

# Implementation of a Computer-Assisted-Web-Interview Mode for the Adult Education Survey in Austria

Calendar Year 2022

Final Report



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Adult Education  
Survey

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# 1 Introduction

The aim of the project is the implementation of an additional survey mode “CAWI” (Computer Assisted Web Interviewing) besides “CAPI” (Computer Assisted Personal Interviewing). Statistics Austria follows a “mobile first” approach where we allow for all devices to enter and fill in our AES questionnaire with the aim of being most respondent-friendly.

In order to add a CAWI mode in the data collection design for the AES the following steps were undertaken:

## 1. Re-wording:

All survey questions were examined with special attention given to the “mobile-first” approach. If needed questions were reformulated or elements of the questions changed (e.g. instructions, warnings).

## 2. Testing phase I – Cognitive Interviews:

In the first testing phase a sample of re-worded questions was tested using cognitive interviews by an external service contractor. Based on the results of the cognitive interviews the questions and answer texts etc. were again re-worded so that a final questionnaire could be used for the pre-tests (CAPI/CAWI).

## 3. Testing phase II – Pre-tests:

The focus of the second testing phase was on the pre-test using a multi-mode data collection (CAPI/CAWI) in a real survey situation. This included a complete test of the questionnaire, the workflow, the sampling as well as the official correspondence with the respondents (e.g. invitation letters).

## 4. Finalization – Analysis and evaluations:

In the final phase the focus was on the evaluations of the pre-tests (e.g. assessment of the adapted questionnaire, workflow), the analysis of the data derived from the pre-tests and the analysis of given feedback of respondents as well as of CAPI interviewers. Differences occurring between modes (CAWI and CAPI) were examined. The analysis is the basis for the final adaptations to the questionnaire as well as the communication strategy, the workflow and data exports in the post-processing stage of the survey.

## 2 Re-Wording

In the re-wording phase, the questionnaire was evaluated by experts of Statistics Austria as well as by external experts. In detail, survey questions, answer codes, instructions and warnings were re-worded.

Special attention was given to the “mobile-first” approach, thus, focusing primarily on the development of a good question for mobile devices with small screens before testing them on larger screens of computer desktops.

### 2.1 Re-Wording by Statistics Austria

In a first step the model questionnaire and manual provided by Eurostat were compared to the previous questionnaire of 2016. First newly added questions were identified and second questions that require adaptations due to changes by Eurostat or internal questionnaire standards were determined.

Overall, 28 questions were identified for translation and/or adaptation due to the new addition of questions or re-wording from the 2016 version to fit the new questionnaire standards (especially CAWI mode) for Statistics Austria.

Since the last rendition of the AES, Statistics Austria changed the placement of auxiliary text. Previously additional information or instructions were always visible when clicking the help-button. Now, to improve readability and mobile friendliness, auxiliary texts are added in form of expandable instructions under the question. Therefore, all questions that previously displayed additional instructions and/or information had to be revised. The list of questions that were revised is included in [Annex A](#).

For example, under the question FEDPLACE that asks where a specific non-formal learning activity took place a question (auxiliary text) is displayed that says, “Was the class organized 50% online and 50% on-site?”. Upon clicking on the sentence the instruction to choose “mostly online” is displayed (see figure 1).

## Figure 1 - Example for auxiliary texts: FEDPLACE

In welcher Form hat der Unterricht dieser Ausbildung stattgefunden?

Ausschließlich online

Hauptsächlich online

Hauptsächlich vor Ort

Ausschließlich vor Ort

### Hilfe zur Frage

Der Unterricht hat zur Hälfte vor Ort und online stattgefunden? ▲

Bitte geben Sie *hauptsächlich online* an.

◀ Zurück

⏸ Pause

Weiter ▶

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## 2.2 Methodology

Questions requiring change were added to thematic chunks and either translated or adapted by two experts separately. Afterwards an expert committee discussed the translations and/or adaptations and decided on the final version of the questionnaire for internal testing. During internal testing 11 colleagues of Statistics Austria were asked to complete the questionnaire from a respondent's perspective. They were asked to keep different demographic backgrounds in mind and to provide feedback regarding the comprehensibility of the question.

After testing, the expert committee discussed whether the feedback indicates the need for adaptations and re-worded questions or added auxiliary text if required. This revised version was later used for the pre-tests (CAPI/CAWI).

Apart from that, the auxiliary texts for formal education have been developed and tested in conjunction with the EU-SILC Team of Statistics Austria. The goal was to harmonize the standardized core social variables across the surveys.



## 2.3 Issues and Examples

In total only four questions required translations by Statistics Austria (FED/NFEMAINSTAT, NFEACTXX\_WORKTIME, INFDEVICE and INFPURP) as external experts translated most of the newly added questions (see Re-Wording by the Austrian Gallup Institute). No difficulties were encountered during the adaptation process or internal testing of these questions.

As noted above some questions were revised to make them more mobile friendly. Questions were shortened and rephrased in simple language while still keeping relevant information. For example, DIFFTYPE was simplified from the 2016 version by rephrasing the sentence into a simple why-question:

- “Erklärt die eine oder andere der folgenden Aussagen, weshalb Sie in den letzten 12 Monaten an keiner weiteren Ausbildung oder Weiterbildung teilgenommen haben?“ (2016 Version)
- “Warum haben Sie an keiner weiteren Aus- oder Weiterbildung teilgenommen“? (2022 Version)

We used the same principle for multiple questions. Internal testing showed that the rephrasing did not affect the ability to understand these questions while at the same time providing better fit for small mobile screens.

Auxiliary texts for the formal education were revised according to the question’s meaning or the technical terms concerning the education system. Reworking the remaining instructions that were used in 2016 was straightforward and required only minor changes. During internal testing, we noticed that some questions required additional information. For example, the answer categories for FEDPAIDBY (payer of the formal education activity) do not account for scholarships - however, it is mentioned in the manual - and therefore we added an auxiliary question.

## 2.4 Re-Wording by the Austrian Gallup Institute

The remaining 32 questions requiring translation were given to an external service contractor, the Austrian Gallup Institute, for adaption (see Table 2). In a kick-off meeting, Statistics Austria presented the subject and goals of the survey and explained the requirements and expectations of the translation according to the manual and internal questionnaire standards. Afterwards Gallup provided a first translation of the questions, which were then discussed between two members of Gallup and the experts of Statistics Austria. Next, Gallup revised questions that required further changes and in another meeting, the final adaptations were determined. Some of those questions were also used for cognitive interviews, which will be discussed later.

