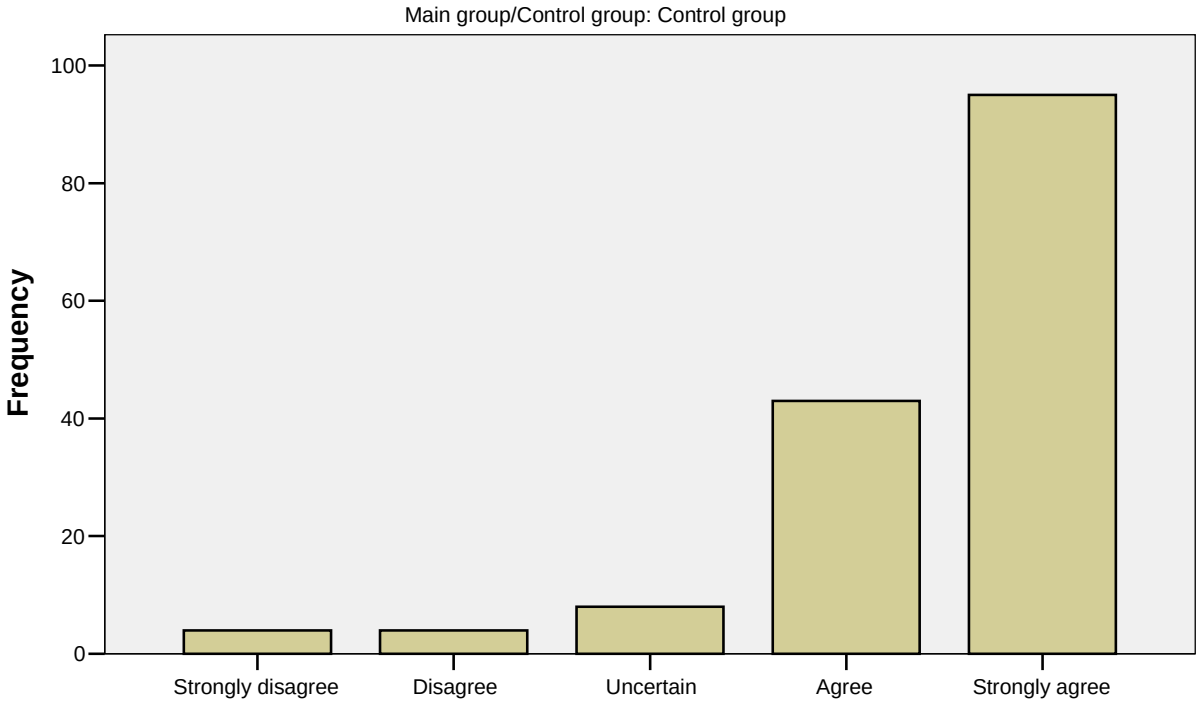
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university



There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Study at an Open University is especially of advantage to adults who have work and family obligations



B.11 Analysis of Variance (One-Way ANOVA for Variable Age)

		Sum of Squares	df	Mean Square
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Between Groups	7,832	4	1,958
	Within Groups	267,549	354	,756
	Total	275,382	358	
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Between Groups	15,325	4	3,831
	Within Groups	431,181	351	1,228
	Total	446,506	355	
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Between Groups	2,657	4	,664
	Within Groups	427,147	352	1,213
	Total	429,804	356	
Only optimistic people think that the impact of technology on learning is beneficial	Between Groups	3,590	4	,897
	Within Groups	352,242	352	1,001
	Total	355,832	356	
From my personal study experience I find that the impact of technology on learning is valuable	Between Groups	1,390	4	,347
	Within Groups	234,128	352	,665
	Total	235,518	356	
Information and communications technology has usually been used to encourage	Between Groups	8,745	4	2,186
	Within Groups	267,832	352	,761
	Total	276,577	356	
Information and communications technology has been used to support the	Between Groups	18,891	4	4,723
	Within Groups	273,914	353	,776
	Total	292,804	357	
Information and communications technology has been used to support more	Between Groups	10,708	4	2,677
	Within Groups	320,035	350	,914
	Total	330,744	354	
Learning is enhanced when text and pictures are integrated in a multimedia environment	Between Groups	3,903	4	,976
	Within Groups	236,388	352	,672
	Total	240,291	356	
Educational games motivate learners and contribute to developing skills such as teamwork	Between Groups	8,417	4	2,104
	Within Groups	353,830	351	1,008
	Total	362,247	355	
The application of new ICT concepts to support learning and teaching and provide Internet access to	Between Groups	14,517	4	3,629
	Within Groups	223,471	331	,675
	Total	237,988	335	
Technology facilitates easier access to material for those studying part-time	Between Groups	4,399	4	1,100
	Within Groups	210,942	332	,635
	Total	215,341	336	
University degrees awarded by open universities may be comparable to degrees	Between Groups	27,261	4	6,815
	Within Groups	436,311	331	1,318
	Total	463,571	335	
There is no difference in learning outcomes between studying at an Open University or at a	Between Groups	17,158	4	4,289
	Within Groups	384,526	330	1,165
	Total	401,684	334	
Study at an Open University is especially of advantage to adults who have work and family	Between Groups	28,277	4	7,069
	Within Groups	156,501	332	,471
	Total	184,777	336	

ANOVA

		F	Sig.
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Between Groups Within Groups Total	2,591	,037
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Between Groups Within Groups Total	3,119	,015
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Between Groups Within Groups Total	,547	,701
Only optimistic people think that the impact of technology on learning is beneficial	Between Groups Within Groups Total	,897	,466
From my personal study experience I find that the impact of technology on learning is valuable	Between Groups Within Groups Total	,522	,719
Information and communications technology has usually been used to encourage	Between Groups Within Groups Total	2,873	,023
Information and communications technology has been used to support the	Between Groups Within Groups Total	6,086	,000
Information and communications technology has been used to support more	Between Groups Within Groups Total	2,928	,021
Learning is enhanced when text and pictures are integrated in a multimedia environment	Between Groups Within Groups Total	1,453	,216
Educational games motivate learners and contribute to developing skills such as teamwork	Between Groups Within Groups Total	2,087	,082
The application of new ICT concepts to support learning and teaching and provide Internet access to	Between Groups Within Groups Total	5,375	,000
Technology facilitates easier access to material for those studying part-time	Between Groups Within Groups Total	1,731	,143
University degrees awarded by open universities may be comparable to degrees	Between Groups Within Groups Total	5,170	,000
There is no difference in learning outcomes between studying at an Open University or at a	Between Groups Within Groups Total	3,681	,006
Study at an Open University is especially of advantage to adults who have work and family	Between Groups Within Groups Total	14,996	,000

Post Hoc Tests

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	Mean Difference (I-J)	Std. Error	Sig.
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	24 or younger	25-29	-,333	,145	,261
		30-40	-,217	,137	,648
		41-50	-,311	,156	,411
		over 50	,147	,207	,973
	25-29	24 or younger	,333	,145	,261
		30-40	,117	,121	,921
		41-50	,022	,142	1,000
		over 50	,480	,197	,204
	30-40	24 or younger	,217	,137	,648
		25-29	-,117	,121	,921
		41-50	-,095	,135	,974
		over 50	,363	,191	,462
	41-50	24 or younger	,311	,156	,411
		25-29	-,022	,142	1,000
		30-40	,095	,135	,974
		over 50	,458	,205	,290
	over 50	24 or younger	-,147	,207	,973
		25-29	-,480	,197	,204
		30-40	-,363	,191	,462
		41-50	-,458	,205	,290
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	24 or younger	25-29	,211	,186	,863
		30-40	-,071	,176	,997
		41-50	-,376	,200	,475
		over 50	,273	,264	,899
	25-29	24 or younger	-,211	,186	,863
		30-40	-,282	,155	,511
		41-50	-,587*	,182	,036
		over 50	,062	,251	1,000
	30-40	24 or younger	,071	,176	,997
		25-29	,282	,155	,511
		41-50	-,305	,172	,534
		over 50	,344	,244	,738
	41-50	24 or younger	,376	,200	,475
		25-29	,587*	,182	,036
		30-40	,305	,172	,534
		over 50	,649	,261	,190
	over 50	24 or younger	-,273	,264	,899
		25-29	-,062	,251	1,000
		30-40	-,344	,244	,738
		41-50	-,649	,261	,190
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	24 or younger	25-29	,008	,184	1,000
		30-40	-,117	,174	,978
		41-50	-,224	,198	,865
		over 50	-,153	,262	,987
	25-29	24 or younger	-,008	,184	1,000
		30-40	-,124	,155	,958
		41-50	-,232	,181	,802
		over 50	-,161	,250	,981
	30-40	24 or younger	,117	,174	,978
		25-29	,124	,155	,958
		41-50	-,107	,171	,983
		over 50	-,037	,242	1,000

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	Mean Difference (I-J)	Std. Error	Sig.
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	41-50	24 or younger	,224	,198	,865
		25-29	,232	,181	,802
		30-40	,107	,171	,983
		over 50	,071	,260	,999
	over 50	24 or younger	,153	,262	,987
		25-29	,161	,250	,981
		30-40	,037	,242	1,000
		41-50	-,071	,260	,999
Only optimistic people think that the impact of technology on learning is beneficial	24 or younger	25-29	-,017	,167	1,000
		30-40	-,200	,158	,809
		41-50	,016	,180	1,000
		over 50	,083	,242	,998
	25-29	24 or younger	,017	,167	1,000
		30-40	-,183	,140	,788
		41-50	,032	,164	1,000
		over 50	,100	,230	,996
	30-40	24 or younger	,200	,158	,809
		25-29	,183	,140	,788
		41-50	,216	,155	,747
		over 50	,283	,224	,808
	41-50	24 or younger	-,016	,180	1,000
		25-29	-,032	,164	1,000
		30-40	-,216	,155	,747
		over 50	,068	,239	,999
	over 50	24 or younger	-,083	,242	,998
		25-29	-,100	,230	,996
		30-40	-,283	,224	,808
		41-50	-,068	,239	,999
From my personal study experience I find that the impact of technology on learning is valuable	24 or younger	25-29	-,022	,136	1,000
		30-40	-,153	,129	,844
		41-50	-,107	,147	,970
		over 50	-,047	,194	1,000
	25-29	24 or younger	,022	,136	1,000
		30-40	-,131	,114	,859
		41-50	-,085	,133	,982
		over 50	-,024	,184	1,000
	30-40	24 or younger	,153	,129	,844
		25-29	,131	,114	,859
		41-50	,046	,127	,998
		over 50	,106	,180	,986
	41-50	24 or younger	,107	,147	,970
		25-29	,085	,133	,982
		30-40	-,046	,127	,998
		over 50	,061	,192	,999
	over 50	24 or younger	,047	,194	1,000
		25-29	,024	,184	1,000
		30-40	-,106	,180	,986
		41-50	-,061	,192	,999
Information and communications technology has usually been used to encourage us to be active participants	24 or younger	25-29	,396	,146	,119
		30-40	,313	,138	,275
		41-50	,186	,157	,841
		over 50	,573	,208	,109

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	Mean Difference (I-J)	Std. Error	Sig.
Information and communications technology has usually been used to encourage us to be active participants in learning	25-29	24 or younger	-,396	,146	,119
		30-40	-,083	,122	,977
		41-50	-,210	,143	,708
		over 50	,177	,197	,938
	30-40	24 or younger	-,313	,138	,275
		25-29	,083	,122	,977
		41-50	-,127	,135	,927
		over 50	,260	,192	,765
	41-50	24 or younger	-,186	,157	,841
		25-29	,210	,143	,708
		30-40	,127	,135	,927
		over 50	,387	,206	,474
	over 50	24 or younger	-,573	,208	,109
		25-29	-,177	,197	,938
		30-40	-,260	,192	,765
		41-50	-,387	,206	,474
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	24 or younger	25-29	,490*	,147	,027
		30-40	,525*	,139	,007
		41-50	,584*	,158	,009
		over 50	,890*	,210	,001
	25-29	24 or younger	-,490*	,147	,027
		30-40	,035	,123	,999
		41-50	,094	,144	,980
		over 50	,400	,199	,405
	30-40	24 or younger	-,525*	,139	,007
		25-29	-,035	,123	,999
		41-50	,059	,136	,996
		over 50	,365	,194	,471
	41-50	24 or younger	-,584*	,158	,009
		25-29	-,094	,144	,980
		30-40	-,059	,136	,996
		over 50	,306	,208	,706
	over 50	24 or younger	-,890*	,210	,001
		25-29	-,400	,199	,405
		30-40	-,365	,194	,471
		41-50	-,306	,208	,706
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	24 or younger	25-29	,466	,161	,080
		30-40	,486*	,152	,039
		41-50	,421	,173	,209
		over 50	,321	,228	,739
	25-29	24 or younger	-,466	,161	,080
		30-40	,021	,134	1,000
		41-50	-,045	,157	,999
		over 50	-,144	,216	,979
	30-40	24 or younger	-,486*	,152	,039
		25-29	-,021	,134	1,000
		41-50	-,065	,149	,996
		over 50	-,165	,210	,961
	41-50	24 or younger	-,421	,173	,209
		25-29	,045	,157	,999
		30-40	,065	,149	,996
		over 50	-,100	,226	,996

