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Documenting the European Social Survey questionnaire design process online using the Data Documentation Initiative (DDI)

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SERISS Task 4.1

CSDI Workshop 2019, Warsaw March 18th to 20th



This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 654221.

Table of Contents:

- The questionnaire design process of the European Social Survey
- The Questionnaire Design Documentation Tool (QDDT)
- The metadata standard DDI as basis for the tool
- Examples from the QDDT tool



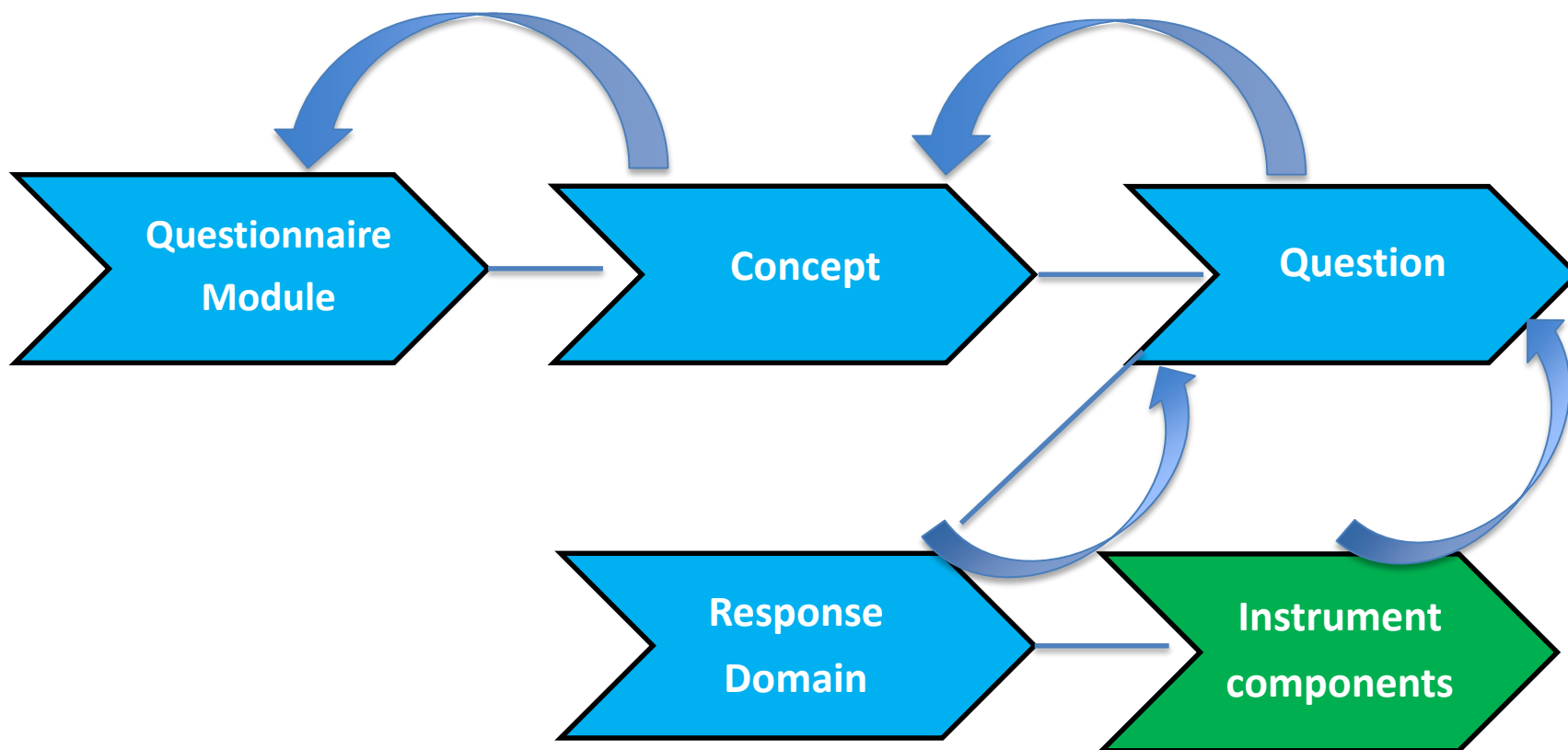
European Social Survey (ESS) questionnaire module design process:

- Two topical questionnaire modules and related design teams elected for each ESS round
- Iterative process over two years including discussions, testing and piloting
- Multiple actors involved: Questionnaire designers, National Coordinators, Translation team, methodology experts etc.
- ESS Head Quater is responsible



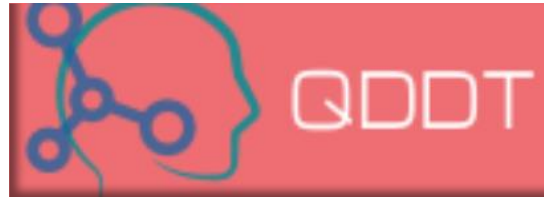


ESS questionnaire design steps





The Questionnaire Design and Documentation Tool:



- A web-based open source tool,
- designed to assist research teams in developing items (questions and concepts) for topical modules of conceptual questionnaires.
- Captures and displays the development history of items.
- Usecase is the ESS.