**Table 1 - Question IDs and Content re-worded by the Austrian Gallup Institute**

Question-ID	Question-Content
Access to Information	
SEEKINFO	Looked for any information concerning learning possibilities in the last 12 months
GUIDE	Guidance on learning received from institutions/organizations during the last 12 months
GUIDESOURCE	Source of guidance on learning received during the last 12 months
GUIDEINTER	Type of interaction used for guidance on learning received during the last 12 months
Formal Education	
FEDPLACE	Place of instruction of the most recent formal education activity
FEDONMAT	Online provision of teaching materials for most recent formal education activity
FEDONTEA	Online provision of teaching materials for the most recent formal education activity
FEDONPAR	Online interaction with other participants for the most recent formal education activity
FEDREASON	Reasons for participating in the most recent formal education activity
FEDREASONMAIN	Most important reason for participating in the most recent formal education activity
FEDBNHOURS	Instruction hours of most recent formal education activity
FEDBNWEEKS	Instruction weeks of most recent formal education activity
FEDDURPERWEEK	Instruction hours per week of most recent formal education activity
FEDPAID	Payment for the most recent formal education activity
FEDPAIDBY	Source of funding of partial or full payment for the most recent formal education activity
FEDUSEA	Current use of skills or knowledge from the most recent formal education activity
FEDOUTCOME	Outcomes of the most recent formal education activity
FEDOUTCOMEMAIN	Most important outcome of the most recent formal education activity
Non-Formal Education	
NFESKILLSMAIN	Main skills acquired through the randomly-selected non-formal learning activity

Question-ID	Question-Content
NFEINITIA	Initiator of the randomly-selected non-formal learning activity
NFEREASON	Reasons for participating in the most recent formal education activity
NFEREASONMAIN	Most important reason for participating in the most recent formal education activity
NFEPROVIDER	Provider of the randomly-selected non-formal learning activity
NFECERT	Certificate after the randomly-selected non-formal learning activity
Obstacles	
WANT_A	Will to participate in more education activities in the past 12 months (prior participation in the last 12 months)
NONEED_A	No need for more education activities (prior participation in the last 12 months)
WANT_B	Will to participate in more education activities in the past 12 months (no prior participation in the last 12 months)
NONEED_B	No need for more education activities (no prior participation in the last 12 months)
DIFFTYPE	Reason for not participating in (more) education activities
DIFFMAIN	Main reason for not participating in (more) education activities

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## 2.5 Issues and Examples

Some questions and answer categories required longer discussions (see Table 2 for question content) and went through multiple revision processes. For some questions, it proved to be a difficult task to adhere to the intent of being mobile friendly. Especially the newly added questions FEDONMAT, FEDONTEA and FEDONPAR contain a lot of information and only subtle distinctions between each other. We ended up with a direct translation, because we did not find a way to keep all information while also being mobile friendly.

We also discussed if the answer category “other public and private institutions” (FEDPAIDBY, NFEPAIDBY, NFEPROVIDER) will be understood similarly between respondents and if a clear distinction can be made from the other answer categories.

NFECERT was split into two questions to be more respondent and mobile friendly. The first question asks whether the non-formal education activity lead to a certificate. If the respondent answers with “yes” he/she will be asked if the certificate was required by the employer, prospective employer, professional body, or by law.

SEEKINFO and GUIDE was combined into one question battery with the leading question: “Haben Sie innerhalb der letzten 12 Monaten...”. This was done to avoid repetition and because the timeframe is the same for both questions. We also discussed that GUIDE\_3 might not be easily understood by respondents as the procedure for validation of skills might be thought of in different ways.

Lastly, the answer categories of GUIDEINTER proved to be a difficult task, because of the lack of equivalent German words that are also commonly known.

Because of the issues discussed above, we chose these questions for the following cognitive interviews.

## 2.6 Conclusions / Recommendations

Overall, we did not encounter many issues during the re-wording process and were able to find satisfactory solutions for the ones that did occur. However, we think that mobile-friendliness should be a main concern for the next iteration of the AES. As CAWI becomes a prominent mode across countries and many respondents prefer to fill out questionnaires on their mobile devices simplifying and shortening or splitting up questions could be a focus for improving the survey.

## 3 Cognitive interviews

In the first testing phase a sample of the re-worded survey questions were tested using cognitive interviews.

The Austrian Gallup Institute tested 18 of the re-worded questions resp. reworded question sets, which were considered to be treated with more attention in cognitive interviews. The results of the 10 cognitive interviews indicates:

- how many and which interview partners experienced problems with the questions, which concrete problems interview partners did experience,
- an assessment which groups of respondents in the total population will be affected by the problems arising from the reworded questions,
- an assessment of the severity of the problems in terms of expected errors in measurement.
- 

Based on the results of the cognitive interviews the questions and answer texts etc. were again re-worded so that this final questionnaire could be used for the pre-tests (CAPI/CAWI).

### 3.1 Sampling and implementation of the cognitive interviews

The Austrian Gallup Institute has an online panel that is embedded on their survey platform, which is run according to ISO standard 26362. There are around 10,000 people in this panel who are interested in group discussions and/or personal interviews. Following the socio-demographic demands from Statistics Austria, Gallup recruited 10 interview partners from their online panel for the cognitive interviews (also see table 2). It was important to have a sample of respondents with a spread over as many federal states as possible. Therefore, a quota plan with an ideal distribution according to gender, age group and educational qualification was given to Gallup. All respondents have participated in non-formal education and training in the last 12 months and three respondents have completed a formal education activity in the last 12 months.

**Table 2 - Cognitive interviews: distribution of respondents by gender, age and highest level of education**

	Respondents
Total	10
<b>Gender</b>	
Male	5
Female	5
<b>Age</b>	
18-24	3
25-34	2
35-44	2
45-54	3
<b>Highest level of education (HATLEVEL)</b>	
International Standard Classification of Education 0 - 2	2
International Standard Classification of Education 3 - 4	5
International Standard Classification of Education 5 - 8	4
<b>Student or apprentice (FED)</b>	
Yes	3
No	7
<b>Attendance of courses (NFE)</b>	
Yes	10
No	0

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The interviews were carried out between 7 February and 15 February 2022 by two different interviewers via videoconference (zoom) and were conducted in a semi-structured manner using probing guidelines (see Annex B, separate pdf-file). The setting should be as close as possible to the respondents' original situation. Therefore, the respondents filled out the online questionnaire on the computer and were interviewed during the process. The interviewers opened the online questionnaire of Statistics Austria already before the interviews started, split the screen after a short introduction and handed over the remote control to the respondents. The respondents clicked through the online questionnaire and answered questions about the comprehensibility,

completeness etc. of the respective question. The shortest interview was 50 minutes and the longest interview lasted 1 hour 17 minutes.

## **3.2 Analysis of the cognitive interviews**

The output of the cognitive interviews that were carried out by the external service contractor contains:

- Methodological documentation of the cognitive tests including socio-demographic profiles of the respondents (by means of anonymised IDs) and procedure for conducting the interviews and analysis.
- A summary of the content of essential statements made by the respondents for each interview.
- Presentation (Gallup) of the results of the cognitive interviews
- Results protocol of the discussion (Statistics Austria, Gallup) after the presentations in written form.

In the following section, the results of the cognitive interviews are summarized for each re-worded survey question.

**Table 3 - Cognitive interviews: tested re-worded questions resp. re-worded question sets**

Question-ID	Question-Content
Access to Information	
SEEKINFO	Looked for any information concerning learning possibilities in the last 12 months
GUIDE	Guidance on learning received from institutions/organizations during the last 12 months
GUIDESOURCE	Source of guidance on learning received during the last 12 months
GUIDEINTER	Type of interaction used for guidance on learning received during the last 12 months
Formal Education	
FEDONTEA	Online provision of teaching materials for the most recent formal education activity
FEDONPAR	Online interaction with other participants for the most recent formal education activity
FEDREASON	Reasons for participating in the most recent formal education activity
FEDPAID	Payment for the most recent formal education activity
FEDPAIDBY	Source of funding of partial or full payment for the most recent formal education activity
FEDUSEA	Current use of skills or knowledge from the most recent formal education activity
FEDOUTCOME	Outcomes of the most recent formal education activity
Non-Formal Education	
NFESKILLSMAIN	Main skills acquired through the randomly-selected non-formal learning activity
NFEINITIA	Initiator of the randomly-selected non-formal learning activity
NFEREASON	Reasons for participating in the most recent formal education activity
NFEREASONMAIN	Most important reason for participating in the most recent formal education activity
NFEPROVIDER	Provider of the randomly-selected non-formal learning activity
NFECERT	Certificate after the randomly-selected non-formal learning activity

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## Access to information about learning possibilities and guidance

### SEEKINFO, GUIDE:

The variables SEEKINFO and GUIDE were combined into one item battery in order to avoid repetition of the timeframe.