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	Mean Difference (I-J)	Std. Error	Sig.
Information and communications technology has been used to support more individualized learning	over 50	24 or younger	-,321	,228	,739
		25-29	,144	,216	,979
		30-40	,165	,210	,961
		41-50	,100	,226	,996
Learning is enhanced when text and pictures are integrated in a multimedia environment	24 or younger	25-29	,198	,138	,721
		30-40	,239	,130	,501
		41-50	,275	,148	,485
		over 50	,402	,196	,378
	25-29	24 or younger	-,198	,138	,721
		30-40	,040	,115	,998
		41-50	,077	,134	,988
		over 50	,204	,185	,877
	30-40	24 or younger	-,239	,130	,501
		25-29	-,040	,115	,998
		41-50	,036	,127	,999
		over 50	,163	,180	,935
	41-50	24 or younger	-,275	,148	,485
		25-29	-,077	,134	,988
		30-40	-,036	,127	,999
		over 50	,127	,193	,980
	over 50	24 or younger	-,402	,196	,378
		25-29	-,204	,185	,877
		30-40	-,163	,180	,935
		41-50	-,127	,193	,980
Educational games motivate learners and contribute to developing skills such as teamwork	24 or younger	25-29	-,222	,167	,779
		30-40	,061	,159	,997
		41-50	,202	,182	,872
		over 50	,207	,239	,945
	25-29	24 or younger	,222	,167	,779
		30-40	,283	,140	,398
		41-50	,424	,166	,164
		over 50	,429	,227	,468
	30-40	24 or younger	-,061	,159	,997
		25-29	-,283	,140	,398
		41-50	,141	,157	,937
		over 50	,146	,221	,979
	41-50	24 or younger	-,202	,182	,872
		25-29	-,424	,166	,164
		30-40	-,141	,157	,937
		over 50	,005	,238	1,000
	over 50	24 or younger	-,207	,239	,945
		25-29	-,429	,227	,468
		30-40	-,146	,221	,979
		41-50	-,005	,238	1,000
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	24 or younger	25-29	-,399	,140	,090
		30-40	-,533*	,133	,003
		41-50	-,519*	,153	,023
		over 50	-,005	,227	1,000
	25-29	24 or younger	,399	,140	,090
		30-40	-,134	,116	,855
		41-50	-,121	,139	,945
		over 50	,394	,218	,516

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	Mean Difference (I-J)	Std. Error	Sig.
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	30-40	24 or younger	,533*	,133	,003
		25-29	,134	,116	,855
		41-50	,014	,132	1,000
		over 50	,528	,213	,193
	41-50	24 or younger	,519*	,153	,023
		25-29	,121	,139	,945
		30-40	-,014	,132	1,000
		over 50	,514	,227	,275
	over 50	24 or younger	,005	,227	1,000
		25-29	-,394	,218	,516
		30-40	-,528	,213	,193
		41-50	-,514	,227	,275
Technology facilitates easier access to material for those studying part-time	24 or younger	25-29	-,351	,135	,154
		30-40	-,229	,128	,526
		41-50	-,259	,148	,550
		over 50	-,188	,220	,948
	25-29	24 or younger	,351	,135	,154
		30-40	,122	,113	,884
		41-50	,092	,135	,977
		over 50	,163	,211	,964
	30-40	24 or younger	,229	,128	,526
		25-29	-,122	,113	,884
		41-50	-,030	,128	1,000
		over 50	,041	,207	1,000
	41-50	24 or younger	,259	,148	,550
		25-29	-,092	,135	,977
		30-40	,030	,128	1,000
		over 50	,071	,220	,999
	over 50	24 or younger	,188	,220	,948
		25-29	-,163	,211	,964
		30-40	-,041	,207	1,000
		41-50	-,071	,220	,999
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	24 or younger	25-29	-,043	,195	1,000
		30-40	-,545	,184	,070
		41-50	-,707*	,213	,028
		over 50	-,457	,317	,720
	25-29	24 or younger	,043	,195	1,000
		30-40	-,502	,163	,052
		41-50	-,664*	,195	,022
		over 50	-,415	,305	,763
	30-40	24 or younger	,545	,184	,070
		25-29	,502	,163	,052
		41-50	-,162	,184	,943
		over 50	,088	,298	,999
	41-50	24 or younger	,707*	,213	,028
		25-29	,664*	,195	,022
		30-40	,162	,184	,943
		over 50	,249	,317	,961
	over 50	24 or younger	,457	,317	,720
		25-29	,415	,305	,763
		30-40	-,088	,298	,999
		41-50	-,249	,317	,961

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	Mean Difference (I-J)	Std. Error	Sig.
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	24 or younger	25-29	-,021	,184	1,000
		30-40	-,343	,173	,420
		41-50	-,621	,200	,050
		over 50	-,162	,298	,990
	25-29	24 or younger	,021	,184	1,000
		30-40	-,322	,154	,360
		41-50	-,600*	,184	,033
		over 50	-,141	,287	,993
	30-40	24 or younger	,343	,173	,420
		25-29	,322	,154	,360
		41-50	-,278	,173	,632
		over 50	,180	,280	,981
	41-50	24 or younger	,621	,200	,050
		25-29	,600*	,184	,033
		30-40	,278	,173	,632
		over 50	,458	,298	,668
	over 50	24 or younger	,162	,298	,990
		25-29	,141	,287	,993
		30-40	-,180	,280	,981
		41-50	-,458	,298	,668
Study at an Open University is especially of advantage to adults who have work and family obligations	24 or younger	25-29	-,718*	,116	,000
		30-40	-,760*	,110	,000
		41-50	-,828*	,127	,000
		over 50	-,478	,189	,176
	25-29	24 or younger	,718*	,116	,000
		30-40	-,042	,097	,996
		41-50	-,109	,116	,927
		over 50	,241	,182	,782
	30-40	24 or younger	,760*	,110	,000
		25-29	,042	,097	,996
		41-50	-,067	,110	,985
		over 50	,283	,178	,642
	41-50	24 or younger	,828*	,127	,000
		25-29	,109	,116	,927
		30-40	,067	,110	,985
		over 50	,350	,189	,492
	over 50	24 or younger	,478	,189	,176
		25-29	-,241	,182	,782
		30-40	-,283	,178	,642
		41-50	-,350	,189	,492

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	95% Confidence Interval	
			Lower Bound	Upper Bound
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	24 or younger	25-29	-,78	,12
		30-40	-,64	,21
		41-50	-,80	,17
		over 50	-,49	,79
	25-29	24 or younger	-,12	,78
		30-40	-,26	,49
		41-50	-,42	,46
		over 50	-,13	1,09
	30-40	24 or younger	-,21	,64
		25-29	-,49	,26
		41-50	-,51	,32
		over 50	-,23	,96
	41-50	24 or younger	-,17	,80
		25-29	-,46	,42
		30-40	-,32	,51
		over 50	-,18	1,09
	over 50	24 or younger	-,79	,49
		25-29	-1,09	,13
		30-40	-,96	,23
		41-50	-1,09	,18
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	24 or younger	25-29	-,37	,79
		30-40	-,62	,48
		41-50	-,99	,24
		over 50	-,55	1,09
	25-29	24 or younger	-,79	,37
		30-40	-,76	,20
		41-50	-1,15	-,02
		over 50	-,71	,84
	30-40	24 or younger	-,48	,62
		25-29	-,20	,76
		41-50	-,84	,23
		over 50	-,41	1,10
	41-50	24 or younger	-,24	,99
		25-29	,02	1,15
		30-40	-,23	,84
		over 50	-,16	1,46
	over 50	24 or younger	-1,09	,55
		25-29	-,84	,71
		30-40	-1,10	,41
		41-50	-1,46	,16
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	24 or younger	25-29	-,56	,58
		30-40	-,66	,42
		41-50	-,84	,39
		over 50	-,97	,66
	25-29	24 or younger	-,58	,56
		30-40	-,60	,35
		41-50	-,79	,33
		over 50	-,93	,61
	30-40	24 or younger	-,42	,66
		25-29	-,35	,60
		41-50	-,64	,42
		over 50	-,79	,71

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	95% Confidence Interval	
			Lower Bound	Upper Bound
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	41-50	24 or younger	-,39	,84
		25-29	-,33	,79
		30-40	-,42	,64
		over 50	-,73	,88
	over 50	24 or younger	-,66	,97
		25-29	-,61	,93
		30-40	-,71	,79
		41-50	-,88	,73
Only optimistic people think that the impact of technology on learning is beneficial	24 or younger	25-29	-,53	,50
		30-40	-,69	,29
		41-50	-,54	,57
		over 50	-,66	,83
	25-29	24 or younger	-,50	,53
		30-40	-,62	,25
		41-50	-,48	,54
		over 50	-,61	,81
	30-40	24 or younger	-,29	,69
		25-29	-,25	,62
		41-50	-,26	,70
		over 50	-,41	,98
	41-50	24 or younger	-,57	,54
		25-29	-,54	,48
		30-40	-,70	,26
		over 50	-,67	,81
	over 50	24 or younger	-,83	,66
		25-29	-,81	,61
		30-40	-,98	,41
		41-50	-,81	,67
From my personal study experience I find that the impact of technology on learning is valuable	24 or younger	25-29	-,44	,40
		30-40	-,55	,25
		41-50	-,56	,35
		over 50	-,65	,55
	25-29	24 or younger	-,40	,44
		30-40	-,48	,22
		41-50	-,50	,33
		over 50	-,60	,55
	30-40	24 or younger	-,25	,55
		25-29	-,22	,48
		41-50	-,35	,44
		over 50	-,45	,66
	41-50	24 or younger	-,35	,56
		25-29	-,33	,50
		30-40	-,44	,35
		over 50	-,54	,66
	over 50	24 or younger	-,55	,65
		25-29	-,55	,60
		30-40	-,66	,45
		41-50	-,66	,54
Information and communications technology has usually been used to encourage us to be active participants	24 or younger	25-29	-,05	,85
		30-40	-,11	,74
		41-50	-,30	,67
		over 50	-,07	1,22

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	95% Confidence Interval	
			Lower Bound	Upper Bound
Information and communications technology has usually been used to encourage us to be active participants in learning	25-29	24 or younger	-,85	,05
		30-40	-,46	,30
		41-50	-,65	,23
		over 50	-,43	,79
	30-40	24 or younger	-,74	,11
		25-29	-,30	,46
		41-50	-,55	,29
		over 50	-,33	,85
	41-50	24 or younger	-,67	,30
		25-29	-,23	,65
		30-40	-,29	,55
		over 50	-,25	1,02
	over 50	24 or younger	-1,22	,07
		25-29	-,79	,43
		30-40	-,85	,33
		41-50	-1,02	,25
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	24 or younger	25-29	,03	,95
		30-40	,09	,96
		41-50	,09	1,07
		over 50	,24	1,54
	25-29	24 or younger	-,95	-,03
		30-40	-,35	,42
		41-50	-,35	,54
		over 50	-,22	1,02
	30-40	24 or younger	-,96	-,09
		25-29	-,42	,35
		41-50	-,36	,48
		over 50	-,23	,96
	41-50	24 or younger	-1,07	-,09
		25-29	-,54	,35
		30-40	-,48	,36
		over 50	-,34	,95
	over 50	24 or younger	-1,54	-,24
		25-29	-1,02	,22
		30-40	-,96	,23
		41-50	-,95	,34
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	24 or younger	25-29	-,03	,96
		30-40	,01	,96
		41-50	-,12	,96
		over 50	-,39	1,03
	25-29	24 or younger	-,96	,03
		30-40	-,39	,44
		41-50	-,53	,44
		over 50	-,81	,53
	30-40	24 or younger	-,96	-,01
		25-29	-,44	,39
		41-50	-,53	,40
		over 50	-,82	,49
	41-50	24 or younger	-,96	,12
		25-29	-,44	,53
		30-40	-,40	,53
		over 50	-,80	,60

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	95% Confidence Interval	
			Lower Bound	Upper Bound
Information and communications technology has been used to support more individualized learning	over 50	24 or younger	-1,03	,39
		25-29	-,53	,81
		30-40	-,49	,82
		41-50	-,60	,80
Learning is enhanced when text and pictures are integrated in a multimedia environment	24 or younger	25-29	-,23	,62
		30-40	-,16	,64
		41-50	-,18	,73
		over 50	-,20	1,01
	25-29	24 or younger	-,62	,23
		30-40	-,31	,40
		41-50	-,34	,49
		over 50	-,37	,78
	30-40	24 or younger	-,64	,16
		25-29	-,40	,31
		41-50	-,36	,43
		over 50	-,39	,72
	41-50	24 or younger	-,73	,18
		25-29	-,49	,34
		30-40	-,43	,36
		over 50	-,47	,73
	over 50	24 or younger	-1,01	,20
		25-29	-,78	,37
		30-40	-,72	,39
		41-50	-,73	,47
Educational games motivate learners and contribute to developing skills such as teamwork	24 or younger	25-29	-,74	,30
		30-40	-,43	,55
		41-50	-,36	,77
		over 50	-,53	,95
	25-29	24 or younger	-,30	,74
		30-40	-,15	,72
		41-50	-,09	,94
		over 50	-,27	1,13
	30-40	24 or younger	-,55	,43
		25-29	-,72	,15
		41-50	-,35	,63
		over 50	-,54	,83
	41-50	24 or younger	-,77	,36
		25-29	-,94	,09
		30-40	-,63	,35
		over 50	-,73	,74
	over 50	24 or younger	-,95	,53
		25-29	-1,13	,27
		30-40	-,83	,54
		41-50	-,74	,73
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	24 or younger	25-29	-,83	,04
		30-40	-,94	-,12
		41-50	-,99	-,04
		over 50	-,71	,70
	25-29	24 or younger	-,04	,83
		30-40	-,49	,23
		41-50	-,55	,31
		over 50	-,28	1,07