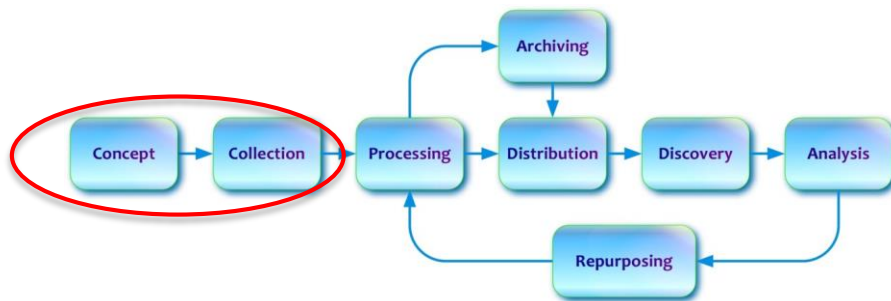
Data Document Initiative (DDI):



- A metadata standard originating in the social and behavioural sciences moving into new fields
- Driven by a self-sustaining membership organisation, the DDI Alliance
- Rich content
- Current branches: 2.* Codebook, 3.* Lifecycle,
- Upcoming: 4 Model based, datum based



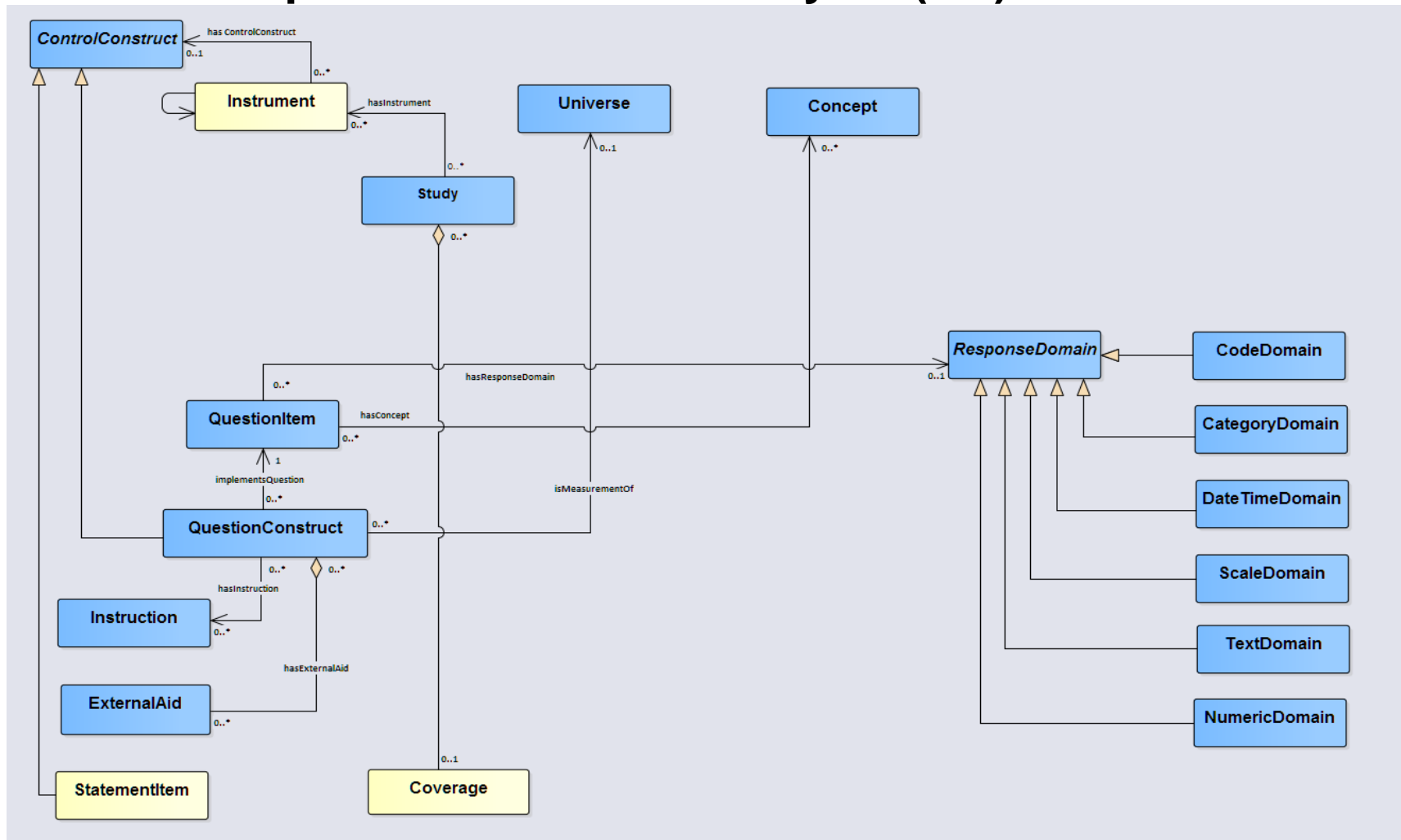
Data Document Initiative (DDI) usage in the QDDT:

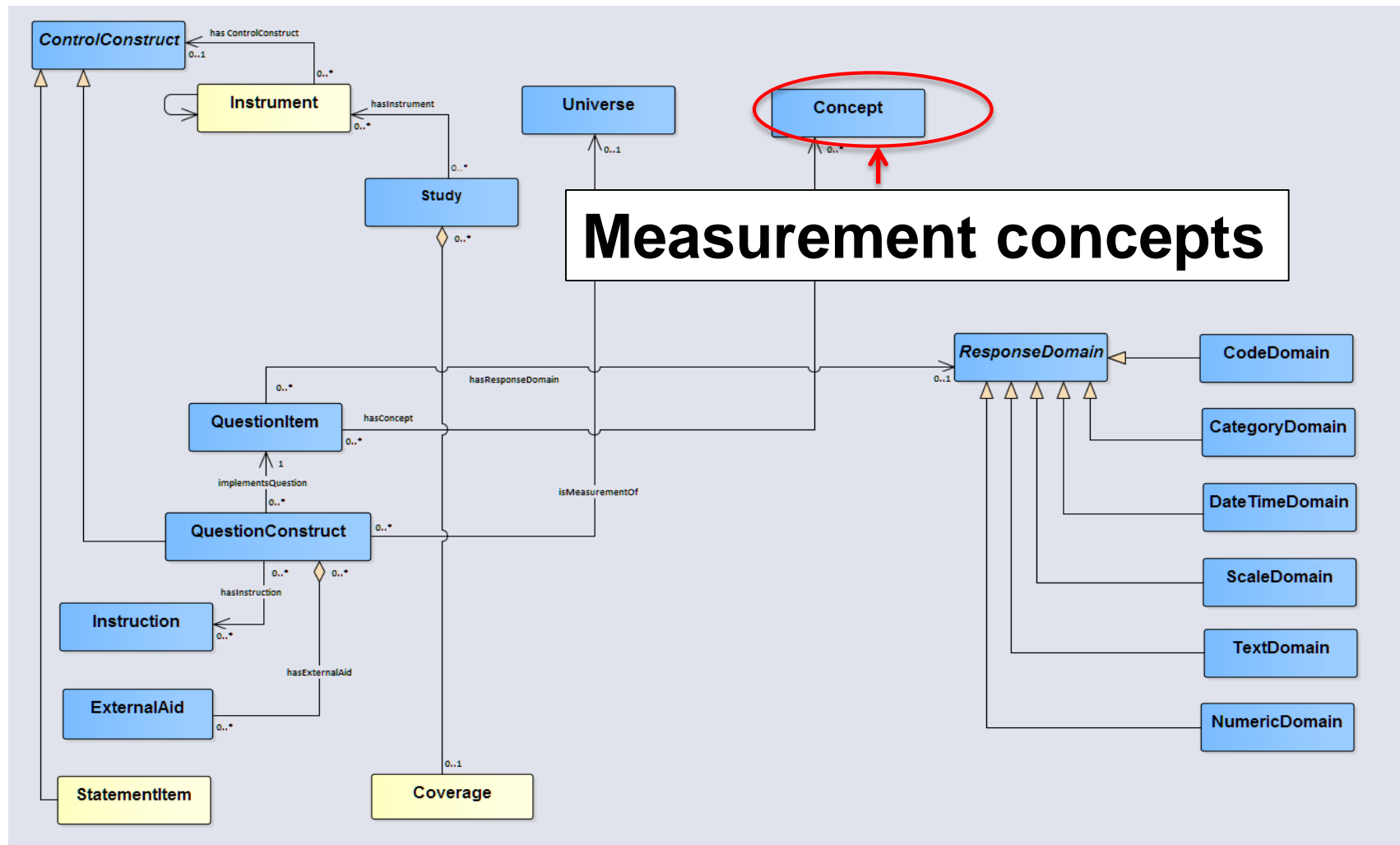


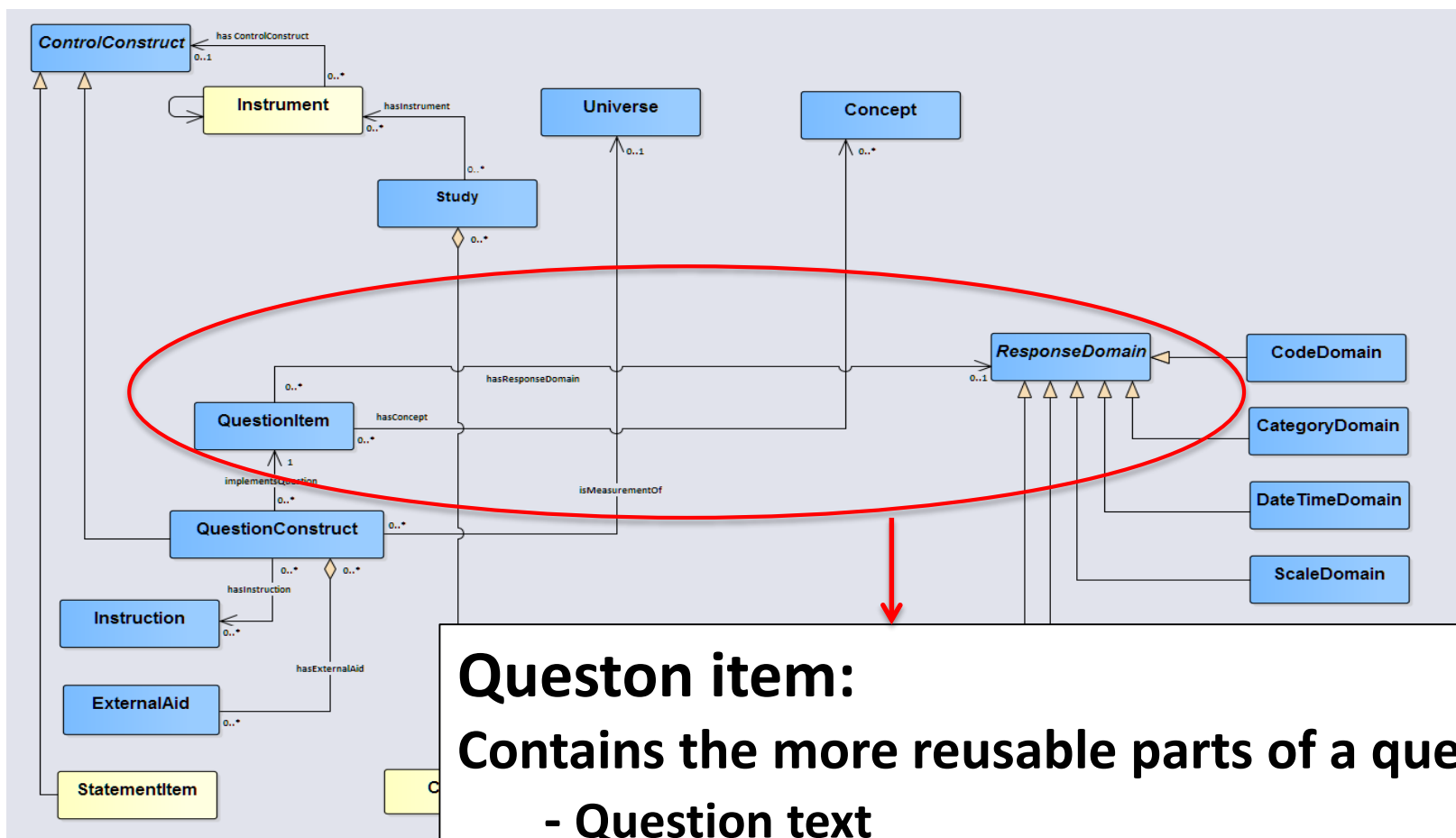
- Conceptual model based on the metadata standard DDI-Lifecycle
- This facilitates reuse of items (e.g. questions and responses) over time,
- helps keeping track of the development history of items,
- and facilitates interoperability with other tools