Because of the different contents, the item GUIDE\_1 (Counselling/advice on learning possibilities (including support to search for information and applying to learning possibilities)) was asked separately in three categories: 1) counselling/advice on learning possibilities, 2) support to search for information, 3) support for applying to learning possibilities).



## Results:

Overall, the questions (SEEKINFO, GUIDE) are easy to answer. According to the respondents, it is not difficult to recall to the last 12 months. Figure 2 shows the items that were included in the item battery.

**SEEKINFO** (Looked for any information concerning learning possibilities in the last 12 months):  
There are no questions or problems in answering this item.

**GUIDE\_1** (Counselling/advice on learning possibilities including support to search for information and applying to learning possibilities):  
There are no questions or problems in answering this item.

**GUIDE\_2** (Screening/evaluation of individual learning needs based on professional tests and/or interviews):  
There are no questions or problems in answering this item.

**GUIDE\_3** (Advice/help on procedure for validation/recognition of skills, competences or prior learning):  
The item GUIDE\_3 (“....Hilfestellung bei der offiziellen Anerkennung Ihrer Fähigkeiten, Kompetenzen oder bei der Bestätigung Ihrer Vorkenntnisse erhalten“ / „...receive assistance with the official recognition of your skills, competences or with the confirmation of your previous knowledge”) is perceived as too long and is difficult to understand. Official validation/recognition was commonly understood as mainly to educational qualifications abroad.

## Figure 2 - SEEKINFO and GUIDE

SEEKINFO\_GUIDE

Haben Sie innerhalb der letzten 12 Monate...

... nach Informationen zu Aus- und Weiterbildungen für sich selbst gesucht?	▲
Ja	
Nein	
... sich zu Aus- und Weiterbildungen beraten lassen?	▼
... Unterstützung bei der Suche nach Informationen zu Aus- und Weiterbildungen erhalten?	▼
... Unterstützungen bei der Anmeldung zu Bildungsangeboten erhalten?	▼
... Ihren persönlichen Bildungsbedarf mittels eines professionellen Tests oder Beratungsgesprächs ermitteln lassen?	▼
... Hilfestellung bei der Bestätigung Ihrer Vorkenntnisse, Fähigkeiten und Kompetenzen erhalten?	▼

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**GUIDESOURCE** (Source of guidance on learning received during the last 12 months):

The question was not difficult to answer. On further reflection the separation between the categories is not quite clear for some respondents. The term "Berufsbildungszentrum" ("vocational training centre") is partly not understandable.

**GUIDEINTER** (Type of interaction used for guidance on learning received during the last 12 months, see figure 3):

The question as well as the answer categories are clear and the response is quick. It is good that category one also gives telephone and email contact as an example, so that personal contact is sufficiently defined.

## Figure 3 - GUIDEINTER

GUIDEINTER

Wie haben Sie in den letzten 12 Monaten Information und Beratung für Ihre Aus- und Weiterbildung erhalten?

Durch <b>persönlichen Kontakt mit einer Person</b> in einem 4-Augen-Gespräch, via Videogespräch, am Telefon oder per E-Mail	▲
Trifft zu	
Trifft nicht zu	
Durch Kontakt via Chatbots, Chats mit virtuellen Assistenten, automatisierte Kommunikation über eine Website oder Webanwendung	▼

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## Formal education

**FEDPLACE** (Place of instruction of the most recent formal education activity):

Question and answer categories are in general comprehensible. However, the word "mostly" can mean different things in this case ("sometimes", "both" or "for the most part", "to a predominant part").

**FEDONMAT** (Online provision of teaching materials for the most recent formal education activity):

It is not entirely clear whether materials presented during an online course are also considered to be "made available online".

**FEDONTEA** (Online interaction with teaching staff for the most recent formal education activity):

The question is answered quickly and does not cause any problems. The more detailed explanation of the definition of online exchange is very good and helpful.

**FEDONPAR** (Online interaction with other participants for the most recent formal education activity):

The difference to the previous question (FEDONTEA) is mostly clear. However, in some cases decisive terms in the question were overlooked.

**FEDREASON** (Reasons for participating in the most recent formal education activity):

Only the item FEDREASON\_06\_7 (to increase my knowledge/skills for my own general interest and curiosity) was not quite comprehensible for the respondents. Overall, there are a few uncertainties but respondents answer rather quickly.

**FEDPAID** (Payment for the most recent formal education activity):

The question is answered quickly. In rare cases, the last answer category (" Von niemanden bezahlt, da die Aktivität kostenlos war" / "Not paid by anyone since the activity was free of charge") is not entirely clear.

**FEDPAIDBY** (Source of funding of partial or full payment for the most recent formal education activity):

No difficulties in responding can be identified.

**FEDUSEA** (Current use of skills or knowledge from the most recent formal education activity):

The question is simple and clear, needs no change.

**FEDOUTCOME** (Outcomes of the most recent formal education activity):

The examples of the item FEDOUTCOME\_6 "personal benefits" are not optimally chosen. "Meeting people" is an additional benefit, but not a decisive advantage. Refreshing or acquiring new knowledge" can also be a benefit in professional life and is not typically only a personal benefit. The two examples are sometimes perceived as not fitting together.

## Non-formal education and training

**NFESKILSMAIN** (Main skills acquired through the randomly-selected non-formal learning activity):  
It takes a little longer to answer the question because often several aspects apply and it is difficult to limit oneself to just one answer. The fact that only one answer is possible is considered a pity. The answer options are well understandable, a note "Please select only one answer" is missing.

**NFEINITIA** (Initiator of the randomly-selected non-formal learning activity):  
The question is clear.

**NFEREASON** (Reasons for participating in the most recent formal education activity):  
The word "voluntary work" is not clear and is understood differently. The item "for health reasons" is also interpreted differently in some cases.

**NFEPROVIDER** (Provider of the randomly-selected non-formal learning activity):  
In particular, the distinction between "non-formal education and training institution" and "other public or private institutions" is sometimes incomprehensible. Examples would help.

**NFECERT** (Certificate after the randomly-selected non-formal learning activity, see figure 4):  
Not everyone is familiar with the word "professional body". It is also not clear to everyone what is meant exactly "by law", an explanation would be useful.

### Figure 4 - NFECERT

NFECERT\_A#1

Erhält man am Ende der Weiterbildung ein Zeugnis?

Ja
Nein

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NFECERT\_B#1

Ist das Zeugnis...

... vom Arbeitgeber oder künftigen Arbeitgeber verlangt?	▲
Ja	
Nein	
... vom Berufsverband oder der Berufskammer verlangt?	▼
... gesetzlich vorgeschrieben?	▼

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### 3.3 Conclusions / Recommendations

In total, improvements were necessary for nine questions, either in the wording of the questions or through auxiliary texts.

#### Access to information about learning possibilities and guidance

**GUIDE\_3** (Advice/help on procedure for validation/recognition of skills, competences or prior learning):

The question has to be re-worded and an auxiliary text for the term “Bestätigung” (confirmation) is necessary.

**GUIDESOURCE** (Source of guidance on learning received during the last 12 months):

The question has to be simplified and an auxiliary text for the term “Andere Institutionen oder Organisationen” (other institutions/organisations) is necessary.