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	95% Confidence Interval	
			Lower Bound	Upper Bound
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	30-40	24 or younger	,12	,94
		25-29	-,23	,49
		41-50	-,40	,42
		over 50	-,13	1,19
	41-50	24 or younger	,04	,99
		25-29	-,31	,55
		30-40	-,42	,40
		over 50	-,19	1,22
	over 50	24 or younger	-,70	,71
		25-29	-1,07	,28
		30-40	-1,19	,13
		41-50	-1,22	,19
Technology facilitates easier access to material for those studying part-time	24 or younger	25-29	-,77	,07
		30-40	-,63	,17
		41-50	-,72	,20
		over 50	-,87	,49
	25-29	24 or younger	-,07	,77
		30-40	-,23	,47
		41-50	-,33	,51
		over 50	-,49	,82
	30-40	24 or younger	-,17	,63
		25-29	-,47	,23
		41-50	-,43	,37
		over 50	-,60	,68
	41-50	24 or younger	-,20	,72
		25-29	-,51	,33
		30-40	-,37	,43
		over 50	-,61	,75
	over 50	24 or younger	-,49	,87
		25-29	-,82	,49
		30-40	-,68	,60
		41-50	-,75	,61
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	24 or younger	25-29	-,65	,56
		30-40	-1,12	,03
		41-50	-1,37	-,05
		over 50	-1,44	,52
	25-29	24 or younger	-,56	,65
		30-40	-1,01	,00
		41-50	-1,27	-,06
		over 50	-1,36	,53
	30-40	24 or younger	-,03	1,12
		25-29	,00	1,01
		41-50	-,73	,41
		over 50	-,84	1,01
	41-50	24 or younger	,05	1,37
		25-29	,06	1,27
		30-40	-,41	,73
		over 50	-,73	1,23
	over 50	24 or younger	-,52	1,44
		25-29	-,53	1,36
		30-40	-1,01	,84
		41-50	-1,23	,73

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your age grouping?	(J) What is your age grouping?	95% Confidence Interval	
			Lower Bound	Upper Bound
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	24 or younger	25-29	-,59	,55
		30-40	-,88	,19
		41-50	-1,24	,00
		over 50	-1,08	,76
	25-29	24 or younger	-,55	,59
		30-40	-,80	,15
		41-50	-1,17	-,03
		over 50	-1,03	,75
	30-40	24 or younger	-,19	,88
		25-29	-,15	,80
		41-50	-,81	,26
		over 50	-,69	1,05
	41-50	24 or younger	,00	1,24
		25-29	,03	1,17
		30-40	-,26	,81
		over 50	-,46	1,38
	over 50	24 or younger	-,76	1,08
		25-29	-,75	1,03
		30-40	-1,05	,69
		41-50	-1,38	,46
Study at an Open University is especially of advantage to adults who have work and family obligations	24 or younger	25-29	-1,08	-,36
		30-40	-1,10	-,42
		41-50	-1,22	-,43
		over 50	-1,06	,11
	25-29	24 or younger	,36	1,08
		30-40	-,34	,26
		41-50	-,47	,25
		over 50	-,32	,80
	30-40	24 or younger	,42	1,10
		25-29	-,26	,34
		41-50	-,41	,27
		over 50	-,27	,83
	41-50	24 or younger	,43	1,22
		25-29	-,25	,47
		30-40	-,27	,41
		over 50	-,24	,94
	over 50	24 or younger	-,11	1,06
		25-29	-,80	,32
		30-40	-,83	,27
		41-50	-,94	,24

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Thanks to technology, the problems of access to learning for students with disabilities have been resolved

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
over 50	25	3,12
24 or younger	60	3,27
30-40	120	3,48
41-50	64	3,58
25-29	90	3,60
Sig.		,083

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54,504.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Contacts between students and teachers can have the same intensity in online education as in face-to-face education

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
over 50	25	2,32
25-29	89	2,38
24 or younger	59	2,59
30-40	119	2,66
41-50	64	2,97
Sig.		,056

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54,222.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
25-29	88	3,16
24 or younger	60	3,17
30-40	120	3,28
over 50	25	3,32
41-50	64	3,39
Sig.		,878

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54,355.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Only optimistic people think that the impact of technology on learning is beneficial

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
over 50	24	3,42
41-50	64	3,48
24 or younger	60	3,50
25-29	89	3,52
30-40	120	3,70
Sig.		,709

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 53,460.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
30-40	119	3,39
25-29	89	3,42
41-50	63	3,46
over 50	25	3,56
24 or younger	59	3,88
Sig.		,139

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54,077.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From my personal study experience I find that the impact of technology on learning is valuable

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
24 or younger	60	4,03
25-29	90	4,06
over 50	25	4,08
41-50	64	4,14
30-40	118	4,19
Sig.		,916

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54,420.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Information and communications technology has usually been used to encourage us to be active participants in learning

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05	
		1	2
over 50	25	3,16	
25-29	89	3,34	3,34
30-40	119	3,42	3,42
41-50	64	3,55	3,55
24 or younger	60		3,73
Sig.		,256	,232

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54,389.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05	
		1	2
over 50	25	2,96	
41-50	64	3,27	
30-40	120	3,33	
25-29	89	3,36	3,36
24 or younger	60		3,85
Sig.		,234	,079

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54,430.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Learning is enhanced when text and pictures are integrated in a multimedia environment

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
over 50	25	3,92
41-50	64	4,05
30-40	120	4,08
25-29	89	4,12
24 or younger	59	4,32
Sig.		,166

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54,263.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Educational games motivate learners and contribute to developing skills such as teamwork

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
over 50	25	3,56
41-50	62	3,56
30-40	119	3,71
24 or younger	60	3,77
25-29	90	3,99
Sig.		,295

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 54,165.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
24 or younger	57	3,88
over 50	17	3,88
25-29	87	4,28
41-50	58	4,40
30-40	117	4,41
Sig.		,057

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 43,995.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Technology facilitates easier access to material for those studying part-time

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
24 or younger	58	4,22
over 50	17	4,41
30-40	117	4,45
41-50	58	4,48
25-29	87	4,57
Sig.		,373

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 44,112.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
24 or younger	58	3,19
25-29	86	3,23
over 50	17	3,65
30-40	117	3,74
41-50	58	3,90
Sig.		,082

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 44,060.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05
		1
24 or younger	58	2,90
25-29	85	2,92
over 50	17	3,06
30-40	117	3,24
41-50	58	3,52
Sig.		,125

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 44,007.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Study at an Open University is especially of advantage to adults who have work and family obligations

Scheffe[a,b]

What is your age grouping?	N	Subset for alpha = .05	
		1	2
24 or younger	58	4,05	
over 50	17		4,53
25-29	87		4,77
30-40	117		4,81
41-50	58		4,88
Sig.		1,000	,223

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 44,112.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

B.12 One-Way ANOVA for Variable Education

ANOVA

		Sum of Squares	df	Mean Square
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Between Groups	2,208	2	1,104
	Within Groups	270,511	353	,766
	Total	272,719	355	
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Between Groups	5,313	2	2,657
	Within Groups	440,058	350	1,257
	Total	445,371	352	
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Between Groups	13,203	2	6,601
	Within Groups	413,916	351	1,179
	Total	427,119	353	
Only optimistic people think that the impact of technology on learning is beneficial	Between Groups	,493	2	,247
	Within Groups	354,761	351	1,011
	Total	355,254	353	
From my personal study experience I find that the impact of technology on learning is valuable	Between Groups	,264	2	,132
	Within Groups	234,440	351	,668
	Total	234,703	353	
Information and communications technology has usually been used to encourage	Between Groups	3,507	2	1,753
	Within Groups	272,440	351	,776
	Total	275,946	353	
Information and communications technology has been used to support the	Between Groups	11,389	2	5,694
	Within Groups	277,400	352	,788
	Total	288,789	354	
Information and communications technology has been used to support more	Between Groups	1,845	2	,922
	Within Groups	328,153	349	,940
	Total	329,997	351	
Learning is enhanced when text and pictures are integrated in a multimedia environment	Between Groups	2,789	2	1,395
	Within Groups	235,914	351	,672
	Total	238,703	353	
Educational games motivate learners and contribute to developing skills such as teamwork	Between Groups	1,987	2	,994
	Within Groups	358,545	350	1,024
	Total	360,533	352	
The application of new ICT concepts to support learning and teaching and provide Internet access to	Between Groups	1,444	2	,722
	Within Groups	233,301	330	,707
	Total	234,745	332	
Technology facilitates easier access to material for those studying part-time	Between Groups	2,814	2	1,407
	Within Groups	211,920	331	,640
	Total	214,734	333	
University degrees awarded by open universities may be comparable to degrees	Between Groups	2,595	2	1,297
	Within Groups	460,186	330	1,395
	Total	462,781	332	
There is no difference in learning outcomes between studying at an Open University or at a	Between Groups	3,097	2	1,548
	Within Groups	397,804	329	1,209
	Total	400,901	331	
Study at an Open University is especially of advantage to adults who have work and family	Between Groups	1,264	2	,632
	Within Groups	182,509	331	,551
	Total	183,772	333	

ANOVA

		F	Sig.
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Between Groups Within Groups Total	1,441	,238
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Between Groups Within Groups Total	2,113	,122
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Between Groups Within Groups Total	5,598	,004
Only optimistic people think that the impact of technology on learning is beneficial	Between Groups Within Groups Total	,244	,784
From my personal study experience I find that the impact of technology on learning is valuable	Between Groups Within Groups Total	,197	,821
Information and communications technology has usually been used to encourage	Between Groups Within Groups Total	2,259	,106
Information and communications technology has been used to support the	Between Groups Within Groups Total	7,226	,001
Information and communications technology has been used to support more	Between Groups Within Groups Total	,981	,376
Learning is enhanced when text and pictures are integrated in a multimedia environment	Between Groups Within Groups Total	2,075	,127
Educational games motivate learners and contribute to developing skills such as teamwork	Between Groups Within Groups Total	,970	,380
The application of new ICT concepts to support learning and teaching and provide Internet access to	Between Groups Within Groups Total	1,021	,361
Technology facilitates easier access to material for those studying part-time	Between Groups Within Groups Total	2,198	,113
University degrees awarded by open universities may be comparable to degrees	Between Groups Within Groups Total	,930	,395
There is no difference in learning outcomes between studying at an Open University or at a	Between Groups Within Groups Total	1,280	,279
Study at an Open University is especially of advantage to adults who have work and family	Between Groups Within Groups Total	1,146	,319

Post Hoc Tests

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your level of education?	(J) What is your level of education?	Mean Difference (I-J)	Std. Error
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	High school matriculation	One to three years of post-secondary education	-,137	,125
		Four or more years of post-secondary education	,093	,106
	One to three years of post-secondary education	High school matriculation	,137	,125
		Four or more years of post-secondary education	,230	,136
	Four or more years of post-secondary education	High school matriculation	-,093	,106
		One to three years of post-secondary education	-,230	,136
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	High school matriculation	One to three years of post-secondary education	,038	,163
		Four or more years of post-secondary education	,273	,136
	One to three years of post-secondary education	High school matriculation	-,038	,163
		Four or more years of post-secondary education	,236	,176
	Four or more years of post-secondary education	High school matriculation	-,273	,136
		One to three years of post-secondary education	-,236	,176
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	High school matriculation	One to three years of post-secondary education	-,183	,156
		Four or more years of post-secondary education	,343*	,132
	One to three years of post-secondary education	High school matriculation	,183	,156
		Four or more years of post-secondary education	,526*	,169
	Four or more years of post-secondary education	High school matriculation	-,343*	,132
		One to three years of post-secondary education	-,526*	,169
Only optimistic people think that the impact of technology on learning is beneficial	High school matriculation	One to three years of post-secondary education	-,015	,145
		Four or more years of post-secondary education	-,084	,122
	One to three years of post-secondary education	High school matriculation	,015	,145
		Four or more years of post-secondary education	-,069	,157
	Four or more years of post-secondary education	High school matriculation	,084	,122
		One to three years of post-secondary education	,069	,157
From my personal study experience I find that the impact of technology on learning is valuable	High school matriculation	One to three years of post-secondary education	,029	,118
		Four or more years of post-secondary education	,062	,099
	One to three years of post-secondary education	High school matriculation	-,029	,118
		Four or more years of post-secondary education	,033	,127
	Four or more years of post-secondary education	High school matriculation	-,062	,099
		One to three years of post-secondary education	-,033	,127
Information and communications technology has usually been used to encourage us to be active participants	High school matriculation	One to three years of post-secondary education	-,026	,127
		Four or more years of post-secondary education	,208	,107