QDDT Conceptual Model – DDI-Lifecycle (3.2) based







Question item:

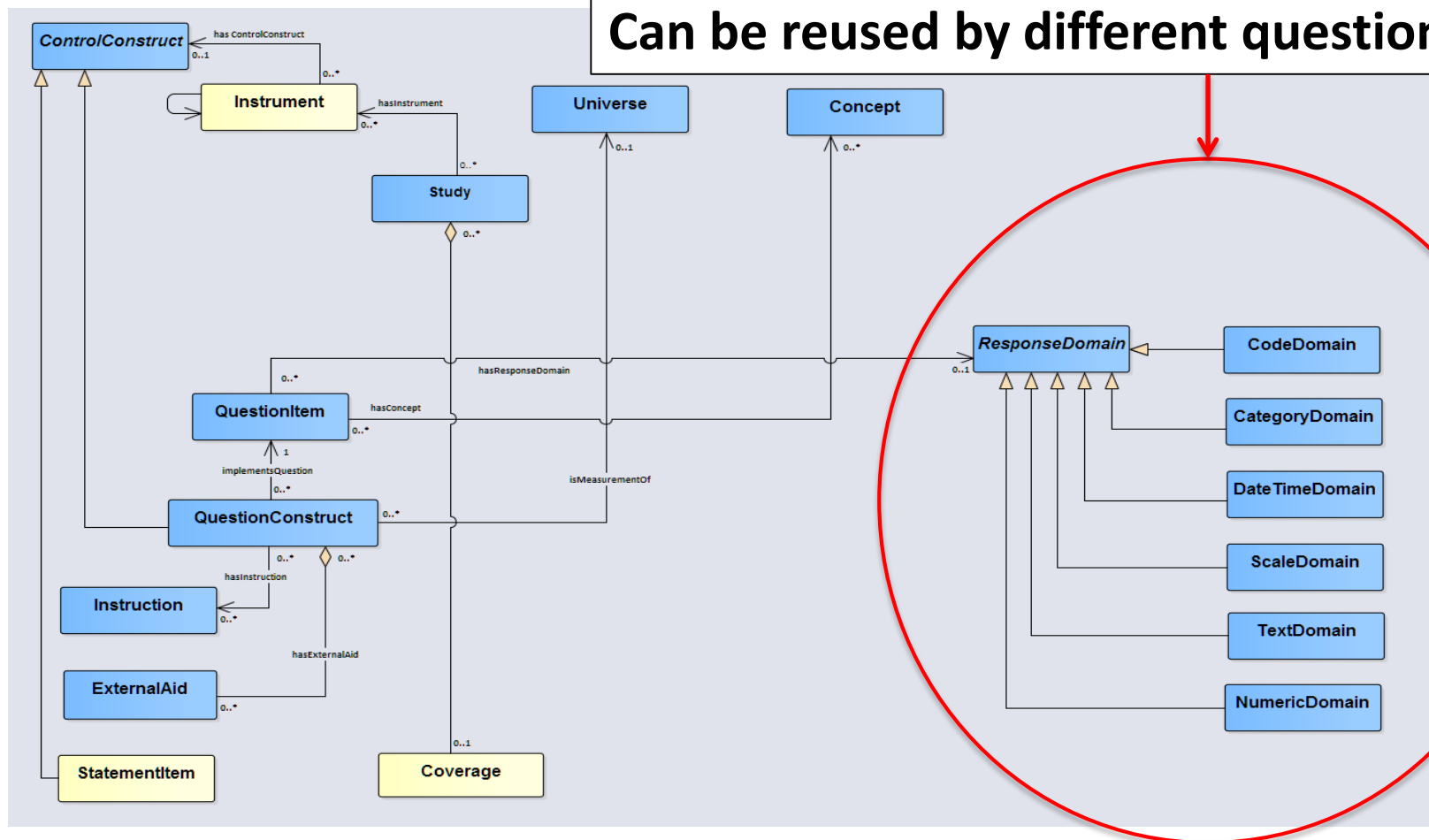
Contains the more reusable parts of a question