#### Formal education

**FEDONMAT** (Online provision of teaching materials for the most recent formal education activity):

An auxiliary text for the term “Unterrichtsmaterialien online zur Verfügung gestellt” (make teaching materials available via internet) is necessary.

**FEDREASON** (Reasons for participating in the most recent formal education activity):

The answer FEDREASON\_06\_7 (to increase my knowledge/skills for my own general interest and curiosity) has to be re-worded.

**FEDOUTCOME** (Outcomes of the most recent formal education activity):

The item FEDOUTCOME\_6 (personal benefits (meet other people, refresh or acquire skills on general or specific subjects, etc.)) “Persönliche Vorteile wie andere Leute treffen, Auffrischen oder Erwerb neuen Wissens” has to be simplified and an auxiliary text is necessary.

#### Non-formal education and training

**NFESKILLSMAIN** (Main skills acquired through the randomly-selected non-formal learning activity):

A note "Please select only one answer" is necessary.

**NFEREASON** (Reasons for participating in the most recent formal education activity):

An auxiliary text for the item NFEREASON\_12 “Um Freiwilligenarbeit besser machen zu können” (To do voluntary work better) is necessary.

**NFEPROVIDER** (Provider of the randomly-selected non-formal learning activity):

An auxiliary text for the category “Andere öffentliche oder private Institutionen” (Other public or private institution) is necessary.

**NFECERT** (Certificate after the randomly-selected non-formal learning activity):

Auxiliary texts for the terms “Zeugnis” (certificate), “Berufsverband” (professional body) and “gesetzlich vorgeschrieben” (required by law) are necessary.

## 4 Pre-tests (CAPI/CAWI)

Based on the results of the cognitive interviews the questionnaire was adapted, this was the final questionnaire used for the pre-tests. The focus of the second testing phase is on the pre-test in multi-mode data collection (CAPI/CAWI). The main goal of the pre-tests is to test the adapted questionnaire in CAWI as well as in CAPI mode in a real survey situation.

This includes:

- a complete test of the survey including the questionnaire, the workflow, the sample as well as the official correspondence with respondents (e.g. invitation letters)
- a comparison of the CAPI mode and the CAWI mode
- evaluations of the feedback from respondents as well as from CAPI-interviewers

### 4.1 Implementation and Workflow

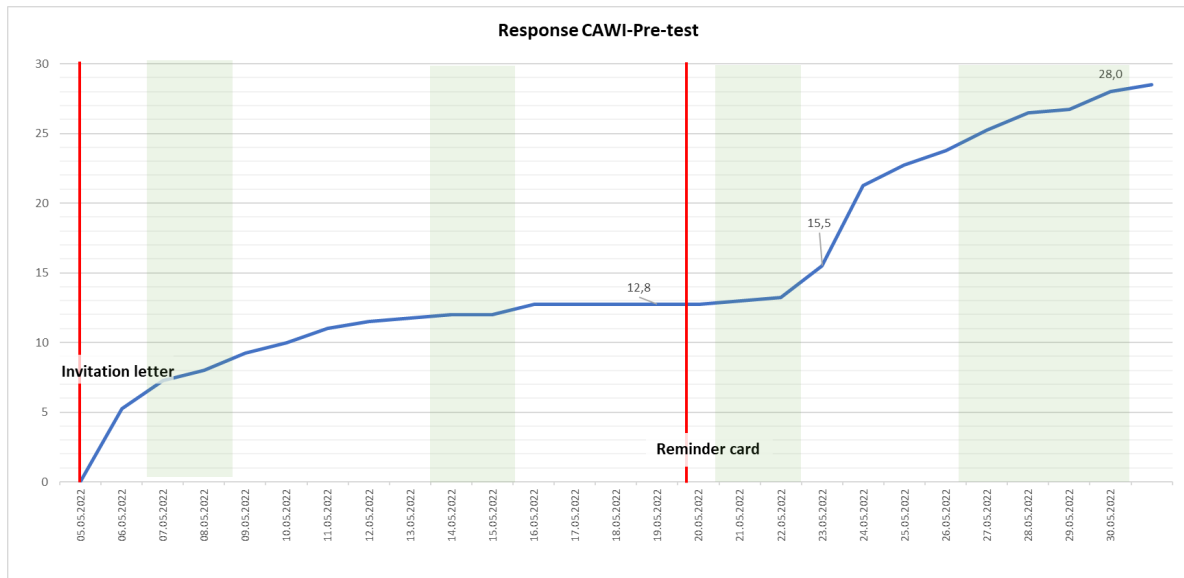
The data collection of the pre-tests (CAPI/CAWI) started at the beginning of May and ended at the beginning of June 2022. The pre-tests were conducted throughout Austria.

A workflow plan was developed and tested for the data collection including: sampling, assignment of user name and password, sending of invitation letters, start of the survey online, control of the response, sending of reminder cards, data export, etc.

For the timely printing and sending of invitation letters and reminder cards, it is very important to control the response rate and to keep to the schedule.

The communication strategy for the CAWI mode (see figure 5) has shown that in addition to the invitation letter and the reminder card, an additional reminder letter will be necessary to increase the response rate. It is also important that the time between the mailings is not too long.

**Figure 5 - Response rate of the CAWI Pre-test**



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## 4.2 Monitoring

We developed an online monitoring-tool with the R-package “rconnect” to be able to have a live overview about response rates, error messages and last answered questions. The monitoring script takes daily data exports and this enables us to quickly intervene if any problems arise. For example, another reminder can be sent out if response rates are too low. Further, if multiple error messages occur on the same question or multiple respondents end the survey on the same question we can quickly check for errors in the programming of the survey. This tool proved to be very useful and will be used in the main survey.

## 4.3 Sample

The sample of respondents participating in the CAWI pre-test was drawn from the Central Register of Registration. Estimating a net sample of at least 150 respondents, the sample for the CAWI pre-test consisted of 400 individuals:

- age group 18-24 150 individuals
- age group 25-54 150 individuals
- age group 55-69 100 individuals

Previous surveys and studies at Statistics Austria have shown that generally younger and higher educated individuals are more likely to complete CAWI-questionnaires.



To also reach the older and lower educated population we used a quota net sample of 50 persons for the CAPI pre-test with the following planned distribution:

- 50:50 male / female
- 60:40 without / with high school diploma
- 24:36:40 age of 18-24 / 25-44 / 45-69
- 68:32 employed / not-employed

The response rate for the CAWI pre-test fell below expectations with only 114 respondents (28.5%) completing the survey (see Table 4 for the distribution of response rate by gender and age groups). Overall, we can observe that female individuals and according to expectations younger person were more likely to complete the survey.

**Table 4 - Response rate of the CAWI Pre-test**

	Response	Non-Response	Total
<b>Gender</b>			
Female	31.3% (62)	68.7% (136)	100.0% (198)
Male	25.7% (52)	74.3% (150)	100.0% (202)
<b>Age Group</b>			
18-24	31.8% (47)	68.2% (101)	100.0% (148)
25-54	28.9% (44)	71.1% (108)	100.0% (152)
55-69	23.0% (23)	77.0% (77)	100.0% (100)
<b>Total</b>	<b>28.5% (114)</b>	<b>71.5% (286)</b>	<b>100.0% (400)</b>

S: STATISTICS AUSTRIA, Adult Education Survey 2022

The sample was relatively even distributed across gender (female = 54.0%, male = 46.0%) and employment status (employed = 51.3%, not-employed = 48.7%). As expected the sample was slightly skewed towards younger individuals (age 18-24 = 38.1%) and respondents with higher education (International Standard Classification for Education - ISCED 5-8 = 39.8%). The CAPI sample sufficiently satisfied the planned distribution of the specified quota. See Table 5 for a detailed distribution of the pre-test sample.