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your level of education?	(J) What is your level of education?	Mean Difference (I-J)	Std. Error
Information and communications technology has usually been used to encourage us to be active participants in learning	One to three years of post-secondary education	High school matriculation	,026	,127
		Four or more years of post-secondary education	,234	,137
	Four or more years of post-secondary education	High school matriculation	-,208	,107
		One to three years of post-secondary education	-,234	,137
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	High school matriculation	One to three years of post-secondary education	,020	,128
		Four or more years of post-secondary education	,392*	,108
	One to three years of post-secondary education	High school matriculation	-,020	,128
		Four or more years of post-secondary education	,373*	,138
	Four or more years of post-secondary education	High school matriculation	-,392*	,108
		One to three years of post-secondary education	-,373*	,138
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	High school matriculation	One to three years of post-secondary education	-,141	,141
		Four or more years of post-secondary education	,073	,118
	One to three years of post-secondary education	High school matriculation	,141	,141
		Four or more years of post-secondary education	,213	,152
	Four or more years of post-secondary education	High school matriculation	-,073	,118
		One to three years of post-secondary education	-,213	,152
Learning is enhanced when text and pictures are integrated in a multimedia environment	High school matriculation	One to three years of post-secondary education	,135	,118
		Four or more years of post-secondary education	,196	,100
	One to three years of post-secondary education	High school matriculation	-,135	,118
		Four or more years of post-secondary education	,061	,128
	Four or more years of post-secondary education	High school matriculation	-,196	,100
		One to three years of post-secondary education	-,061	,128
Educational games motivate learners and contribute to developing skills such as teamwork	High school matriculation	One to three years of post-secondary education	-,105	,146
		Four or more years of post-secondary education	,110	,123
	One to three years of post-secondary education	High school matriculation	,105	,146
		Four or more years of post-secondary education	,215	,158
	Four or more years of post-secondary education	High school matriculation	-,110	,123
		One to three years of post-secondary education	-,215	,158

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your level of education?	(J) What is your level of education?	Mean Difference (I-J)	Std. Error
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	High school matriculation	One to three years of post-secondary education	-,155	,131
		Four or more years of post-secondary education	,043	,104
	One to three years of post-secondary education	High school matriculation	,155	,131
		Four or more years of post-secondary education	,198	,141
	Four or more years of post-secondary education	High school matriculation	-,043	,104
		One to three years of post-secondary education	-,198	,141
Technology facilitates easier access to material for those studying part-time	High school matriculation	One to three years of post-secondary education	-,123	,124
		Four or more years of post-secondary education	-,204	,099
	One to three years of post-secondary education	High school matriculation	,123	,124
		Four or more years of post-secondary education	-,081	,133
	Four or more years of post-secondary education	High school matriculation	,204	,099
		One to three years of post-secondary education	,081	,133
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	High school matriculation	One to three years of post-secondary education	-,080	,183
		Four or more years of post-secondary education	,161	,146
	One to three years of post-secondary education	High school matriculation	,080	,183
		Four or more years of post-secondary education	,241	,197
	Four or more years of post-secondary education	High school matriculation	-,161	,146
		One to three years of post-secondary education	-,241	,197
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	High school matriculation	One to three years of post-secondary education	-,129	,170
		Four or more years of post-secondary education	,152	,136
	One to three years of post-secondary education	High school matriculation	,129	,170
		Four or more years of post-secondary education	,281	,183
	Four or more years of post-secondary education	High school matriculation	-,152	,136
		One to three years of post-secondary education	-,281	,183
Study at an Open University is especially of advantage to adults who have work and family obligations	High school matriculation	One to three years of post-secondary education	-,076	,115
		Four or more years of post-secondary education	-,137	,092
	One to three years of post-secondary education	High school matriculation	,076	,115
		Four or more years of post-secondary education	-,061	,124
	Four or more years of post-secondary education	High school matriculation	,137	,092
		One to three years of post-secondary education	,061	,124

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your level of education?	(J) What is your level of education?	Sig.	95% Confidence Interval Lower Bound
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	High school matriculation	One to three years of post-secondary education	,551	-,45
		Four or more years of post-secondary education	,681	-,17
	One to three years of post-secondary education	High school matriculation	,551	-,17
		Four or more years of post-secondary education	,239	-,10
	Four or more years of post-secondary education	High school matriculation	,681	-,35
		One to three years of post-secondary education	,239	-,56
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	High school matriculation	One to three years of post-secondary education	,974	-,36
		Four or more years of post-secondary education	,134	-,06
	One to three years of post-secondary education	High school matriculation	,974	-,44
		Four or more years of post-secondary education	,411	-,20
	Four or more years of post-secondary education	High school matriculation	,134	-,61
		One to three years of post-secondary education	,411	-,67
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	High school matriculation	One to three years of post-secondary education	,499	-,57
		Four or more years of post-secondary education	,036	,02
	One to three years of post-secondary education	High school matriculation	,499	-,20
		Four or more years of post-secondary education	,008	,11
	Four or more years of post-secondary education	High school matriculation	,036	-,67
		One to three years of post-secondary education	,008	-,94
Only optimistic people think that the impact of technology on learning is beneficial	High school matriculation	One to three years of post-secondary education	,995	-,37
		Four or more years of post-secondary education	,790	-,38
	One to three years of post-secondary education	High school matriculation	,995	-,34
		Four or more years of post-secondary education	,907	-,45
	Four or more years of post-secondary education	High school matriculation	,790	-,22
		One to three years of post-secondary education	,907	-,32
From my personal study experience I find that the impact of technology on learning is valuable	High school matriculation	One to three years of post-secondary education	,971	-,26
		Four or more years of post-secondary education	,822	-,18
	One to three years of post-secondary education	High school matriculation	,971	-,32
		Four or more years of post-secondary education	,966	-,28
	Four or more years of post-secondary education	High school matriculation	,822	-,31
		One to three years of post-secondary education	,966	-,35
Information and communications technology has usually been used to encourage us to be active participants	High school matriculation	One to three years of post-secondary education	,979	-,34
		Four or more years of post-secondary education	,154	-,06

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your level of education?	(J) What is your level of education?	Sig.	95% Confidence Interval Lower Bound
Information and communications technology has usually been used to encourage us to be active participants in learning	One to three years of post-secondary education	High school matriculation	,979	-,29
		Four or more years of post-secondary education	,237	-,10
	Four or more years of post-secondary education	High school matriculation	,154	-,47
		One to three years of post-secondary education	,237	-,57
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	High school matriculation	One to three years of post-secondary education	,988	-,29
		Four or more years of post-secondary education	,001	,13
	One to three years of post-secondary education	High school matriculation	,988	-,33
		Four or more years of post-secondary education	,027	,03
	Four or more years of post-secondary education	High school matriculation	,001	-,66
		One to three years of post-secondary education	,027	-,71
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	High school matriculation	One to three years of post-secondary education	,610	-,49
		Four or more years of post-secondary education	,826	-,22
	One to three years of post-secondary education	High school matriculation	,610	-,21
		Four or more years of post-secondary education	,377	-,16
	Four or more years of post-secondary education	High school matriculation	,826	-,36
		One to three years of post-secondary education	,377	-,59
Learning is enhanced when text and pictures are integrated in a multimedia environment	High school matriculation	One to three years of post-secondary education	,521	-,16
		Four or more years of post-secondary education	,147	-,05
	One to three years of post-secondary education	High school matriculation	,521	-,43
		Four or more years of post-secondary education	,894	-,25
	Four or more years of post-secondary education	High school matriculation	,147	-,44
		One to three years of post-secondary education	,894	-,37
Educational games motivate learners and contribute to developing skills such as teamwork	High school matriculation	One to three years of post-secondary education	,773	-,46
		Four or more years of post-secondary education	,668	-,19
	One to three years of post-secondary education	High school matriculation	,773	-,25
		Four or more years of post-secondary education	,395	-,17
	Four or more years of post-secondary education	High school matriculation	,668	-,41
		One to three years of post-secondary education	,395	-,60

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your level of education?	(J) What is your level of education?	Sig.	95% Confidence Interval Lower Bound
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	High school matriculation	One to three years of post-secondary education	,499	-,48
		Four or more years of post-secondary education	,917	-,21
	One to three years of post-secondary education	High school matriculation	,499	-,17
		Four or more years of post-secondary education	,374	-,15
	Four or more years of post-secondary education	High school matriculation	,917	-,30
		One to three years of post-secondary education	,374	-,54
Technology facilitates easier access to material for those studying part-time	High school matriculation	One to three years of post-secondary education	,610	-,43
		Four or more years of post-secondary education	,122	-,45
	One to three years of post-secondary education	High school matriculation	,610	-,18
		Four or more years of post-secondary education	,833	-,41
	Four or more years of post-secondary education	High school matriculation	,122	-,04
		One to three years of post-secondary education	,833	-,25
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	High school matriculation	One to three years of post-secondary education	,909	-,53
		Four or more years of post-secondary education	,546	-,20
	One to three years of post-secondary education	High school matriculation	,909	-,37
		Four or more years of post-secondary education	,473	-,24
	Four or more years of post-secondary education	High school matriculation	,546	-,52
		One to three years of post-secondary education	,473	-,73
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	High school matriculation	One to three years of post-secondary education	,750	-,55
		Four or more years of post-secondary education	,537	-,18
	One to three years of post-secondary education	High school matriculation	,750	-,29
		Four or more years of post-secondary education	,309	-,17
	Four or more years of post-secondary education	High school matriculation	,537	-,49
		One to three years of post-secondary education	,309	-,73
Study at an Open University is especially of advantage to adults who have work and family obligations	High school matriculation	One to three years of post-secondary education	,804	-,36
		Four or more years of post-secondary education	,327	-,36
	One to three years of post-secondary education	High school matriculation	,804	-,21
		Four or more years of post-secondary education	,884	-,37
	Four or more years of post-secondary education	High school matriculation	,327	-,09
		One to three years of post-secondary education	,884	-,24

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your level of education?	(J) What is your level of education?	95% Confidence Interval Upper Bound
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	High school matriculation	One to three years of post-secondary education	,17
		Four or more years of post-secondary education	,35
	One to three years of post-secondary education	High school matriculation	,45
		Four or more years of post-secondary education	,56
	Four or more years of post-secondary education	High school matriculation	,17
		One to three years of post-secondary education	,10
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	High school matriculation	One to three years of post-secondary education	,44
		Four or more years of post-secondary education	,61
	One to three years of post-secondary education	High school matriculation	,36
		Four or more years of post-secondary education	,67
	Four or more years of post-secondary education	High school matriculation	,06
		One to three years of post-secondary education	,20
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	High school matriculation	One to three years of post-secondary education	,20
		Four or more years of post-secondary education	,67
	One to three years of post-secondary education	High school matriculation	,57
		Four or more years of post-secondary education	,94
	Four or more years of post-secondary education	High school matriculation	-,02
		One to three years of post-secondary education	-,11
Only optimistic people think that the impact of technology on learning is beneficial	High school matriculation	One to three years of post-secondary education	,34
		Four or more years of post-secondary education	,22
	One to three years of post-secondary education	High school matriculation	,37
		Four or more years of post-secondary education	,32
	Four or more years of post-secondary education	High school matriculation	,38
		One to three years of post-secondary education	,45
From my personal study experience I find that the impact of technology on learning is valuable	High school matriculation	One to three years of post-secondary education	,32
		Four or more years of post-secondary education	,31
	One to three years of post-secondary education	High school matriculation	,26
		Four or more years of post-secondary education	,35
	Four or more years of post-secondary education	High school matriculation	,18
		One to three years of post-secondary education	,28
Information and communications technology has usually been used to encourage us to be active participants	High school matriculation	One to three years of post-secondary education	,29
		Four or more years of post-secondary education	,47

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your level of education?	(J) What is your level of education?	95% Confidence Interval Upper Bound
Information and communications technology has usually been used to encourage us to be active participants in learning	One to three years of post-secondary education	High school matriculation	,34
		Four or more years of post-secondary education	,57
	Four or more years of post-secondary education	High school matriculation	,06
		One to three years of post-secondary education	,10
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	High school matriculation	One to three years of post-secondary education	,33
		Four or more years of post-secondary education	,66
	One to three years of post-secondary education	High school matriculation	,29
		Four or more years of post-secondary education	,71
	Four or more years of post-secondary education	High school matriculation	-,13
		One to three years of post-secondary education	-,03
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	High school matriculation	One to three years of post-secondary education	,21
		Four or more years of post-secondary education	,36
	One to three years of post-secondary education	High school matriculation	,49
		Four or more years of post-secondary education	,59
	Four or more years of post-secondary education	High school matriculation	,22
		One to three years of post-secondary education	,16
Learning is enhanced when text and pictures are integrated in a multimedia environment	High school matriculation	One to three years of post-secondary education	,43
		Four or more years of post-secondary education	,44
	One to three years of post-secondary education	High school matriculation	,16
		Four or more years of post-secondary education	,37
	Four or more years of post-secondary education	High school matriculation	,05
		One to three years of post-secondary education	,25
Educational games motivate learners and contribute to developing skills such as teamwork	High school matriculation	One to three years of post-secondary education	,25
		Four or more years of post-secondary education	,41
	One to three years of post-secondary education	High school matriculation	,46
		Four or more years of post-secondary education	,60
	Four or more years of post-secondary education	High school matriculation	,19
		One to three years of post-secondary education	,17