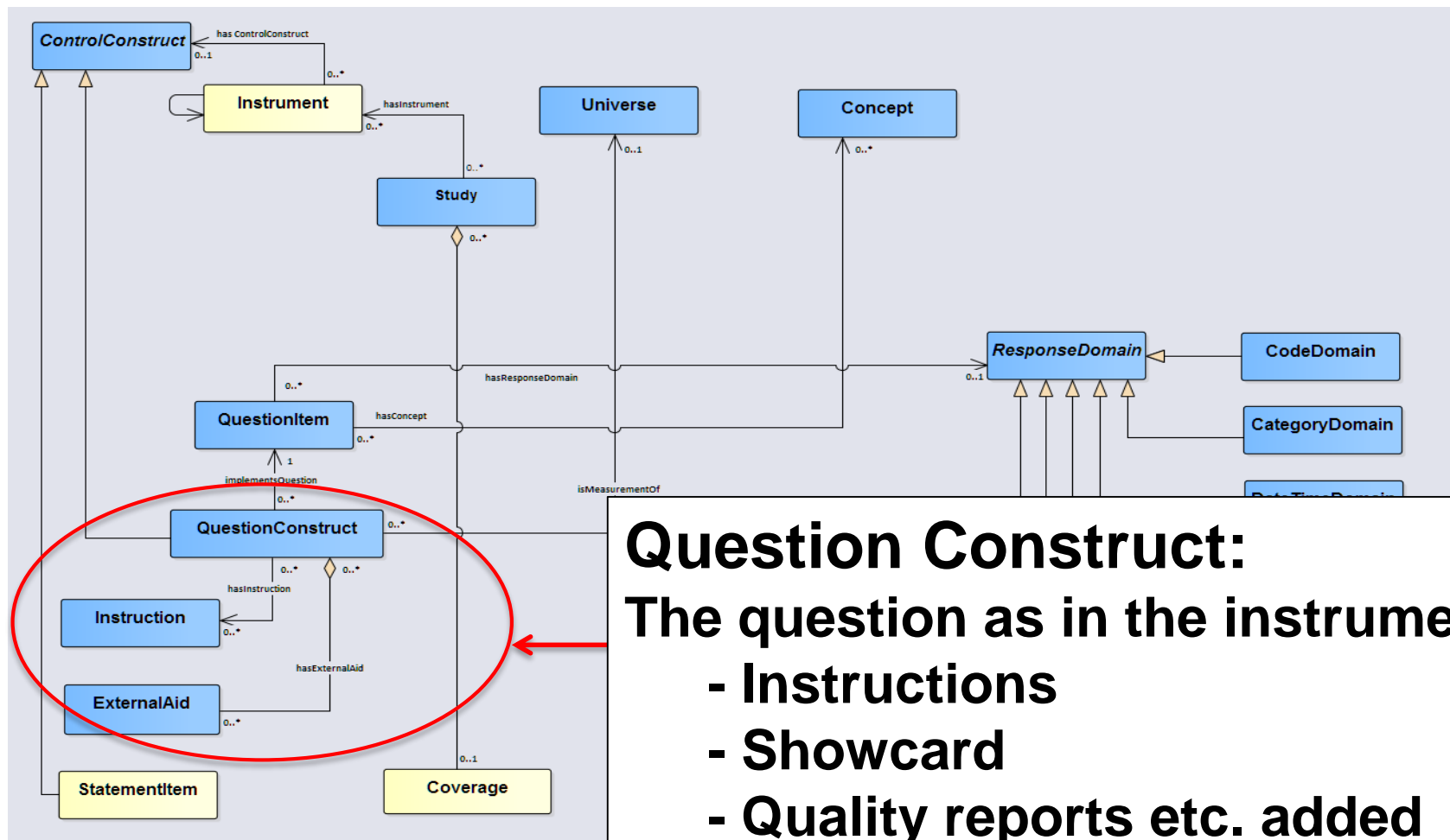
- Question text
- Response domains

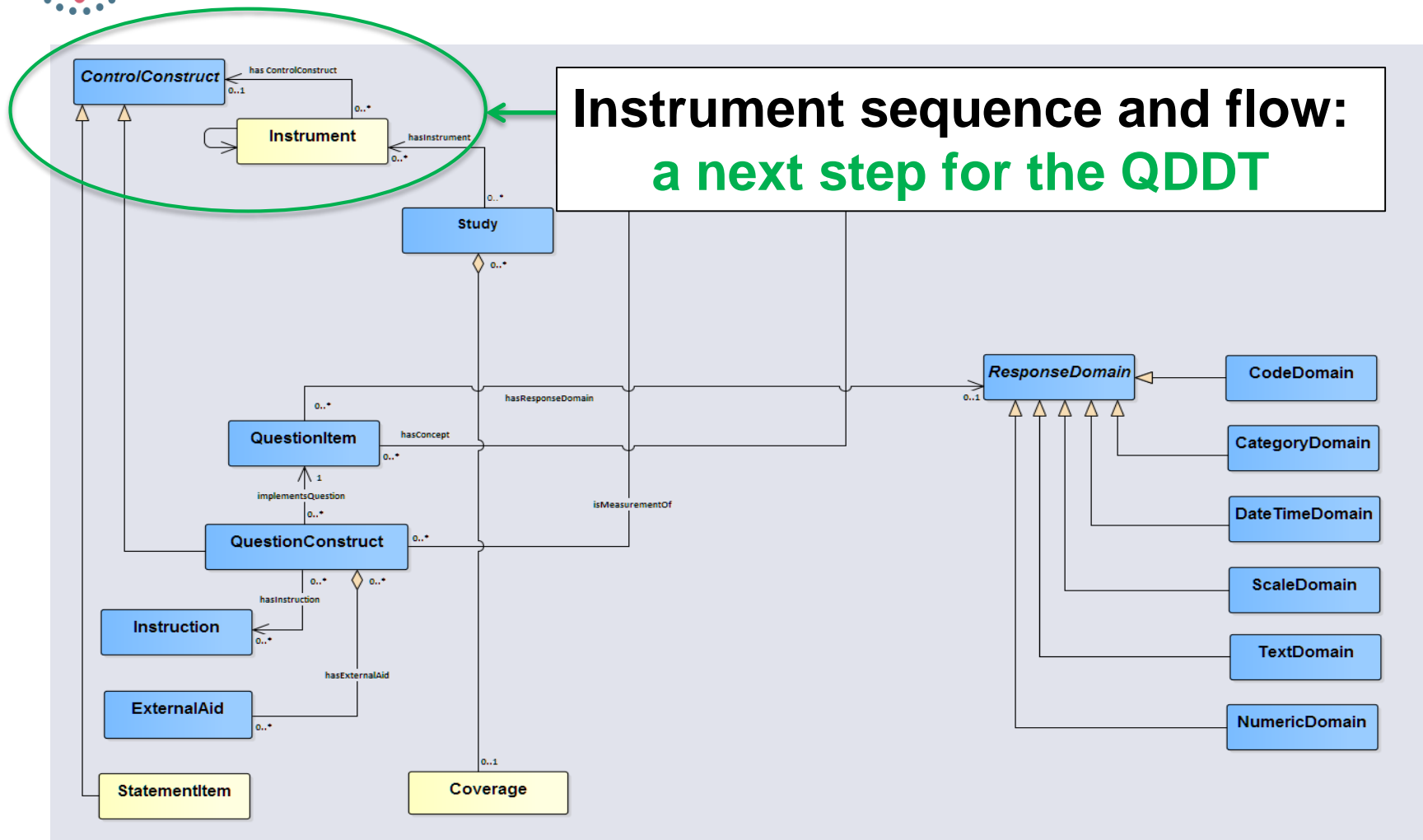




Response domains: Can be reused by different questions










QDDT – Concepts:

 QDDT

SURVEY [European Social Sur... > STUDY [ESS round 8 (20... > MODULE [Public Attitud... > Concept

Hilde

goto url/id

Home

Questions

Missings

Domains

Constructs

Sequences

Instruments

Publications

Lookups

Concepts for Public Attitudes to Climate Change, Energy Security, and Energy Preferences

NEW REUSE

CLIMATE CHANGE BELIEFS

Version 2.1

The concept of Climate Change Beliefs refers to propositional cognitions about the nature of climate change, covering people's views on the reality, cause(s), and impacts of climate change. The climate change belief concept is specifically aimed at capturing people's mental representation of the climate change phenomenon that they accept as true and their evaluative beliefs about the impacts. The concept is not intended to capture affective responses to the phenomenon, for example whether people are concerned, excited or indifferent about climate change.

Climate Change or Global Warming?

The terms of climate change and global warming are often used interchangeably, both in public and policy arenas. However, they refer to closely linked physical phenomena. Whereas global warming specifically refers to the rise in average global temperature as a result of increased greenhouse gas concentrations in the earth's atmosphere, climate change more broadly refers to long-term changes in the state of the climate system, which can be observed over longer periods of time at the local, regional and global level.