**Table 5 - Summary demographic data: CAPI-CAWI Pre-tests**

	CAPI	CAWI	Total
<b>Gender</b>			
Female	54.0% (27)	54.0% (61)	54.0% (88)
Male	46.0% (23)	46.0% (52)	46.0% (75)
Total	100.0% (50)	100.0% (113)	100.0% (163)
<b>Age Group</b>			
18-24	22.0% (11)	38.1% (43)	33.1% (54)
25-44	38.0% (19)	30.1% (34)	32.5% (53)
45-69	40.0% (20)	31.9% (36)	34.4% (56)
Total	100.0% (50)	100.0% (113)	100.0% (163)
<b>Employment Status</b>			
Employed	62.0% (31)	51.3% (58)	54.6% (89)
Not-Employed	38.0% (19)	48.7% (55)	45.4% (74)
Total	100.0% (50)	100.0% (113)	100.0% (163)
<b>Highest Education</b>			
International Standard Classification of Education 0-2	12.0% (6)	11.5% (13)	11.7% (19)
International Standard Classification of Education 3-4	72.0% (36)	48.7% (55)	55.8% (91)
International Standard Classification of Education 5-8	16.0% (8)	39.8% (45)	32.5% (53)
Total	100.0% (50)	100.0% (113)	100.0% (163)

S: STATISTICS AUSTRIA, Adult Education Survey 2022

## 4.4 Analysis

The focus was the analysis of the data derived from the pre-tests. Differences that occur between modes (CAPI and CAPWI) need to be evaluated with special attention in order to carefully avoid mode effects. The analysis serves as a basis for the final adaptations that will be taken with the questionnaire as well as the communication strategy, the workflow and data exports in the post-processing stage of the survey.

In the following part, we will examine selected variables of the main topics of the survey:

**Access to information about leaning and guidance** (SEEKINFO, GUIDE)

**Formal education** (FED, FEDNUM, FEDLEVEL)

**Non-formal education** (NFE, NFENUM, NFECOURSE, NFEWORKSHOP, NFEGUIDEDJT, NFELESSON)

**Informal learning** (INF)

We will look at the results of these variables across the interview modes (CAWI/CAPI). For variables that show notable differences between modes, we will further analyze if the differences are caused by mode effects or are explained by the difference in sample characteristics. We use logistic-regression for binomial variables (e.g. NFE, FED, INF) and linear-regression for numeric variables (e.g. FEDNUM, NFENUM) and add gender, age, employment status and highest attained education as control variables (see Table 6 for variable descriptions and values).

**Table 6 - Variable descriptions and possible values for CAPI/CAWI pre-test analysis**

Variable	Description	Values
SEEKINFO	Looked for Information about learning in the past 12 months	yes / no
GUIDE	Looked for guidance or received advice about learning in the past 12 months	yes / no
FED	Participated in any formal education activity in the past 12 months	yes / no
FEDNUM	Number of formal education activities in the past 12 months	numeric values 0-99
NFE	Participated in any non-formal education activity in the past 12 months	yes / no
NFENUM	Number of non-formal education activities in the past 12 months	numeric values 0-99
NFECOURSE	Participated in at least one course in the past 12 months	yes / no
NFEWORKSHOP	Participated in at least one workshop in the past 12 months	yes / no
NFEGUIDEDJT	Participated in at least one guided job training in the past 12 months	yes / no
NFELESSON	Participated in at least one private lesson in the past 12 months	yes / no
INF	Did at least on informal learning activity in the past 12 months	yes / no
Age	Age of the respondent	numeric values 18-69
Gender	Gender of the respondent	female / male
Employment status	Employment status of the respondent	employed / not-employed
Highest attained education	Highest attained formal education of the respondent	high school diploma / no high school diploma

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## Access to Information about Learning and Guidance

Results show that a larger part of the CAWI-sample looked for information about (CAWI = 54,0%, CAPI = 44,0%) and/or received guidance for (CAWI = 39,8%, CAPI = 32,0%) learning in the last 12 months (see Table 7). Logistic-Regression shows that these differences do not occur due to mode-effects ( $p_{\text{SEEKINFO-MODE}} = .898$ ;  $p_{\text{GUIDE-MODE}} = .790$ ). For the variable SEEKINFO (Looked for Information about learning in the past 12 months) only age and highest attained education (high school diploma / no high school diploma) of the respondent have a significant influence. For every year in age of the respondent the odds of looking for information about learning decreases by 4% (OR = .96). Respondents with a high school diploma are 2.41 times more likely to have looked for information about learning, than respondents without a high school diploma. None of the variables had a significant influence on the decision to receive advice/guidance for learning. See Tables 8 and 9 for detailed results of the logistic regressions.

**Table 7 - Access to information about learning and guidance across modes**

	CAPI	CAWI	Total
<b>Looked for Information - SEEKINFO</b>			
No	56.0% (28)	46.0% (52)	49.1% (80)
Yes	44.0% (22)	54.0% (61)	50.9% (83)
Total	100.0% (50)	100.0% (113)	100.0% (163)
<b>Received Advice/Guidance - GUIDE</b>			
No	68.0% (34)	60.2% (68)	62.6% (102)
Yes	32.0% (16)	39.8% (45)	37.4% (61)
Total	100.0% (50)	100.0% (113)	100.0% (163)

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**Table 8 - Binary logistic regression of factors influencing SEEKINFO**

Predictors	Odds Ratios	p
Intercept	2.34	0.153
Mode (Reference Group: CAWI)	1.05	0.898
Age	0.96	<0.001
Gender (Reference Group: Male)	1.13	0.737
Employment-Status (Reference Group: Employed)	1.59	0.198
Highest Education (Reference Group: No high school diploma)	2.41	0.017
Observations		163
R2 Tjur		0.182

S: STATISTICS AUSTRIA, Adult Education Survey 2022

**Table 9 - Binary logistic regression of factors influencing GUIDE**

Predictors	Odds Ratios	p
Intercept	0.39	0.119
Mode (Reference Group: CAWI)	0.90	0.790
Age	0.99	0.516
Gender (Reference Group: Male)	1.34	0.400
Employment-Status (Reference Group: Employed)	1.76	0.105
Highest Education (Reference Group: No high school diploma)	1.81	0.101
Observations		163
R2 Tjur		0.063

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## Formal Education

Overall 25.8% of the respondents participated in some kind of formal education in the past 12 months. The proportion was lower in the CAPI sample (18.0%) than in the CAWI sample (29.2%). The majority of respondents who participated in formal education only participated in one formal education activity. While some respondents of the CAWI sample (18.2%) participated in more than one formal education, none of the CAPI respondents participated in more than one formal education activity. See Table 10 for a detailed overview.

Logistic-Regression shows no mode-effect for FED ( $p_{\text{FED-MODE}} = .375$ ). Age of the respondent, employment status and highest education have a significant influence on the participation in formal education in the past 12 months. For every year in age of the respondent the odds of having participated in formal education decreases by 10% (OR = .90). Individuals that are currently not employed are 5.43 times more likely and individuals who have a high school diploma are 5.47 times more likely to have participated in formal education in the past 12 months than respondents who are unemployed or without a high school diploma (see Table 11).

Linear-Regression for FEDNUM shows no significant influence of any of the investigated variables (see Table 12).