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your level of education?	(J) What is your level of education?	95% Confidence Interval Upper Bound
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	High school matriculation	One to three years of post-secondary education	,17
		Four or more years of post-secondary education	,30
	One to three years of post-secondary education	High school matriculation	,48
		Four or more years of post-secondary education	,54
	Four or more years of post-secondary education	High school matriculation	,21
		One to three years of post-secondary education	,15
Technology facilitates easier access to material for those studying part-time	High school matriculation	One to three years of post-secondary education	,18
		Four or more years of post-secondary education	,04
	One to three years of post-secondary education	High school matriculation	,43
		Four or more years of post-secondary education	,25
	Four or more years of post-secondary education	High school matriculation	,45
		One to three years of post-secondary education	,41
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	High school matriculation	One to three years of post-secondary education	,37
		Four or more years of post-secondary education	,52
	One to three years of post-secondary education	High school matriculation	,53
		Four or more years of post-secondary education	,73
	Four or more years of post-secondary education	High school matriculation	,20
		One to three years of post-secondary education	,24
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	High school matriculation	One to three years of post-secondary education	,29
		Four or more years of post-secondary education	,49
	One to three years of post-secondary education	High school matriculation	,55
		Four or more years of post-secondary education	,73
	Four or more years of post-secondary education	High school matriculation	,18
		One to three years of post-secondary education	,17
Study at an Open University is especially of advantage to adults who have work and family obligations	High school matriculation	One to three years of post-secondary education	,21
		Four or more years of post-secondary education	,09
	One to three years of post-secondary education	High school matriculation	,36
		Four or more years of post-secondary education	,24
	Four or more years of post-secondary education	High school matriculation	,36
		One to three years of post-secondary education	,37

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Thanks to technology, the problems of access to learning for students with disabilities have been resolved

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	110	3,38
High school matriculation	179	3,47
One to three years of post-secondary education	67	3,61
Sig.		,175

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 101,342.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Contacts between students and teachers can have the same intensity in online education as in face-to-face education

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	110	2,44
One to three years of post-secondary education	64	2,67
High school matriculation	179	2,71
Sig.		,232

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 99,002.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05	
		1	2
Four or more years of post-secondary education	108	2,98	
High school matriculation	179	3,32	3,32
One to three years of post-secondary education	67		3,51
Sig.		,083	,488

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 100,768.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Only optimistic people think that the impact of technology on learning is beneficial

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
High school matriculation	179	3,53
One to three years of post-secondary education	66	3,55
Four or more years of post-secondary education	109	3,61
Sig.		,840

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 100,293.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From my personal study experience I find that the impact of technology on learning is valuable

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	110	4,07
One to three years of post-secondary education	66	4,11
High school matriculation	178	4,13
Sig.		,865

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 100,468.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Information and communications technology has usually been used to encourage us to be active participants in learning

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	109	3,31
High school matriculation	179	3,52
One to three years of post-secondary education	66	3,55
Sig.		,173

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 100,293.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05	
		1	2
Four or more years of post-secondary education	110	3,13	
One to three years of post-secondary education	66		3,50
High school matriculation	179		3,52
Sig.		1,000	,988

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 100,573.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	110	3,43
High school matriculation	178	3,50
One to three years of post-secondary education	64	3,64
Sig.		,303

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 98,899.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Learning is enhanced when text and pictures are integrated in a multimedia environment

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	109	4,00
One to three years of post-secondary education	66	4,06
High school matriculation	179	4,20
Sig.		,242

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 100,293.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Educational games motivate learners and contribute to developing skills such as teamwork

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	110	3,66
High school matriculation	177	3,77
One to three years of post-secondary education	66	3,88
Sig.		,323

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 100,361.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	105	4,21
High school matriculation	174	4,25
One to three years of post-secondary education	54	4,41
Sig.		,294

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 88,785.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Technology facilitates easier access to material for those studying part-time

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
High school matriculation	174	4,37
One to three years of post-secondary education	55	4,49
Four or more years of post-secondary education	105	4,57
Sig.		,236

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 89,679.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	104	3,41
High school matriculation	174	3,57
One to three years of post-secondary education	55	3,65
Sig.		,395

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 89,434.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
Four or more years of post-secondary education	104	3,01
High school matriculation	173	3,16
One to three years of post-secondary education	55	3,29
Sig.		,233

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 89,345.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Study at an Open University is especially of advantage to adults who have work and family obligations

Scheffe[a,b]

What is your level of education?	N	Subset for alpha = .05
		1
High school matriculation	174	4,61
One to three years of post-secondary education	55	4,69
Four or more years of post-secondary education	105	4,75
Sig.		,465

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 89,679.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

B.13 One-Way ANOVA for Variable Occupation

ANOVA

		Sum of Squares	df	Mean Square
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Between Groups	17,493	5	3,499
	Within Groups	255,246	351	,727
	Total	272,739	356	
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Between Groups	27,718	5	5,544
	Within Groups	416,485	348	1,197
	Total	444,203	353	
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Between Groups	12,143	5	2,429
	Within Groups	417,040	349	1,195
	Total	429,183	354	
Only optimistic people think that the impact of technology on learning is beneficial	Between Groups	13,123	5	2,625
	Within Groups	342,071	349	,980
	Total	355,194	354	
From my personal study experience I find that the impact of technology on learning is valuable	Between Groups	2,401	5	,480
	Within Groups	232,315	349	,666
	Total	234,715	354	
Information and communications technology has usually been used to encourage	Between Groups	10,096	5	2,019
	Within Groups	263,792	349	,756
	Total	273,887	354	
Information and communications technology has been used to support the	Between Groups	6,545	5	1,309
	Within Groups	285,500	350	,816
	Total	292,045	355	
Information and communications technology has been used to support more	Between Groups	3,596	5	,719
	Within Groups	326,901	348	,939
	Total	330,497	353	
Learning is enhanced when text and pictures are integrated in a multimedia environment	Between Groups	1,718	5	,344
	Within Groups	237,775	349	,681
	Total	239,493	354	
Educational games motivate learners and contribute to developing skills such as teamwork	Between Groups	18,805	5	3,761
	Within Groups	341,819	348	,982
	Total	360,624	353	
The application of new ICT concepts to support learning and teaching and provide Internet access to	Between Groups	19,005	5	3,801
	Within Groups	218,427	329	,664
	Total	237,433	334	
Technology facilitates easier access to material for those studying part-time	Between Groups	7,151	5	1,430
	Within Groups	207,885	330	,630
	Total	215,036	335	
University degrees awarded by open universities may be comparable to degrees	Between Groups	44,445	5	8,889
	Within Groups	416,976	329	1,267
	Total	461,421	334	
There is no difference in learning outcomes between studying at an Open University or at a	Between Groups	17,919	5	3,584
	Within Groups	383,018	328	1,168
	Total	400,937	333	
Study at an Open University is especially of advantage to adults who have work and family	Between Groups	22,209	5	4,442
	Within Groups	162,457	330	,492
	Total	184,667	335	

ANOVA

		F	Sig.
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Between Groups Within Groups Total	4,811	,000
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Between Groups Within Groups Total	4,632	,000
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Between Groups Within Groups Total	2,032	,074
Only optimistic people think that the impact of technology on learning is beneficial	Between Groups Within Groups Total	2,678	,022
From my personal study experience I find that the impact of technology on learning is valuable	Between Groups Within Groups Total	,721	,608
Information and communications technology has usually been used to encourage	Between Groups Within Groups Total	2,671	,022
Information and communications technology has been used to support the	Between Groups Within Groups Total	1,605	,158
Information and communications technology has been used to support more	Between Groups Within Groups Total	,766	,575
Learning is enhanced when text and pictures are integrated in a multimedia environment	Between Groups Within Groups Total	,504	,773
Educational games motivate learners and contribute to developing skills such as teamwork	Between Groups Within Groups Total	3,829	,002
The application of new ICT concepts to support learning and teaching and provide Internet access to	Between Groups Within Groups Total	5,725	,000
Technology facilitates easier access to material for those studying part-time	Between Groups Within Groups Total	2,270	,047
University degrees awarded by open universities may be comparable to degrees	Between Groups Within Groups Total	7,014	,000
There is no difference in learning outcomes between studying at an Open University or at a	Between Groups Within Groups Total	3,069	,010
Study at an Open University is especially of advantage to adults who have work and family	Between Groups Within Groups Total	9,023	,000

Post Hoc Tests

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	Mean Difference (I-J)	Std. Error	Sig.
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Manager	Technical	-,026	,153	1,000
		Teacher or Trainer	-,183	,141	,892
		Student	,359	,144	,287
		Unemployed	-,387	,206	,623
		Other (e.g. retired)	-,183	,157	,929
	Technical	Manager	,026	,153	1,000
		Teacher or Trainer	-,156	,146	,950
		Student	,386	,149	,248
		Unemployed	-,361	,210	,709
		Other (e.g. retired)	-,157	,162	,967
	Teacher or Trainer	Manager	,183	,141	,892
		Technical	,156	,146	,950
		Student	,542*	,136	,008
		Unemployed	-,204	,201	,960
		Other (e.g. retired)	-,001	,150	1,000
	Student	Manager	-,359	,144	,287
		Technical	-,386	,149	,248
		Teacher or Trainer	-,542*	,136	,008
		Unemployed	-,746*	,203	,021
		Other (e.g. retired)	-,543*	,153	,030
	Unemployed	Manager	,387	,206	,623
		Technical	,361	,210	,709
		Teacher or Trainer	,204	,201	,960
		Student	,746*	,203	,021
		Other (e.g. retired)	,203	,213	,969
	Other (e.g. retired)	Manager	,183	,157	,929
		Technical	,157	,162	,967
		Teacher or Trainer	,001	,150	1,000
		Student	,543*	,153	,030
		Unemployed	-,203	,213	,969
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Manager	Technical	,304	,198	,797
		Teacher or Trainer	,501	,182	,183
		Student	,249	,185	,875
		Unemployed	-,231	,275	,982
		Other (e.g. retired)	-,306	,202	,808
	Technical	Manager	-,304	,198	,797
		Teacher or Trainer	,197	,188	,953
		Student	-,054	,191	1,000
		Unemployed	-,534	,279	,597
		Other (e.g. retired)	-,610	,208	,129
	Teacher or Trainer	Manager	-,501	,182	,183
		Technical	-,197	,188	,953
		Student	-,252	,175	,838
		Unemployed	-,732	,268	,190
		Other (e.g. retired)	-,807*	,193	,004
	Student	Manager	-,249	,185	,875
		Technical	,054	,191	1,000
		Teacher or Trainer	,252	,175	,838
		Unemployed	-,480	,270	,676
		Other (e.g. retired)	-,555	,196	,159

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	Mean Difference (I-J)	Std. Error	Sig.
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Unemployed	Manager	,231	,275	,982
		Technical	,534	,279	,597
		Teacher or Trainer	,732	,268	,190
		Student	,480	,270	,676
		Other (e.g. retired)	-,075	,282	1,000
	Other (e.g. retired)	Manager	,306	,202	,808
		Technical	,610	,208	,129
		Teacher or Trainer	,807*	,193	,004
		Student	,555	,196	,159
		Unemployed	,075	,282	1,000
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Manager	Technical	,332	,198	,731
		Teacher or Trainer	,177	,182	,966
		Student	,318	,185	,708
		Unemployed	-,050	,265	1,000
		Other (e.g. retired)	-,181	,202	,977
	Technical	Manager	-,332	,198	,731
		Teacher or Trainer	-,155	,189	,984
		Student	-,014	,192	1,000
		Unemployed	-,382	,270	,848
		Other (e.g. retired)	-,513	,209	,303
	Teacher or Trainer	Manager	-,177	,182	,966
		Technical	,155	,189	,984
		Student	,141	,175	,986
		Unemployed	-,227	,258	,978
		Other (e.g. retired)	-,359	,193	,629
	Student	Manager	-,318	,185	,708
		Technical	,014	,192	1,000
		Teacher or Trainer	-,141	,175	,986
		Unemployed	-,368	,261	,849
		Other (e.g. retired)	-,499	,196	,265
	Unemployed	Manager	,050	,265	1,000
		Technical	,382	,270	,848
		Teacher or Trainer	,227	,258	,978
		Student	,368	,261	,849
		Other (e.g. retired)	-,131	,273	,999
	Other (e.g. retired)	Manager	,181	,202	,977
		Technical	,513	,209	,303
		Teacher or Trainer	,359	,193	,629
		Student	,499	,196	,265
		Unemployed	,131	,273	,999
Only optimistic people think that the impact of technology on learning is beneficial	Manager	Technical	,269	,179	,811
		Teacher or Trainer	,330	,164	,545
		Student	,418	,168	,293
		Unemployed	,204	,240	,982
		Other (e.g. retired)	-,118	,183	,995
	Technical	Manager	-,269	,179	,811
		Teacher or Trainer	,061	,170	1,000
		Student	,149	,174	,981
		Unemployed	-,065	,244	1,000
		Other (e.g. retired)	-,387	,188	,518