The aim of the module is to capture people's views on climate change rather than global warming, to account for the wider changes that may be brought about by the increased greenhouse gas concentrations in the earth's atmosphere. Note that, in addition to the technical differences between the two terms, there are national differences in the popular use of global warming' and 'climate change'. While the term global warming is used more commonly by the public, media and policy makers in the United States, the term climate change is more common in the United Kingdom (Lorenzoni et al., 2006). This means that, while climate change is the more technically correct term to refer to the multiple global changes resulting from increasing carbon dioxide concentrations, the term global warming could be used in certain countries for the module questions to be best understood by the respondents.

Exports

CLIMATE CHANGE BELIEFS.pdf

CLIMATE CHANGE BELIEFS-ddi32.xml

Concept Toc

To the top

CLIMATE CHANGE BELIEFS

CLIMATE CHANGE IMPACT

CLIMATE CHANGE CAUSE

CLIMATE CHANGE REALITY

CLIMATE CHANGE SALIENCE

CLIMATE CONCERN

EFFICACY BELIEFS

SELF-EFFICACY

COLLECTIVE OUTCOME EXPECTANCY

PERSONAL OUTCOME EXPECTANCY

COLLECTIVE EFFICACY

INSTITUTIONAL EFFICACY

ENERGY DEMAND MEASURES

ENERGY EFFICIENCY

ENERGY CURTAILMENT

ENERGY SECURITY CONCERN

ENERGY AFFORDABILITY

ENERGY DEPENDENCY

ENERGY RELIABILITY

ENERGY SUPPLY

INTERNAL AND EXTERNAL VULNERABILITY

SOURCES

FOR ENERGY SUPPLY SOURCES

BEHAVIORS

BEHAVIOURS

NON-ACTIVIST BEHAVIOURS

Hierarchical concept list





Concepts:

EFFICACY BELIEFS

Top-level concept

The Efficacy Beliefs concept refers to the beliefs in the effectiveness of personal and others' actions contribute to a particular outcome or goal. In the context of climate change mitigation as a collective problem, and following Lubell's (2002) framework, this includes beliefs that personal actions can make a difference (personal efficacy beliefs), other people will contribute in the collective endeavour (collective efficacy beliefs), and that government will play their part in designing effective climate policies (institutional efficacy beliefs). The personal efficacy concept consists of two sub-concepts, as theorised by Bandura (1994): self-efficacy (the belief that one is able to engage in actions that contribute to a collective outcome or goal) and personal outcome expectancy (the belief that these actions contribute to the collective goal). The collective efficacy concept is similarly subdivided into two sub-concepts (see Koletsou & Mancy, 2011): collective efficacy (the belief that other people will perform behaviours needed to achieve a collective goal) and collective outcome expectancy (the belief that by acting collectively the collective goal can be achieved). The institutional efficacy concept refers to beliefs that relevant institutions, primarily national governments, will take effective action on climate change.



Exports



EFFICACY BELIEFS.pdf



EFFICACY BELIEFS-ddi32.xml

0

SELF-EFFICACY

Version 1.0

Self-Efficacy refers to people's beliefs in their capabilities to engage in actions needed to attain a particular outcome or goal. In the context of a collective problem, such as climate change) this refers to people's beliefs that they are able to perform the actions (i.e. energy saving) that collectively contribute to a particular collective outcome or goal (i.e. climate change mitigation). Expected relationship with other sub concepts
Self-efficacy is expected to be associated with personal outcome expectancy, collective efficacy, and collective outcome expectancy, but to be independent from institutional efficacy.





Concepts:

EFFICACY BELIEFS

Version 1.0

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Exports



EFFICACY BELIEFS.pdf



EFFICACY BELIEFS-ddi32.xml

0

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Expected relationship with other sub concepts
Self-efficacy is expected to be associated with personal outcome expectancy, collective efficacy, and collective outcome expectancy, but to be independent from institutional efficacy.

Sub concept



Structuring questions for reuse in the QDDT:

QuestionItems

NEW ▾



ENRGYUSE

Version 3.0

How able do you feel you are to do things that limit your (own) energy use?

Mixed Managed representation:-185527408 v.1.0

Not at all confident

Completely confident

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Missing

☐ Refusal 77

☐ Don't know 88

- Only core content is added at the question item level
- Responses are maintained separately and linked to the question by reference
- Valid responses are maintained and reused separately from the missings





QuestionItems

NEW ▾

Question text



ENRGYUSE

Version 3.0

How able do you feel you are to do things that limit your (own) energy use?

Mixed Mananged representation:-185527408 v.1.0

Not at all confident

Completely confident

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Missing

☐ Refusal

77

☐ Don't know

88

Name





QuestionItems

NEW ▾

Valid responses

Version 3.0

ENRGYUSE

How able do you feel you are to do things that limit your (own) energy use?

Mixed Managed representation:-185527408 v.1.0

Not at all confident

Completely confident

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Missing

☐ Refusal

77

☐ Don't know

88

Name





Questions:

QuestionItems

NEW ▾



ENRGYUSE

Version 3.0

How able do you feel you are to do things that limit your (own) energy use?

Mixed Managed representation:-185527408 v.1.0

Not at all confident

Completely confident

☐ 0

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ 6

☐ 7

☐ 8

☐ 9

☐ 10

Missing

☐ Refusal

☐ Don't know

Missing values

77

88





Response domains:

Response domains

NEW

☒ Scale Domain ☐ Code Domain ☐ Numeric Domain ☐ DateTime Domain ☐ Text Domain

CONFIDENT11

Name

CONFIDENT11

Description

11 point scale 0-10 with 2 anchor points, Not at all confident/Completely confident

Response domain types:

- **ScaleDomain**
- CodeDomain
- NumericDomain
- DateTimeDomain
- TextDomain

Version 1.0

CONFIDENT11(V1.0)

Not at all confident

Completely confident

0

1

2

3

4

5

6

7

8

9

10

Start

0

End

10

Number of Anchor

2

Display Layout

horizontal

Not at all confident

Completely confident





Response domains – Code list:

Response domains

NEW ▾

☐ Scale Domain ☒ Code Domain ☐ Numeric Domain ☐ DateTime Domain ☐ Text Domain

Version 2.2

6 IMPACT

Name

6 IMPACT

Description

6 digit code list, ranging from extremely positive (1) to extremely negative (5), and no impact (6)

Number of Codes

6

6 IMPACT (V2.2)

- ☐ Extremely positive
- ☐ (Somewhat) Positive
- ☐ Neither positive or negative
- ☐ (Somewhat) Negative
- ☐ Extremely negative
- ☐ No impact

-Extremely positive	1
-(Somewhat) postive	2
-Neither positive nor negative	3
-(Somewhat) negative	4
-Extremely negative	5
-No impact	6

1
2
3
4
5
6





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Linking questions to concepts:



SELF-EFFICACY

Version 1.0

Self-Efficacy refers to people's beliefs in their capabilities to engage in actions needed to attain a particular outcome or goal. In the context of a collective problem, such as climate change) this refers to people's beliefs that they are able to perform the actions (i.e. energy saving) that collectively contribute to a particular collective outcome or goal (i.e. climate change mitigation).

Expected relationship with other sub concepts

Self-efficacy is expected to be associated with personal outcome expectancy, collective efficacy, and collective outcome expectancy, but to be independent from institutional efficacy.

Question Items

ENRGYUSE - How able do you feel you are to do things that limit your (own) energy use?