**Table 10 - Formal Education in the past 12 months across modes**

	CAPI	CAWI	Total
<b>Formal Education in the Past 12 Months - FED</b>			
No	82.0% (41)	70.8% (80)	74.2% (121)
Yes	18.0% (9)	29.2% (33)	25.8% (42)
Total	100.0% (50)	100.0% (113)	100.0% (163)
<b>Number of Formal Education Activities - FEDNUM</b>			
0	82.0% (41)	72.6% (82)	75.4% (123)
1	18.0% (9)	23.9% (27)	22.1% (36)
2	0.0% (0)	1.8% (2)	1.2% (2)
3	0.0% (0)	0.9% (1)	0.6% (1)
4	0.0% (0)	0.9% (1)	0.6% (1)
Total	100.0% (50)	100.0% (113)	100.0% (163)

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**Table 11 - Binary logistic regression of factors influencing FED**

Predictors	Odds Ratios	p
Intercept	0.93	0.942
Mode (Reference Group: CAWI)	1.76	0.376
Age	0.90	<0.001
Gender (Reference Group: Male)	1.51	0.423
Employment-Status (Reference Group: Employed)	5.41	0.002
Highest Education (Reference Group: No high school diploma)	5.47	0.002
Observations		163
R2 Tjur		0.493

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**Table 12 - Linear Regression of factors influencing FEDNUM**

Predictors	Estimates	p
Intercept	1.17	0.066
Mode (Reference Group: CAWI)	-0.17	0.518
Age	0.01	0.765
Gender (Reference Group: Male)	-0.28	0.196
Employment-Status (Reference Group: Employed)	-0.17	0.586
Highest Education (Reference Group: No high school diploma)	0.19	0.471
Observations		42
R2 / R2 adjusted		0.090 / -0.037

S: STATISTICS AUSTRIA, Adult Education Survey 2022



## Non-Formal Education

Overall 52.1% of the respondents participated in some non-formal education activity in the past 12 months. The proportion was lower in the CAPI-sample (38%) than in the CAWI-sample (58.4%).

The CAPI-sample had lower participation in all forms of non-formal education with only guided job-training being relatively close to the CAWI-sample (CAPI = 18%, CAWI = 19.5%). See Table 13 for a detailed overview.

Logistic-Regression shows no mode effect for NFE ( $p_{\text{NFE-MODE}} = .165$ ) and any of the non-formal education activities. Age of the respondent, employment status and highest education have a significant effect on the participation in non-formal education in the past 12 months. For every year in age of the respondent the odds of having participated in formal education decreases by 4% (OR = .96). Individuals that are currently not employed have 89% lower odds of having participated in non-formal education activities in the past 12 months than respondents that are currently employed. Individuals who have a high school diploma are 4.63 times more likely to have participated in non-formal education in the past 12 months than respondents without one (see Table 14).

Similarly, we did not find any mode effect for the number of non-formal education activities that an individual participated in the past 12 months (see Table 15).

**Table 13 - Non-formal education in the past 12 months across modes**

	CAPI	CAWI	Total
<b>Any Non-Formal Education Activity - NFE</b>			
No	62.0% (31)	41.6% (47)	47.9% (78)
Yes	38.0% (19)	58.4% (66)	52.1% (85)
Total	100.0% (50)	100.0% (113)	100.0% (163)
<b>Course – NFECOURSE</b>			
No	78.0% (39)	60.2% (68)	65.6% (107)
Yes	22.0% (11)	39.8% (45)	34.4% (56)
Total	100.0% (50)	100.0% (113)	100.0% (163)
<b>Workshop - NFEWORKSHOP</b>			
No	76.0% (38)	56.6% (64)	62.6% (102)
Yes	24.0% (12)	42.5% (48)	36.8% (60)
NA	0.0% (0)	0.9% (1)	0.6% (1)
Total	100.0% (50)	100.0% (113)	100.0% (163)
<b>Jobtraining - NFEGUIDEDJT</b>			
No	60.0% (30)	50.4% (57)	53.4% (87)
Yes	18.0% (9)	19.5% (22)	19.0% (31)
NA	22.0% (11)	30.1% (34)	27.6% (45)
Total	100.0% (50)	100.0% (113)	100.0% (163)
<b>Private Lessons - NFELESSON</b>			
No	98.0% (49)	87.6% (99)	90.8% (148)
Yes	2.0% (1)	12.4% (14)	9.2% (15)
Total	100.0% (50)	100.0% (113)	100.0% (163)

S: STATISTICS AUSTRIA, Adult Education Survey 2022

**Table 14 - Binary logistic regression of factors influencing NFE**

Predictors	Odds Ratios	p
Intercept	9.66	0.001
Mode (Reference Group: CAWI)	0.57	0.164
Age	0.96	0.001
Gender (Reference Group: Male)	0.79	0.539
Employment-Status (Reference Group: Employed)	0.11	<0.001
Highest Education (Reference Group: No high school diploma)	4.63	<0.001
Observations		163
R2 Tjur		0.270

S: STATISTICS AUSTRIA, Adult Education Survey 2022

**Table 15 - Linear regression of factors influencing NFENUM**

Predictors	Estimates	p
Intercept	2.83	0.009
Mode (Reference Group: CAWI)	0.18	0.801
Age	-0.02	0.339
Gender (Reference Group: Male)	0.14	0.802
Employment-Status (Reference Group: Employed)	-1.68	0.021
Highest Education (Reference Group: No high school diploma)	1.37	0.036
Observations		82
R2 / R2 adjusted		0.093 / 0.034

S: STATISTICS AUSTRIA, Adult Education Survey 2022

## Informal Learning

Overall 77.3% of the respondents did some kind of informal learning in the past 12 months. The proportion was higher in the CAPI-sample (82.0%) than in the CAWI-sample (75.2%). See Table 16 for a detailed overview.

Logistic-Regression show no mode effect ( $p_{\text{INF-MODE}} = .071$ ). Only highest education has a significant effect on informal learning with respondents ( $p_{\text{INF-HATLEVEL}} = .001$ ). Respondents that have a high school diploma are 4.6 times more likely to have done some informal learning in the past 12 months than respondents without a high school diploma (see Table 17).

**Table 16 - Informal Learning in the past 12 months**

	CAPI	CAWI	Total
Informal Learning Activity - INF			
Yes	82.0% (41)	75.2% (85)	77.3% (126)
No	18.0% (9)	24.8% (28)	22.7% (37)
Total	100.0% (50)	100.0% (113)	100.0% (163)

S: STATISTICS AUSTRIA, Adult Education Survey 2022

**Table 17 - Binary logistic regression of factors influencing INF**

Predictors	Odds Ratios	p
Intercept	2.09	0.278
Mode (Reference Group: CAWI)	2.31	0.071
Age	0.99	0.351
Gender (Reference Group: Male)	1.66	0.219
Employment-Status (Reference Group: Employed)	0.70	0.397
Highest Education (Reference Group: No high school diploma)	4.60	0.001
Observations		163
R2 Tjur		0.101

S: STATISTICS AUSTRIA, Adult Education Survey 2022

## 4.5 Conclusions / Recommendations

Overall, the CAWI and CAPI pre-tests proved to be a valuable tool to assess the workflow, response rates, and questionnaire quality.

Response rates fell below expectations for the CAWI pre-test (28,5%). Therefore, participants of the main survey will receive an additional incentive in the form of a 2-Euro Coin with the invitation letter and we will send out an additional third reminder. Additionally, it is important that the time between reminders is not too long. Therefore, we will expect a response rate of 32.0% for the main survey in the CAWI mode.