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	Mean Difference (I-J)	Std. Error	Sig.
Only optimistic people think that the impact of technology on learning is beneficial	Teacher or Trainer	Manager	-,330	,164	,545
		Technical	-,061	,170	1,000
		Student	,088	,159	,998
		Unemployed	-,126	,234	,998
		Other (e.g. retired)	-,448	,174	,256
	Student	Manager	-,418	,168	,293
		Technical	-,149	,174	,981
		Teacher or Trainer	-,088	,159	,998
		Unemployed	-,214	,236	,976
		Other (e.g. retired)	-,535	,178	,111
	Unemployed	Manager	-,204	,240	,982
		Technical	,065	,244	1,000
		Teacher or Trainer	,126	,234	,998
		Student	,214	,236	,976
		Other (e.g. retired)	-,322	,247	,889
	Other (e.g. retired)	Manager	,118	,183	,995
		Technical	,387	,188	,518
		Teacher or Trainer	,448	,174	,256
		Student	,535	,178	,111
		Unemployed	,322	,247	,889
From my personal study experience I find that the impact of technology on learning is valuable	Manager	Technical	,112	,147	,989
		Teacher or Trainer	,081	,135	,996
		Student	,215	,138	,787
		Unemployed	,261	,201	,891
		Other (e.g. retired)	,046	,151	1,000
	Technical	Manager	-,112	,147	,989
		Teacher or Trainer	-,031	,140	1,000
		Student	,103	,143	,991
		Unemployed	,149	,204	,991
		Other (e.g. retired)	-,066	,155	,999
	Teacher or Trainer	Manager	-,081	,135	,996
		Technical	,031	,140	1,000
		Student	,134	,130	,957
		Unemployed	,180	,196	,974
		Other (e.g. retired)	-,036	,144	1,000
	Student	Manager	-,215	,138	,787
		Technical	-,103	,143	,991
		Teacher or Trainer	-,134	,130	,957
		Unemployed	,045	,198	1,000
		Other (e.g. retired)	-,170	,146	,930
	Unemployed	Manager	-,261	,201	,891
		Technical	-,149	,204	,991
		Teacher or Trainer	-,180	,196	,974
		Student	-,045	,198	1,000
		Other (e.g. retired)	-,215	,207	,955
	Other (e.g. retired)	Manager	-,046	,151	1,000
		Technical	,066	,155	,999
		Teacher or Trainer	,036	,144	1,000
		Student	,170	,146	,930
		Unemployed	,215	,207	,955

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	Mean Difference (I-J)	Std. Error	Sig.
Information and communications technology has usually been used to encourage us to be active participants in learning	Manager	Technical	,233	,157	,820
		Teacher or Trainer	-,183	,144	,901
		Student	-,206	,147	,855
		Unemployed	-,328	,214	,800
		Other (e.g. retired)	-,193	,161	,919
	Technical	Manager	-,233	,157	,820
		Teacher or Trainer	-,416	,149	,172
		Student	-,439	,152	,141
		Unemployed	-,561	,218	,251
		Other (e.g. retired)	-,426	,165	,250
	Teacher or Trainer	Manager	,183	,144	,901
		Technical	,416	,149	,172
		Student	-,023	,139	1,000
		Unemployed	-,145	,209	,993
		Other (e.g. retired)	-,011	,153	1,000
	Student	Manager	,206	,147	,855
		Technical	,439	,152	,141
		Teacher or Trainer	,023	,139	1,000
		Unemployed	-,122	,211	,997
		Other (e.g. retired)	,013	,156	1,000
	Unemployed	Manager	,328	,214	,800
		Technical	,561	,218	,251
		Teacher or Trainer	,145	,209	,993
		Student	,122	,211	,997
		Other (e.g. retired)	,135	,220	,996
	Other (e.g. retired)	Manager	,193	,161	,919
		Technical	,426	,165	,250
		Teacher or Trainer	,011	,153	1,000
		Student	-,013	,156	1,000
		Unemployed	-,135	,220	,996
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Manager	Technical	-,032	,163	1,000
		Teacher or Trainer	-,056	,150	1,000
		Student	-,365	,153	,340
		Unemployed	-,217	,219	,964
		Other (e.g. retired)	-,078	,167	,999
	Technical	Manager	,032	,163	1,000
		Teacher or Trainer	-,024	,155	1,000
		Student	-,334	,158	,486
		Unemployed	-,185	,223	,983
		Other (e.g. retired)	-,047	,172	1,000
	Teacher or Trainer	Manager	,056	,150	1,000
		Technical	,024	,155	1,000
		Student	-,310	,144	,468
		Unemployed	-,161	,213	,989
		Other (e.g. retired)	-,023	,159	1,000
	Student	Manager	,365	,153	,340
		Technical	,334	,158	,486
		Teacher or Trainer	,310	,144	,468
		Unemployed	,148	,215	,993
		Other (e.g. retired)	,287	,162	,679

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	Mean Difference (I-J)	Std. Error	Sig.
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Unemployed	Manager	,217	,219	,964
		Technical	,185	,223	,983
		Teacher or Trainer	,161	,213	,989
		Student	-,148	,215	,993
		Other (e.g. retired)	,139	,226	,996
	Other (e.g. retired)	Manager	,078	,167	,999
		Technical	,047	,172	1,000
		Teacher or Trainer	,023	,159	1,000
		Student	-,287	,162	,679
		Unemployed	-,139	,226	,996
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Manager	Technical	,017	,175	1,000
		Teacher or Trainer	-,125	,161	,988
		Student	-,223	,164	,871
		Unemployed	-,115	,239	,999
		Other (e.g. retired)	,053	,179	1,000
	Technical	Manager	-,017	,175	1,000
		Teacher or Trainer	-,142	,167	,982
		Student	-,240	,169	,849
		Unemployed	-,132	,243	,998
		Other (e.g. retired)	,036	,184	1,000
	Teacher or Trainer	Manager	,125	,161	,988
		Technical	,142	,167	,982
		Student	-,098	,155	,995
		Unemployed	,010	,233	1,000
		Other (e.g. retired)	,178	,171	,955
	Student	Manager	,223	,164	,871
		Technical	,240	,169	,849
		Teacher or Trainer	,098	,155	,995
		Unemployed	,108	,235	,999
		Other (e.g. retired)	,276	,174	,774
	Unemployed	Manager	,115	,239	,999
		Technical	,132	,243	,998
		Teacher or Trainer	-,010	,233	1,000
		Student	-,108	,235	,999
		Other (e.g. retired)	,168	,246	,993
	Other (e.g. retired)	Manager	-,053	,179	1,000
		Technical	-,036	,184	1,000
		Teacher or Trainer	-,178	,171	,955
		Student	-,276	,174	,774
		Unemployed	-,168	,246	,993
Learning is enhanced when text and pictures are integrated in a multimedia environment	Manager	Technical	,142	,149	,970
		Teacher or Trainer	,115	,136	,983
		Student	,079	,139	,997
		Unemployed	,303	,203	,817
		Other (e.g. retired)	,099	,152	,995
	Technical	Manager	-,142	,149	,970
		Teacher or Trainer	-,027	,142	1,000
		Student	-,063	,145	,999
		Unemployed	,161	,207	,988
		Other (e.g. retired)	-,043	,158	1,000

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	Mean Difference (I-J)	Std. Error	Sig.
Learning is enhanced when text and pictures are integrated in a multimedia environment	Teacher or Trainer	Manager	-,115	,136	,983
		Technical	,027	,142	1,000
		Student	-,036	,132	1,000
		Unemployed	,188	,198	,970
		Other (e.g. retired)	-,016	,145	1,000
	Student	Manager	-,079	,139	,997
		Technical	,063	,145	,999
		Teacher or Trainer	,036	,132	1,000
		Unemployed	,224	,200	,939
		Other (e.g. retired)	,020	,148	1,000
	Unemployed	Manager	-,303	,203	,817
		Technical	-,161	,207	,988
		Teacher or Trainer	-,188	,198	,970
		Student	-,224	,200	,939
		Other (e.g. retired)	-,204	,209	,966
	Other (e.g. retired)	Manager	-,099	,152	,995
		Technical	,043	,158	1,000
		Teacher or Trainer	,016	,145	1,000
		Student	-,020	,148	1,000
		Unemployed	,204	,209	,966
Educational games motivate learners and contribute to developing skills such as teamwork	Manager	Technical	,272	,178	,802
		Teacher or Trainer	-,448	,165	,195
		Student	-,135	,167	,985
		Unemployed	,015	,244	1,000
		Other (e.g. retired)	-,084	,183	,999
	Technical	Manager	-,272	,178	,802
		Teacher or Trainer	-,721*	,171	,004
		Student	-,407	,173	,357
		Unemployed	-,257	,248	,956
		Other (e.g. retired)	-,357	,188	,611
	Teacher or Trainer	Manager	,448	,165	,195
		Technical	,721*	,171	,004
		Student	,313	,159	,569
		Unemployed	,464	,239	,583
		Other (e.g. retired)	,364	,176	,508
	Student	Manager	,135	,167	,985
		Technical	,407	,173	,357
		Teacher or Trainer	-,313	,159	,569
		Unemployed	,150	,240	,996
		Other (e.g. retired)	,051	,178	1,000
	Unemployed	Manager	-,015	,244	1,000
		Technical	,257	,248	,956
		Teacher or Trainer	-,464	,239	,583
		Student	-,150	,240	,996
		Other (e.g. retired)	-,099	,251	1,000
	Other (e.g. retired)	Manager	,084	,183	,999
		Technical	,357	,188	,611
		Teacher or Trainer	-,364	,176	,508
		Student	-,051	,178	1,000
		Unemployed	,099	,251	1,000

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	Mean Difference (I-J)	Std. Error	Sig.
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Manager	Technical	-,333	,148	,409
		Teacher or Trainer	-,244	,136	,670
		Student	,300	,145	,506
		Unemployed	-,351	,213	,743
		Other (e.g. retired)	-,330	,151	,445
	Technical	Manager	,333	,148	,409
		Teacher or Trainer	,089	,142	,995
		Student	,634*	,150	,004
		Unemployed	-,018	,216	1,000
		Other (e.g. retired)	,003	,155	1,000
	Teacher or Trainer	Manager	,244	,136	,670
		Technical	-,089	,142	,995
		Student	,545*	,138	,009
		Unemployed	-,107	,208	,998
		Other (e.g. retired)	-,086	,145	,997
	Student	Manager	-,300	,145	,506
		Technical	-,634*	,150	,004
		Teacher or Trainer	-,545*	,138	,009
		Unemployed	-,651	,214	,101
		Other (e.g. retired)	-,630*	,152	,005
	Unemployed	Manager	,351	,213	,743
		Technical	,018	,216	1,000
		Teacher or Trainer	,107	,208	,998
		Student	,651	,214	,101
		Other (e.g. retired)	,021	,218	1,000
	Other (e.g. retired)	Manager	,330	,151	,445
		Technical	-,003	,155	1,000
		Teacher or Trainer	,086	,145	,997
		Student	,630*	,152	,005
		Unemployed	-,021	,218	1,000
Technology facilitates easier access to material for those studying part-time	Manager	Technical	-,188	,144	,889
		Teacher or Trainer	-,083	,133	,996
		Student	,252	,141	,670
		Unemployed	,162	,203	,986
		Other (e.g. retired)	,065	,147	,999
	Technical	Manager	,188	,144	,889
		Teacher or Trainer	,105	,138	,989
		Student	,439	,146	,108
		Unemployed	,349	,206	,721
		Other (e.g. retired)	,253	,151	,732
	Teacher or Trainer	Manager	,083	,133	,996
		Technical	-,105	,138	,989
		Student	,335	,135	,292
		Unemployed	,244	,199	,911
		Other (e.g. retired)	,148	,141	,953
	Student	Manager	-,252	,141	,670
		Technical	-,439	,146	,108
		Teacher or Trainer	-,335	,135	,292
		Unemployed	-,090	,204	,999
		Other (e.g. retired)	-,187	,148	,903

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	Mean Difference (I-J)	Std. Error	Sig.
Technology facilitates easier access to material for those studying part-time	Unemployed	Manager	-,162	,203	,986
		Technical	-,349	,206	,721
		Teacher or Trainer	-,244	,199	,911
		Student	,090	,204	,999
		Other (e.g. retired)	-,096	,208	,999
	Other (e.g. retired)	Manager	-,065	,147	,999
		Technical	-,253	,151	,732
		Teacher or Trainer	-,148	,141	,953
		Student	,187	,148	,903
		Unemployed	,096	,208	,999
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Manager	Technical	-,124	,205	,996
		Teacher or Trainer	,363	,189	,598
		Student	,497	,201	,295
		Unemployed	-,522	,288	,658
		Other (e.g. retired)	-,497	,209	,343
	Technical	Manager	,124	,205	,996
		Teacher or Trainer	,487	,196	,291
		Student	,621	,207	,111
		Unemployed	-,398	,293	,869
		Other (e.g. retired)	-,374	,215	,696
	Teacher or Trainer	Manager	-,363	,189	,598
		Technical	-,487	,196	,291
		Student	,135	,191	,992
		Unemployed	-,885	,282	,082
		Other (e.g. retired)	-,860*	,200	,003
	Student	Manager	-,497	,201	,295
		Technical	-,621	,207	,111
		Teacher or Trainer	-,135	,191	,992
		Unemployed	-1,019*	,290	,032
		Other (e.g. retired)	-,995*	,211	,001
	Unemployed	Manager	,522	,288	,658
		Technical	,398	,293	,869
		Teacher or Trainer	,885	,282	,082
		Student	1,019*	,290	,032
		Other (e.g. retired)	,025	,295	1,000
	Other (e.g. retired)	Manager	,497	,209	,343
		Technical	,374	,215	,696
		Teacher or Trainer	,860*	,200	,003
		Student	,995*	,211	,001
		Unemployed	-,025	,295	1,000
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Manager	Technical	-,100	,198	,998
		Teacher or Trainer	,154	,182	,982
		Student	,127	,193	,994
		Unemployed	-,572	,277	,513
		Other (e.g. retired)	-,412	,201	,519
	Technical	Manager	,100	,198	,998
		Teacher or Trainer	,255	,189	,873
		Student	,227	,199	,935
		Unemployed	-,471	,281	,730
		Other (e.g. retired)	-,312	,207	,810