Exports



SELF-EFFICACY.pdf



SELF-EFFICACY-ddi32.xml

0

Specific version selected

Preview QuestionItem

ENRGYUSE

How able do you feel you are to do things that limit your (own) energy use?

Mixed Managed representation-185527408 v.1.0

Not at all confident

Completely confident

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Missing

☐ Refusal

77

☐ Don't know

88

Version

Last Saved

Last Saved By

Agency

Based On Object

3.0

Fri, March 15, 2019

Hilde

int.esseric

This project has received funding from the European Union research and innovation programme under grant agreement





Question constructs – the question as in the questionnaire:

D2_ESS8

Name

D2_ESS8

Description

Question construct for Energy use - ESS8 pilot

Universe

All respondents

External aid & Exports

Card 25 ESS8.PNG

D2_ESS8.pdf

D2_ESS8-ddi32.xml

Instruction

CARD 25

Question Text (Version 4.0)

How confident are you that you can do things that limit your energy use?

Name

Universe: All respondents

Showcard

Question item

Not at all confident

0

1

2

3

4

5

6

7

8

9

10

Completely confident





Comments:

ENRGYUSE

How able do you feel you are to do things that limit your (own) energy use?

1



March 17, 2019 at 7:36:00 AM GMT+1

QDT/CST: It has been difficult to formulate wording for the efficacy items. We tried 'how able' but confidence seems the easiest solution

0

We tried 'how able'
But **confidence** seems the easiest solution





Compare current change to latest version:

Current change

question	How confident are you that you can do things that limit your energy use?
Intent	
RD-Name	Mixed [ScaleDomain:-43817374 + Ref/DK]
RD-Ver	V1.0

How confident.....

V 3.0

Ver	V3.0
question	How able do you feel you are to do things that limit your (own) energy use?
Intent	
RD-Name	Mixed [ScaleDomain:-43817374 + Ref/DK]
RD-Ver	V1.0

How able.....





Versioning:

☐ Saved as work in progress ☒ Saved as version ☐ Saved as new based-on ☐ Saved as new

Versioning Reason

Choose your rationale

TypoOrNoMeaningChange

MeaningChange



Version

3.0

Last Saved

Fri, March 15, 2019

Last Saved By



Hilde

- **Select change type:**
 - ☐ Saved as work in progress
 - ☐ **Save as a version**
 - ☐ **Meaning change**
 - ☐ **Typo**
 - ☐ Saved as new based on
 - ☐ Save as new





Versioning:

☐ Saved as work in progress ☒ Saved as version ☐ Saved as new based-on ☐ Saved as new

Versioning Reason

MeaningChange

Any other change that could affect the meaning. If the amendment is considerable enough, review whether becomes a new element rather than a new version.

☒ Conceptual improvement ☐ Real life change ☐ Add content element ☐ Other purpose

Rationale for change

Question text changed

Version

3.0

Last Saved

Fri, March 15, 2019

Last Saved By



Hilde

- **Select version rationale code:**
 - ☒ **Conceptual improvement**
 - ☐ Real life change
 - ☐ Add content element
 - ☐ Other change
- **Add description**
- **And save**





QuestionItems

The version number changes automatically based on the choice of the user



ENRGYUSE

How confident.....

How confident are you that you can do things that limit your energy use?

v3.0

v4.0

Mixed Managed representation:-185527408 v.1.0

Not at all confident

Completely confident

☐ 0

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ 6

☐ 7

☐ 8

☐ 9

☐ 10

Missing

☐ Refusal

77

☐ Don't know

88





Publications:

Publication packages

NEW ^

☐ No publication ☒ Internal publication ☐ External publication

Name
Self-efficacy

Purpose
Post-pilot review

Publication status
Designmeeting2

Designmeeting3

Earlytesting - SQP/TMT

PostEarlyTesting

Pilot - SQP/TMT

PostPilot

FinalSource - SQP/TMT

Version

Delete

SUBMIT

Internal publication for the
'Pilot' milestone



Ideas for further development:

- Instrument sequences and flow
- Import to the tool
- Publication packages
- Depending on funding





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Special thanks to

Sarah Butt, Yvette Prestage, Virginia Roos, Sally Widdop
ESS HQ, City University, London

Benjamin Beuster, Knut Kalgraff Skjåk,
Dag Ø. Heradstveit, Håvard V. Bakkmoen
NSD - Norwegian Centre for Research Data - NSD

Joachim Wackerow
Consultant



This project has received funding from the *European Union's Horizon 2020* research and innovation programme under grant agreement No 654221.

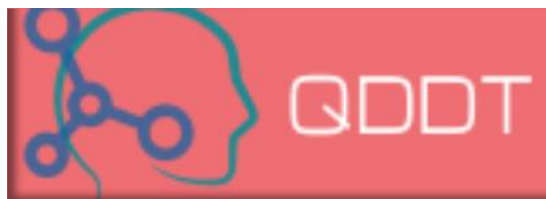


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Thank you for your attention



QDDT project site:

<https://github.com/DASISH/qddt-client/wiki>

Please contact us at: surveytools@nsd.no



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QDDT Architecture

Angular 6 + Typescript

- No Javascript in dev tools, only in browser
- Typescript can transpile to ES3
- Supports «evergreen» browsers (Chrome, FireFox, Opera, Safari, and IE10/11)

Spring MVC API

- RESTful API
- JSON for free
- no need for a SOAP service stack

Spring security (OAuth2)

- Tokenbased
- No state for requests

Persistence Layer implemented with [Hibernate](#) + [Envers](#)

- Revisions
- Database agnostic
- Since qddt is open source, we chose Postgres