Analysis of selected core variables showed that the German questionnaire worked well in both interview modes. We did not find any effects of the interview mode on the response behavior. Similar to previous AES iterations age of the respondent, employment status and highest attained education influenced participation in education activities, which provides further evidence for a successful adaptation.

## 4.6 Evaluations

### CAWI – Feedback of the respondents

At the end of the survey, CAWI respondents were asked for feedback on usability, communication (invitation letter, reminder card), respondent burdens, general quality and understanding of the questions. This was collected using both standardized questions (five-point scales) and open-ended questions (reasons).

#### Usability

Overall, the survey was seen as "easy" or "rather easy" by almost three quarters (73.6%) of the CAWI respondents (see table 18). This was mainly due to the good comprehensibility of the questions, the clear structure and the good and clear formulations of the questions. One-fifth (20.2%) of the CAWI respondents were ambivalent about usability, mainly because of the many questions, repetitions, the length of the questionnaire and also non-applicable answer options.

**Table 18 - Usability: CAWI Pre-Test**

	<b>Usability</b>
complex	0.9% (1)
rather complex	5.3% (6)
partly/partly	20.2% (23)
rather easy	36.8% (42)
easy	36.8% (42)
<b>Total</b>	<b>100% (114)</b>

S: STATISTICS AUSTRIA, Adult Education Survey 2022

### Communication

When evaluating communication, it should be mentioned restrictively that this group of respondents is participating in the survey; the views of non-participants are not covered here.

More than half (54.0%) of the CAWI respondents rated the communication (invitation letter, reminder card) as "good" and just under a third (30.7%) as "rather good" (see table 19). This was mainly due to the clear, simple and understandable communication. The reminder card was also positively highlighted. Those who had an ambivalent view (10.6%) felt that the reminder card was intrusive, among other things.

**Table 19 - Communication (invitation letter, reminder card): CAWI Pre-Test**

	<b>Communication</b>
poor	1.8% (2)
rather poor	2.7% (3)
partly/partly	10.6% (12)
rather good	31.0% (35)
good	54.0% (61)
<b>Total</b>	<b>100% (113)</b>

S: STATISTICS AUSTRIA, Adult Education Survey 2022

## Respondent-Burden

Almost half (46.5%) of the CAWI respondents considered the questions appropriate to their personal situation, while one out of seven (14.0%) disagreed (see table 20). Nearly two-fifths (37.7%) had an ambivalent perception of the survey, primarily due to age (retired), Covid-19 limitations, scope of the survey, and personal day-to-day situation.

**Table 20 - Respondent-Burden: CAWI Pre-Test**

	Burden
poor	2.6% (3)
rather poor	11.4% (13)
partly/partly	37.7% (43)
rather good	24.6% (28)
good	21.9% (25)
Total	100% (112)

S: STATISTICS AUSTRIA, Adult Education Survey 2022

## General Quality of the questions

Overall, answering the questions was seen as "easy" or "rather easy" by 84.2% of the CAWI respondents (see table 21). This was mainly due to the good and easy comprehensibility as well as the simple and clear wording of the questions. Every tenth (9.6%) respondent is ambivalent about the general quality of the questions, especially since the questions would not apply to their personal situation.

**Table 21 - Answering the questions: CAWI Pre-Test**

	<b>Answering</b>
complex	1.8% (2)
rather complex	1.8% (2)
partly/partly	9.6% (11)
rather easy	35.1% (40)
easy	49.1% (56)
Total	100% (111)

S: STATISTICS AUSTRIA, Adult Education Survey 2022

### **Understanding of the questions**

Almost 90% of the CAWI respondents considered the questions "comprehensible" (69.0%) or "rather comprehensible" (20.4%, see table 22). This was mainly justified by the clear, simple and easily understandable formulations. Those (8.0%) with an ambivalent view saw the questions as partly irrelevant or sometimes unnecessary.



**Table 22 - Understanding of the questions: CAWI Pre-Test**

	<b>Comprehension</b>
incomprehensible	0.9% (1)
rather incomprehensible	1.8% (2)
partly/partly	8.0% (9)
rather comprehensible	20.4% (23)
comprehensible	69.0% (78)
Total	100% (113)

S: STATISTICS AUSTRIA, Adult Education Survey 2022

### **CAPI – Feedback of Interviewers**

To gain more insight into the CAPI interviews and the quality of the questionnaire, a feedback round was conducted online with the CAPI interviewers in mid-June 2022.

A total of six AES CAPI interviewers from all over Austria took part in the feedback round. The assessment of both the interview and the questionnaire was positive throughout; there were no or hardly any problems. Also, no difficulties were reported in remembering the year of graduation, the age of the highest completed school education (HATYEAR, HATALTER) or the educational activities in the last 12 months. The distinction between courses, workshops and seminars was sometimes considered as difficult. Further the question about household income was sometimes difficult to answer for younger respondents. The auxiliary items were well perceived and considered sufficient. A survey card was offered for the long item battery on skills in non-formal education (NFESKILLSMAIN) in the CAPI pre-test. This card has proven itself and will be used in future.

With regard to respondents' motivation to participate in the survey, personal contact with CAPI interviewers was emphasized as very important in the feedback round.

### **Official Correspondence - Feedback of the CAPI respondents**

The official correspondence was evaluated by the CAPI respondents. For this purpose, three written documents were presented to them following the CAPI pre-test:

#### **Announcement letter:**

This letter arrives via postal mail. It is the initial contact and invitation to participate in the survey.

**Announcement card:**

If the person to be interviewed is not present during an interview attempt, they will receive an announcement card with a proposed date.

**Motivation letter:**

In order to convince a person to participate in the survey, a motivation letter can be used.

The evaluation of the official correspondence was carried out with a focus on the layout, the information about the survey (sufficient or not sufficient) and the motivation to participate in the survey (see table 23).

The layout of all three documents was positively evaluated throughout (77.5% to 88.0%). The CAPI respondents motivated their positive feedback by saying that the layout was well-structured, pleasant, appealing, clear and colorful.

The information on all written documents was also positively evaluated by the CAPI respondents and was perceived as "sufficient" or "rather sufficient" (83.6% to 91.8%). The evaluations in this regard were that all (necessary) information was available and that everything was clear and comprehensive.

Motivation to participate in the AES by official correspondence was rather ambivalent. More than half (51.0% to 55.1%) would participate in the survey because of the letters and about one third (32.7% to 36.7%) would not participate. The main motivation cited for participation was the interesting topic and that interest was aroused. The reasons given for not taking part in the survey were, in particular, lack of time and the fact that people are generally reluctant to take part in surveys.