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	Mean Difference (I-J)	Std. Error	Sig.
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Teacher or Trainer	Manager	-,154	,182	,982
		Technical	-,255	,189	,873
		Student	-,028	,183	1,000
		Unemployed	-,726	,270	,209
		Other (e.g. retired)	-,567	,192	,124
	Student	Manager	-,127	,193	,994
		Technical	-,227	,199	,935
		Teacher or Trainer	,028	,183	1,000
		Unemployed	-,698	,278	,279
		Other (e.g. retired)	-,539	,202	,216
	Unemployed	Manager	,572	,277	,513
		Technical	,471	,281	,730
		Teacher or Trainer	,726	,270	,209
		Student	,698	,278	,279
		Other (e.g. retired)	,159	,284	,997
	Other (e.g. retired)	Manager	,412	,201	,519
		Technical	,312	,207	,810
		Teacher or Trainer	,567	,192	,124
		Student	,539	,202	,216
		Unemployed	-,159	,284	,997
Study at an Open University is especially of advantage to adults who have work and family obligations	Manager	Technical	-,165	,127	,891
		Teacher or Trainer	-,095	,117	,985
		Student	,532*	,125	,003
		Unemployed	-,073	,179	,999
		Other (e.g. retired)	-,210	,130	,759
	Technical	Manager	,165	,127	,891
		Teacher or Trainer	,070	,122	,997
		Student	,697*	,129	,000
		Unemployed	,092	,182	,998
		Other (e.g. retired)	-,045	,134	1,000
	Teacher or Trainer	Manager	,095	,117	,985
		Technical	-,070	,122	,997
		Student	,627*	,119	,000
		Unemployed	,022	,176	1,000
		Other (e.g. retired)	-,115	,125	,974
	Student	Manager	-,532*	,125	,003
		Technical	-,697*	,129	,000
		Teacher or Trainer	-,627*	,119	,000
		Unemployed	-,605*	,180	,049
		Other (e.g. retired)	-,742*	,131	,000
	Unemployed	Manager	,073	,179	,999
		Technical	-,092	,182	,998
		Teacher or Trainer	-,022	,176	1,000
		Student	,605*	,180	,049
		Other (e.g. retired)	-,137	,184	,990
	Other (e.g. retired)	Manager	,210	,130	,759
		Technical	,045	,134	1,000
		Teacher or Trainer	,115	,125	,974
		Student	,742*	,131	,000
		Unemployed	,137	,184	,990

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	95% Confidence Interval	
			Lower Bound	Upper Bound
Thanks to technology, the problems of access to learning for students with disabilities have been resolved	Manager	Technical	-,54	,49
		Teacher or Trainer	-,65	,29
		Student	-,12	,84
		Unemployed	-1,08	,30
		Other (e.g. retired)	-,71	,34
	Technical	Manager	-,49	,54
		Teacher or Trainer	-,65	,33
		Student	-,11	,88
		Unemployed	-1,06	,34
		Other (e.g. retired)	-,70	,39
	Teacher or Trainer	Manager	-,29	,65
		Technical	-,33	,65
		Student	,09	1,00
		Unemployed	-,88	,47
		Other (e.g. retired)	-,50	,50
	Student	Manager	-,84	,12
		Technical	-,88	,11
		Teacher or Trainer	-1,00	-,09
		Unemployed	-1,43	-,07
		Other (e.g. retired)	-1,05	-,03
	Unemployed	Manager	-,30	1,08
		Technical	-,34	1,06
		Teacher or Trainer	-,47	,88
		Student	,07	1,43
		Other (e.g. retired)	-,51	,92
	Other (e.g. retired)	Manager	-,34	,71
		Technical	-,39	,70
		Teacher or Trainer	-,50	,50
		Student	,03	1,05
		Unemployed	-,92	,51
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Manager	Technical	-,36	,97
		Teacher or Trainer	-,11	1,11
		Student	-,37	,87
		Unemployed	-1,15	,69
		Other (e.g. retired)	-,98	,37
	Technical	Manager	-,97	,36
		Teacher or Trainer	-,43	,83
		Student	-,69	,59
		Unemployed	-1,47	,40
		Other (e.g. retired)	-1,31	,09
	Teacher or Trainer	Manager	-1,11	,11
		Technical	-,83	,43
		Student	-,84	,33
		Unemployed	-1,63	,16
		Other (e.g. retired)	-1,45	-,16
	Student	Manager	-,87	,37
		Technical	-,59	,69
		Teacher or Trainer	-,33	,84
		Unemployed	-1,38	,42
		Other (e.g. retired)	-1,21	,10

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	95% Confidence Interval	
			Lower Bound	Upper Bound
Contacts between students and teachers can have the same intensity in online education as in face-to-face education	Unemployed	Manager	-,69	1,15
		Technical	-,40	1,47
		Teacher or Trainer	-,16	1,63
		Student	-,42	1,38
		Other (e.g. retired)	-1,02	,87
	Other (e.g. retired)	Manager	-,37	,98
		Technical	-,09	1,31
		Teacher or Trainer	,16	1,45
		Student	-,10	1,21
		Unemployed	-,87	1,02
Online communication allows increased amounts of communication between teachers and students when compared with other forms of education	Manager	Technical	-,33	1,00
		Teacher or Trainer	-,43	,78
		Student	-,30	,94
		Unemployed	-,94	,84
		Other (e.g. retired)	-,86	,50
	Technical	Manager	-1,00	,33
		Teacher or Trainer	-,79	,48
		Student	-,66	,63
		Unemployed	-1,29	,52
		Other (e.g. retired)	-1,21	,18
	Teacher or Trainer	Manager	-,78	,43
		Technical	-,48	,79
		Student	-,44	,73
		Unemployed	-1,09	,64
		Other (e.g. retired)	-1,00	,29
	Student	Manager	-,94	,30
		Technical	-,63	,66
		Teacher or Trainer	-,73	,44
		Unemployed	-1,24	,50
		Other (e.g. retired)	-1,16	,16
	Unemployed	Manager	-,84	,94
		Technical	-,52	1,29
		Teacher or Trainer	-,64	1,09
		Student	-,50	1,24
		Other (e.g. retired)	-1,04	,78
	Other (e.g. retired)	Manager	-,50	,86
		Technical	-,18	1,21
		Teacher or Trainer	-,29	1,00
		Student	-,16	1,16
		Unemployed	-,78	1,04
Only optimistic people think that the impact of technology on learning is beneficial	Manager	Technical	-,33	,87
		Teacher or Trainer	-,22	,88
		Student	-,15	,98
		Unemployed	-,60	1,01
		Other (e.g. retired)	-,73	,50
	Technical	Manager	-,87	,33
		Teacher or Trainer	-,51	,63
		Student	-,43	,73
		Unemployed	-,88	,75
		Other (e.g. retired)	-1,02	,24

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	95% Confidence Interval	
			Lower Bound	Upper Bound
Only optimistic people think that the impact of technology on learning is beneficial	Teacher or Trainer	Manager	-,88	,22
		Technical	-,63	,51
		Student	-,44	,62
		Unemployed	-,91	,66
		Other (e.g. retired)	-1,03	,14
	Student	Manager	-,98	,15
		Technical	-,73	,43
		Teacher or Trainer	-,62	,44
		Unemployed	-1,00	,58
		Other (e.g. retired)	-1,13	,06
	Unemployed	Manager	-1,01	,60
		Technical	-,75	,88
		Teacher or Trainer	-,66	,91
		Student	-,58	1,00
		Other (e.g. retired)	-1,15	,51
	Other (e.g. retired)	Manager	-,50	,73
		Technical	-,24	1,02
		Teacher or Trainer	-,14	1,03
		Student	-,06	1,13
		Unemployed	-,51	1,15
From my personal study experience I find that the impact of technology on learning is valuable	Manager	Technical	-,38	,61
		Teacher or Trainer	-,37	,53
		Student	-,25	,68
		Unemployed	-,41	,93
		Other (e.g. retired)	-,46	,55
	Technical	Manager	-,61	,38
		Teacher or Trainer	-,50	,44
		Student	-,37	,58
		Unemployed	-,53	,83
		Other (e.g. retired)	-,59	,45
	Teacher or Trainer	Manager	-,53	,37
		Technical	-,44	,50
		Student	-,30	,57
		Unemployed	-,48	,84
		Other (e.g. retired)	-,52	,45
	Student	Manager	-,68	,25
		Technical	-,58	,37
		Teacher or Trainer	-,57	,30
		Unemployed	-,62	,71
		Other (e.g. retired)	-,66	,32
	Unemployed	Manager	-,93	,41
		Technical	-,83	,53
		Teacher or Trainer	-,84	,48
		Student	-,71	,62
		Other (e.g. retired)	-,91	,48
	Other (e.g. retired)	Manager	-,55	,46
		Technical	-,45	,59
		Teacher or Trainer	-,45	,52
		Student	-,32	,66
		Unemployed	-,48	,91

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	95% Confidence Interval	
			Lower Bound	Upper Bound
Information and communications technology has usually been used to encourage us to be active participants in learning	Manager	Technical	-,29	,76
		Teacher or Trainer	-,67	,30
		Student	-,70	,29
		Unemployed	-1,05	,39
		Other (e.g. retired)	-,73	,35
	Technical	Manager	-,76	,29
		Teacher or Trainer	-,92	,08
		Student	-,95	,07
		Unemployed	-1,29	,17
		Other (e.g. retired)	-,98	,13
	Teacher or Trainer	Manager	-,30	,67
		Technical	-,08	,92
		Student	-,49	,44
		Unemployed	-,84	,55
		Other (e.g. retired)	-,52	,50
	Student	Manager	-,29	,70
		Technical	-,07	,95
		Teacher or Trainer	-,44	,49
		Unemployed	-,83	,58
		Other (e.g. retired)	-,51	,53
	Unemployed	Manager	-,39	1,05
		Technical	-,17	1,29
		Teacher or Trainer	-,55	,84
		Student	-,58	,83
		Other (e.g. retired)	-,60	,87
	Other (e.g. retired)	Manager	-,35	,73
		Technical	-,13	,98
		Teacher or Trainer	-,50	,52
		Student	-,53	,51
		Unemployed	-,87	,60
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Manager	Technical	-,58	,51
		Teacher or Trainer	-,56	,45
		Student	-,88	,15
		Unemployed	-,95	,52
		Other (e.g. retired)	-,64	,48
	Technical	Manager	-,51	,58
		Teacher or Trainer	-,54	,49
		Student	-,86	,19
		Unemployed	-,93	,56
		Other (e.g. retired)	-,62	,53
	Teacher or Trainer	Manager	-,45	,56
		Technical	-,49	,54
		Student	-,79	,17
		Unemployed	-,87	,55
		Other (e.g. retired)	-,56	,51
	Student	Manager	-,15	,88
		Technical	-,19	,86
		Teacher or Trainer	-,17	,79
		Unemployed	-,57	,87
		Other (e.g. retired)	-,26	,83

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	95% Confidence Interval	
			Lower Bound	Upper Bound
Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving	Unemployed	Manager	-,52	,95
		Technical	-,56	,93
		Teacher or Trainer	-,55	,87
		Student	-,87	,57
		Other (e.g. retired)	-,62	,89
	Other (e.g. retired)	Manager	-,48	,64
		Technical	-,53	,62
		Teacher or Trainer	-,51	,56
		Student	-,83	,26
		Unemployed	-,89	,62
Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs	Manager	Technical	-,57	,60
		Teacher or Trainer	-,66	,42
		Student	-,77	,33
		Unemployed	-,91	,69
		Other (e.g. retired)	-,55	,65
	Technical	Manager	-,60	,57
		Teacher or Trainer	-,70	,42
		Student	-,81	,33
		Unemployed	-,94	,68
		Other (e.g. retired)	-,58	,65
	Teacher or Trainer	Manager	-,42	,66
		Technical	-,42	,70
		Student	-,62	,42
		Unemployed	-,77	,79
		Other (e.g. retired)	-,39	,75
	Student	Manager	-,33	,77
		Technical	-,33	,81
		Teacher or Trainer	-,42	,62
		Unemployed	-,68	,89
		Other (e.g. retired)	-,31	,86
	Unemployed	Manager	-,69	,91
		Technical	-,68	,94
		Teacher or Trainer	-,79	,77
		Student	-,89	,68
		Other (e.g. retired)	-,65	,99
	Other (e.g. retired)	Manager	-,65	,55
		Technical	-,65	,58
		Teacher or Trainer	-,75	,39
		Student	-,86	,31
		Unemployed	-,99	,65
Learning is enhanced when text and pictures are integrated in a multimedia environment	Manager	Technical	-,36	,64
		Teacher or Trainer	-,34	,57
		Student	-,39	,54
		Unemployed	-,38	,98
		Other (e.g. retired)	-,41	,61
	Technical	Manager	-,64	,36
		Teacher or Trainer	-,50	,45
		Student	-,55	,42
		Unemployed	-,53	,85
		Other (e.g. retired)	-,57	,48