**Table 23 - Official correspondence: CAPI Pre-Test**

	announcement letter	announcement card	motivation letter
<b>Layout</b>			
poor	-	-	-
rather poor	2.0% (1)	10.2% (5)	-
partly/partly	10.0% (5)	6.1% (3)	20.4% (10)
rather good	42.0% (21)	26.5% (13)	26.5% (13)
good	46.0% (23)	55.1 (27)	51.0% (25)
Total	100.0% (50)	100.0% (48)	100.0% (48)
<b>Information</b>			
insufficient	-	4.1% (2)	-
rather insufficient	4.1% (2)	2.0% (1)	6.1% (3)
partly/partly	6.1% (3)	10.2% (5)	-
rather sufficient	14.3% (7)	16.3% (8)	16.3% (8)
sufficient	75.5% (37)	67.3% (33)	75.5% (37)
Total	100.0% (49)	100.0% (49)	100.0% (48)
<b>Motivation</b>			
definitely not participate	14.3% (7)	14.3% (7)	14.3% (7)
rather not participate	20.4% (10)	18.4% (9)	22.4% (11)
partly/partly	14.3% (7)	12.2% (6)	8.2% (4)
rather participate	36.7% (18)	40.8% (20)	28.6% (14)
definitely participate	14.3% (7)	14.3% (7)	26.5% (13)
Total	100.0% (49)	100.0% (49)	100.0% (49)

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## 4.7 Conclusions / Recommendations

CAWI: Respondents evaluated the AES pre-test concerning usability, communication, general quality of the questions and answering the questions quite good. The burden of respondents was considered rather ambivalently, because the questionnaire partly does not fit the personal situation of the respondents (e.g. pensioners, restrictions during covid-19 crisis).

CAPI: The assessment of both interview and questionnaire was positive throughout by the CAPI interviewers. The survey card on skills in non-formal education (NFESKILLSMAIN) should still be used. CAPI respondents evaluated the official correspondence with regard to layout and information positively. The motivation to take part in the survey because of the official correspondence was a bit ambivalent.

# 5 SUMMARY

## 5.1 Re-wording

Overall, 72 questions were either translated or adapted from previous iterations of the AES by Statistics Austria. 32 questions were translated by the Austrian Gallup Institute. No major issues occurred during the adaption process and internal testing of the questionnaire. Though, for some questions it proved difficult to adhere to mobile-friendly standards and we suggest adding mobile-friendliness as a discussion point for the next iteration of the AES.

## 5.2 Cognitive Interviews

In the first testing phase a sample of re-worded survey questions was tested using cognitive interviews (10 respondents) by the Austrian Gallup Institute in February 2022.

In total, improvements were necessary for nine questions, either in the wording of the questions or through auxiliary texts:

**Access to information about learning possibilities and guidance** (GUIDE\_3, GUIDESOURCE),

**Formal education** (FEDONMAT, FEDREASON\_06\_7, FEDOUTCOME\_6)

**Non-formal education and training** (NFESKILLSMAIN, NFEREASON\_12, NFEPROVIDER, NFECERT)

## 5.3 Pre-tests (CAPI/CAWI)

The focus of the second testing phase was on the pre-test in the multi-mode data collection (CAPI/CAWI) in order to examine the adapted questionnaire in CAWI as well in CAPI mode in a real survey situation. The pre-tests were carried out mainly in May and partly at the beginning of June 2022.

With respect to the workflow resp. communication strategy in CAWI mode, it is important that in addition to the invitation letter and the reminder card, a further reminder letter will be sent out in order to increase the response rate.

Analysis of core education variables across the modes (CAPI/CAWI) did not show any significant mode effects. Similar to previous versions of the AES age, employment-status, and highest attained education of respondents had significant effects on the education variables.

## 5.4 Evaluations

At the end of the survey, CAWI respondents were asked for feedback. Usability, communication, general quality of the questions and answering the questions were evaluated quite good. The burden of the respondents was considered rather ambivalently.

To gain more insight into the CAPI interviews and the quality of the questionnaire, a feedback round was conducted online in mid-June 2022. The assessment of both interview and questionnaire was positive throughout by the CAPI interviewers.

The official correspondence was evaluated by the CAPI respondents. Layout and information of the official correspondence were rated positively. The motivation to take part in the survey because of the official correspondence was a bit ambivalent.

# ANNEX A:

## List of questions adapted by Statistics Austria

Question	Form of Adaptation
Information on household	
HHNBERS_tot	Auxiliary Instructions added
HHNBERS	Re-worded
HHKIND	Auxiliary Instructions added
HHPART	Auxiliary Instructions added
HHAND	Auxiliary Instructions added
Demographic background	
CITIZEN	Auxiliary Instructions added
BIRTHPLACE	Auxiliary Instructions added
RESTIME	Auxiliary Instructions added
Educational attainment	
HATLEVEL_0	Auxiliary Instructions added
HATLEVEL_1	Auxiliary Instructions added
HATLEVEL_3	Auxiliary Instructions added; Re-worded
HATLEVEL_3a	Auxiliary Instructions added
HATLEVEL_3b	Auxiliary Instructions added
HATLEVEL_4	Auxiliary Instructions added
HATLEVEL_5	Auxiliary Instructions added
HATLEVEL_6	Auxiliary Instructions added
HAT_MEISTER	Auxiliary Instructions added
HATYEAR	Auxiliary Instructions added
HATALTER	Auxiliary Instructions added; Re-worded
Not completed education	
DROPEduc	Re-worded

Question	Form of Adaptation
DROPEUCLEVEL	Auxiliary Instructions added; Re-worded
Main activity status	
MAINSTAT_A	Auxiliary Instructions added; Re-worded
MAINSTAT_B	Auxiliary Instructions added
EMP12M	Auxiliary Instructions added
JOBSTAT_A	Auxiliary Instructions added; Re-worded
JOBSTAT_B	Auxiliary Instructions added
JOBSTAT_C	Auxiliary Instructions added
JOBISCO_TEXT	Re-worded
LOCNACE	Auxiliary Instructions added
LOCNACE_TEXT	Re-worded
LOCSIZEFIRM	Auxiliary Instructions added; Re-worded
JOBTIME_A	Auxiliary Instructions added
JOBTIME_B	Auxiliary Instructions added
Parental information	
HATMOTHER	Auxiliary Instructions added; Re-worded
BIRTHMOTHER	Auxiliary Instructions added
HATFATHER	Auxiliary Instructions added; Re-worded
BIRTHFATHER	Auxiliary Instructions added
Formal Education	
FED	Auxiliary Instructions added
FEDLEVEL	Auxiliary Instructions added
FEDPLACE	Auxiliary Instructions added
FEDONMAT	Auxiliary Instructions added
FEDPAIDBY	Auxiliary Instructions added
FEDOUTCOME	Auxiliary Instructions added
Non-formal education	
NFE	Re-worded
NFECOURSE	Auxiliary Instructions added; Re-worded



Question	Form of Adaptation
NFEWORKSHOP	Auxiliary Instructions added; Re-worded
NFEGUIDEDJT	Auxiliary Instructions added; Re-worded
NFELESSON	Auxiliary Instructions added; Re-worded
NFENUM	Re-worded
NFEACT_TYPE	Re-worded
NFEACT_FIELD	Re-worded
NFEACT_TEXT	Re-worded
NFEACT_MAINSTAT	Re-worded
NFEACT_PURP	Re-worded
NFEACT_WORKTIME	Re-worded
NFEACT_PAIDBY	Auxiliary Instructions added; Re-worded
Detailed information concerning (up to 2 randomly-selected) non-formal activities	
NFEPLACE	Auxiliary Instructions added
NFEREASON	Auxiliary Instructions added
NFEPROVIDER	Auxiliary Instructions added
NFECERT	Auxiliary Instructions added
NFEOUTCOME	Auxiliary Instructions added
Informal learning	
(INF)	Re-worded
INFFAMILY	Re-worded
INFMATERIAL	Re-worded
INFDEVICE	Translated
INFMUSEUM	Re-worded
INFPURP	Translated
Languages	
LANGMOTHER	Auxiliary Instructions added
LANGUSED	Auxiliary Instructions added
Obstacles	
WANT	Re-worded

Question	Form of Adaptation
DIFFTYPE	Re-worded
Income	
HHINCOME	Auxiliary Instructions added

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