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	95% Confidence Interval	
			Lower Bound	Upper Bound
Learning is enhanced when text and pictures are integrated in a multimedia environment	Teacher or Trainer	Manager	-,57	,34
		Technical	-,45	,50
		Student	-,48	,41
		Unemployed	-,47	,85
		Other (e.g. retired)	-,50	,47
	Student	Manager	-,54	,39
		Technical	-,42	,55
		Teacher or Trainer	-,41	,48
		Unemployed	-,45	,89
		Other (e.g. retired)	-,48	,52
	Unemployed	Manager	-,98	,38
		Technical	-,85	,53
		Teacher or Trainer	-,85	,47
		Student	-,89	,45
		Other (e.g. retired)	-,90	,50
	Other (e.g. retired)	Manager	-,61	,41
		Technical	-,48	,57
		Teacher or Trainer	-,47	,50
		Student	-,52	,48
		Unemployed	-,50	,90
Educational games motivate learners and contribute to developing skills such as teamwork	Manager	Technical	-,32	,87
		Teacher or Trainer	-1,00	,10
		Student	-,69	,42
		Unemployed	-,80	,83
		Other (e.g. retired)	-,70	,53
	Technical	Manager	-,87	,32
		Teacher or Trainer	-1,29	-,15
		Student	-,99	,17
		Unemployed	-1,09	,57
		Other (e.g. retired)	-,99	,27
	Teacher or Trainer	Manager	-,10	1,00
		Technical	,15	1,29
		Student	-,22	,85
		Unemployed	-,33	1,26
		Other (e.g. retired)	-,22	,95
	Student	Manager	-,42	,69
		Technical	-,17	,99
		Teacher or Trainer	-,85	,22
		Unemployed	-,65	,95
		Other (e.g. retired)	-,54	,65
	Unemployed	Manager	-,83	,80
		Technical	-,57	1,09
		Teacher or Trainer	-1,26	,33
		Student	-,95	,65
		Other (e.g. retired)	-,94	,74
	Other (e.g. retired)	Manager	-,53	,70
		Technical	-,27	,99
		Teacher or Trainer	-,95	,22
		Student	-,65	,54
		Unemployed	-,74	,94

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	95% Confidence Interval	
			Lower Bound	Upper Bound
The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education	Manager	Technical	-,83	,16
		Teacher or Trainer	-,70	,21
		Student	-,18	,78
		Unemployed	-1,06	,36
		Other (e.g. retired)	-,83	,18
	Technical	Manager	-,16	,83
		Teacher or Trainer	-,38	,56
		Student	,13	1,13
		Unemployed	-,74	,71
		Other (e.g. retired)	-,52	,52
	Teacher or Trainer	Manager	-,21	,70
		Technical	-,56	,38
		Student	,08	1,01
		Unemployed	-,80	,59
		Other (e.g. retired)	-,57	,40
	Student	Manager	-,78	,18
		Technical	-1,13	-,13
		Teacher or Trainer	-1,01	-,08
		Unemployed	-1,37	,06
		Other (e.g. retired)	-1,14	-,12
	Unemployed	Manager	-,36	1,06
		Technical	-,71	,74
		Teacher or Trainer	-,59	,80
		Student	-,06	1,37
		Other (e.g. retired)	-,71	,75
	Other (e.g. retired)	Manager	-,18	,83
		Technical	-,52	,52
		Teacher or Trainer	-,40	,57
		Student	,12	1,14
		Unemployed	-,75	,71
Technology facilitates easier access to material for those studying part-time	Manager	Technical	-,67	,29
		Teacher or Trainer	-,53	,36
		Student	-,22	,72
		Unemployed	-,52	,84
		Other (e.g. retired)	-,43	,56
	Technical	Manager	-,29	,67
		Teacher or Trainer	-,36	,57
		Student	-,05	,93
		Unemployed	-,34	1,04
		Other (e.g. retired)	-,25	,76
	Teacher or Trainer	Manager	-,36	,53
		Technical	-,57	,36
		Student	-,12	,79
		Unemployed	-,42	,91
		Other (e.g. retired)	-,32	,62
	Student	Manager	-,72	,22
		Technical	-,93	,05
		Teacher or Trainer	-,79	,12
		Unemployed	-,77	,59
		Other (e.g. retired)	-,68	,31

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	95% Confidence Interval	
			Lower Bound	Upper Bound
Technology facilitates easier access to material for those studying part-time	Unemployed	Manager	-,84	,52
		Technical	-1,04	,34
		Teacher or Trainer	-,91	,42
		Student	-,59	,77
		Other (e.g. retired)	-,79	,60
	Other (e.g. retired)	Manager	-,56	,43
		Technical	-,76	,25
		Teacher or Trainer	-,62	,32
		Student	-,31	,68
		Unemployed	-,60	,79
University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities	Manager	Technical	-,81	,56
		Teacher or Trainer	-,27	1,00
		Student	-,17	1,17
		Unemployed	-1,49	,44
		Other (e.g. retired)	-1,20	,20
	Technical	Manager	-,56	,81
		Teacher or Trainer	-,17	1,14
		Student	-,07	1,31
		Unemployed	-1,38	,58
		Other (e.g. retired)	-1,09	,35
	Teacher or Trainer	Manager	-1,00	,27
		Technical	-1,14	,17
		Student	-,50	,77
		Unemployed	-1,83	,06
		Other (e.g. retired)	-1,53	-,19
	Student	Manager	-1,17	,17
		Technical	-1,31	,07
		Teacher or Trainer	-,77	,50
		Unemployed	-1,99	-,05
		Other (e.g. retired)	-1,70	-,29
	Unemployed	Manager	-,44	1,49
		Technical	-,58	1,38
		Teacher or Trainer	-,06	1,83
		Student	,05	1,99
		Other (e.g. retired)	-,96	1,01
	Other (e.g. retired)	Manager	-,20	1,20
		Technical	-,35	1,09
		Teacher or Trainer	,19	1,53
		Student	,29	1,70
		Unemployed	-1,01	,96
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Manager	Technical	-,76	,56
		Teacher or Trainer	-,45	,76
		Student	-,52	,77
		Unemployed	-1,50	,35
		Other (e.g. retired)	-1,08	,26
	Technical	Manager	-,56	,76
		Teacher or Trainer	-,38	,89
		Student	-,44	,89
		Unemployed	-1,41	,47
		Other (e.g. retired)	-1,01	,38

Multiple Comparisons

Scheffe

Dependent Variable	(I) What is your occupation?	(J) What is your occupation?	95% Confidence Interval	
			Lower Bound	Upper Bound
There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university	Teacher or Trainer	Manager	-,76	,45
		Technical	-,89	,38
		Student	-,64	,59
		Unemployed	-1,63	,18
		Other (e.g. retired)	-1,21	,08
	Student	Manager	-,77	,52
		Technical	-,89	,44
		Teacher or Trainer	-,59	,64
		Unemployed	-1,63	,23
		Other (e.g. retired)	-1,22	,14
	Unemployed	Manager	-,35	1,50
		Technical	-,47	1,41
		Teacher or Trainer	-,18	1,63
		Student	-,23	1,63
		Other (e.g. retired)	-,79	1,11
	Other (e.g. retired)	Manager	-,26	1,08
		Technical	-,38	1,01
		Teacher or Trainer	-,08	1,21
		Student	-,14	1,22
		Unemployed	-1,11	,79
Study at an Open University is especially of advantage to adults who have work and family obligations	Manager	Technical	-,59	,26
		Teacher or Trainer	-,49	,30
		Student	,11	,95
		Unemployed	-,67	,53
		Other (e.g. retired)	-,64	,22
	Technical	Manager	-,26	,59
		Teacher or Trainer	-,34	,48
		Student	,27	1,13
		Unemployed	-,52	,70
		Other (e.g. retired)	-,49	,40
	Teacher or Trainer	Manager	-,30	,49
		Technical	-,48	,34
		Student	,23	1,03
		Unemployed	-,57	,61
		Other (e.g. retired)	-,53	,30
	Student	Manager	-,95	-,11
		Technical	-1,13	-,27
		Teacher or Trainer	-1,03	-,23
		Unemployed	-1,21	,00
		Other (e.g. retired)	-1,18	-,30
	Unemployed	Manager	-,53	,67
		Technical	-,70	,52
		Teacher or Trainer	-,61	,57
		Student	,00	1,21
		Other (e.g. retired)	-,75	,48
	Other (e.g. retired)	Manager	-,22	,64
		Technical	-,40	,49
		Teacher or Trainer	-,30	,53
		Student	,30	1,18
		Unemployed	-,48	,75

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Thanks to technology, the problems of access to learning for students with disabilities have been resolved

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05	
		1	2
Student	75	3,08	
Manager	66	3,44	3,44
Technical	58	3,47	3,47
Teacher or Trainer	82	3,62	3,62
Other (e.g. retired)	53	3,62	3,62
Unemployed	23		3,83
Sig.		,075	,402

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 49,889.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Contacts between students and teachers can have the same intensity in online education as in face-to-face education

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05	
		1	2
Teacher or Trainer	82	2,27	
Technical	58	2,47	2,47
Student	75	2,52	2,52
Manager	65	2,77	2,77
Unemployed	21	3,00	3,00
Other (e.g. retired)	53		3,08
Sig.		,059	,190

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 48,138.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Online communication allows increased amounts of communication between teachers and students when compared with other forms of education

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05
		1
Technical	57	3,05
Student	75	3,07
Teacher or Trainer	82	3,21
Manager	65	3,38
Unemployed	23	3,43
Other (e.g. retired)	53	3,57
Sig.		,363

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 49,668.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Only optimistic people think that the impact of technology on learning is beneficial

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05
		1
Student	74	3,35
Teacher or Trainer	82	3,44
Technical	58	3,50
Unemployed	23	3,57
Manager	65	3,77
Other (e.g. retired)	53	3,89
Sig.		,204

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 49,718.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From my personal study experience I find that the impact of technology on learning is valuable

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05
		1
Unemployed	22	3,95
Student	75	4,00
Technical	58	4,10
Teacher or Trainer	82	4,13
Other (e.g. retired)	53	4,17
Manager	65	4,22
Sig.		,776

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 48,989.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Information and communications technology has usually been used to encourage us to be active participants in learning

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05
		1
Technical	58	3,12
Manager	65	3,35
Teacher or Trainer	82	3,54
Other (e.g. retired)	53	3,55
Student	75	3,56
Unemployed	22	3,68
Sig.		,072

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 48,989.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Information and communications technology has been used to support the development of higher level thinking skills such as synthesis and problem solving

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05
		1
Manager	65	3,26
Technical	58	3,29
Teacher or Trainer	82	3,32
Other (e.g. retired)	53	3,34
Unemployed	23	3,48
Student	75	3,63
Sig.		,540

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 49,792.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Information and communications technology has been used to support more individualized learning programmes tailored to our own individual needs

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05
		1
Other (e.g. retired)	53	3,38
Technical	58	3,41
Manager	65	3,43
Unemployed	22	3,55
Teacher or Trainer	81	3,56
Student	75	3,65
Sig.		,851

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 48,929.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Learning is enhanced when text and pictures are integrated in a multimedia environment

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05
		1
Unemployed	22	3,91
Technical	57	4,07
Teacher or Trainer	82	4,10
Other (e.g. retired)	53	4,11
Student	75	4,13
Manager	66	4,21
Sig.		,654

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 48,961.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Educational games motivate learners and contribute to developing skills such as teamwork

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05	
		1	2
Technical	58	3,38	
Unemployed	22	3,64	3,64
Manager	66	3,65	3,65
Other (e.g. retired)	53	3,74	3,74
Student	75	3,79	3,79
Teacher or Trainer	80		4,10
Sig.		,531	,376

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 48,960.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

The application of new ICT concepts to support learning and teaching and provide Internet access to student administrative processes, has improved distance education

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05	
		1	2
Student	62	3,82	
Manager	65	4,12	4,12
Teacher or Trainer	79	4,37	4,37
Other (e.g. retired)	53		4,45
Technical	57		4,46
Unemployed	19		4,47
Sig.		,077	,526

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 45,040.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Technology facilitates easier access to material for those studying part-time

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05 1
Student	62	4,21
Unemployed	20	4,30
Other (e.g. retired)	53	4,40
Manager	65	4,46
Teacher or Trainer	79	4,54
Technical	57	4,65
Sig.		,221

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 45,948.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

University degrees awarded by open universities may be comparable to degrees from traditional face-to-face universities

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05 1	2
Student	62	3,08	
Teacher or Trainer	79	3,22	
Manager	64	3,58	3,58
Technical	57	3,70	3,70
Other (e.g. retired)	53		4,08
Unemployed	20		4,10
Sig.		,225	,427

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 45,863.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

There is no difference in learning outcomes between studying at an Open University or at a traditional face-to-face university

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05 1
Teacher or Trainer	79	2,92
Student	62	2,95
Manager	64	3,08
Technical	56	3,18
Other (e.g. retired)	53	3,49
Unemployed	20	3,65
Sig.		,069

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 45,754.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Study at an Open University is especially of advantage to adults who have work and family obligations

Scheffe[a,b]

What is your occupation?	N	Subset for alpha = .05	
		1	2
Student	62	4,15	
Manager	65		4,68
Unemployed	20		4,75
Teacher or Trainer	79		4,77
Technical	57		4,84
Other (e.g. retired)	53		4,89
Sig.		1,000	,841

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 45,948.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.