

# Feasibility Analysis of Indicators

Deliverable of task 2.6



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#### Work Package

2 - Semantic Mapping of Quality Metrics and Sources in Higher Education

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# 1. Introduction

The QualityLink project aims to empower stakeholders, including students, institutions, employers, and recognition information centres, by providing them with comprehensive and relevant quality data on courses and micro-credentials. This should help improve recognition decisions and allow learners to follow flexible learning pathways.

The project envisions contributing to a seamless and interoperable environment where quality information on study programs and micro-credentials is easily accessible and interoperable across diverse sources.

The project's guiding principles are:

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- Quality: ensuring that all project endeavours adhere to the highest standards.
- **Competition**: as a positive force for driving continuous improvement and innovation.
- **Student-centric approach**: empower learners to navigate the diverse landscape and make personalised choices.
- **Transparency**: avoiding compound indicators and allowing the end user to make their own informed decisions.
- **Openness and inclusivity**: aggregating, sharing, and disseminating data.
- **Democratisation of quality data**: making it universally accessible and beneficial to a broad spectrum of stakeholders.

The project aims at creating a technical architecture for aggregating basic course data and quality indicators from various trusted data sources, including the ability to match data from different sources on the same micro-credential, course or study programme.



# 2. Approach

## 2.1 Iterative Process

Within the current project, the architecture will be tested and piloted for selected indicators. As a first step, the consortium proposed a <u>wide array of quality domains and indicators</u> that are potentially relevant for different stakeholders, in particular learners.

The project has been following an iterative process (see figure below) in analysing the feasibility of different data sources and their priority for stakeholders.

The present analysis explores the full range of possible data sources from which data for these indicators could potentially be acquired. It analyses the feasibility of including these data sources in an aggregated dataset. This includes different facets, including technical feasibility as well as other factors such as openness, licensing and costs.

Through a series of focus groups and a public survey the consortium has been gauging which indicators are most relevant and important to different stakeholders. The results of this exercise will determine which indicators and data sources are to be explored in greater depth. This prioritisation exercise is ongoing in order to maximise the participation of stakeholders and elicit the broadest possible feedback.



Figure: Iterative Process for the Analysis of Data Sources

Once the prioritisation has been concluded, selected data sources covered in the present analysis will be explored in greater depth.

# 2.2 Guiding Questions

Possible data sources were identified through extensive brainstorming with the entire consortium. For each data source, KIC performed the necessary desk research to inform the analysis. The following guiding questions were addressed for each data source:

• Considering data models, structure, identifiers used, etc., how significant would be the effort to harvest data from this source into the QualityLink dataset?





- How much of this effort would be with the owner, i.e. how much cooperation/engagement required from their side? And is it likely they'd be up for it?
- Is a regular/periodic update feasible enough?
- Is data from this source openly accessible and usable? If no, any contacts with the owners so far or how likely is it that they'd be interested?
- Are there secondary advantages, e.g. potentially making it easier to match & integrate other datasets?
- How is the quality of the dataset?
- How relevant is the coverage offered to the QualityLink project objectives?

Some basic information and the result of the feasibility analysis are recorded below for each data source, using the following format:

Definition	The definition of the indicator that we consider to retrieve from this data source. This is based on the earlier deliverable 2.3 Quality Domains and Indicators.
Data source - name	The "brand name" of the data source.
Data source - owner/publisher	The legal entity owning and publishing the data source.
Data source - URL for info	Main website with information on the data source.
Coverage	The coverage, including the number of institutions, programmes or courses in this data source, ideally with an indication of any regional/country focus.
Licence/terms + pricing	Terms and conditions under which data from this source may be used, with a focus on retrieving and including data into the QualityLink dataset and portal. Where this is offered as a commercial service, information on pricing if available.
Data model/standard(s) used	Relevant data standards, ontologies or classifications used, e.g. ESCO for learning outcomes or similar. The focus is on what facilitates the integration/use of the data in QualityLink, hence own/proprietary data standards that are used only by one or very few data sources are not relevant and not listed.
Institutional identifier(s) used	Widely-used or understood identifier used for higher education institutions, e.g. ROR ID or ETER IDs. Virtually all IT systems will use some own, internal



	identifier, but these are not relevant when used by only one dataset. Hence "none" is indicated in that case.
Course identifier(s) used	Widely-used or understood identifier used for programmes, courses or micro-credentials.
	"n/a" is indicated where the granularity of the data source is higher, e.g. data sources that only cover the institutional level.
	Some data sources might be more granular than the institution level, but only identify scientific fields rather than individual programmes. Yet, field-level data can be more meaningful than institution-level data for a specific programme. Thus, ontologies or classification used for fields are analysed in this case, with a focus on whether they can be easily linked to the field identified in the basic course according to ISCED-F.
API or bulk download options	Information whether data can be downloaded in bulk, e.g. as Excel sheet or CSV file, or accessed through an API.
Analysis	Short analysis of this data source and the potential for its inclusion in the QualityLink dataset and portal, leading up to the conclusion.
	In general, the analysis and conclusion take into account technical feasibility, licensing aspects and anticipated openness on the side of the owning/maintaining organisation in cooperating (the latter being relevant especially where the general licensing conditions would not allow integration).
Conclusion	One of three:
	<ol> <li>focus/priority: it is very likely that it will be feasible to integrate/link this data source to the QualityLink dataset, hence it should be pursued with priority and considered as one of the data sources to be piloted within the projects.</li> <li>reserve list: there are some technical or organisational limitations, but it might be possible to overcome them. The data source will not be pursued with priority, but might be considered as an alternative if other options turn out less feasible eventually.</li> </ol>



3. **not for now**: there are significant technical or organisational limitations, and it is unlikely that we would be able to overcome them. Hence this data source will not be explored further in the current project.

# 3. Summary

In total, 28 3rd-party data sources (i.e. other than education providers themselves) covering 18 indicators were analysed. In addition, for another 11 indicators it was considered how feasible it is for education providers to provide such information themselves, as no external data sources were available or their coverage was (likely) limited.

The analysis revealed a very broad spectrum of technical and organisational feasibility. In technical terms, some data sources are published as an interactive website only, while others are accessible through an API or at least available for download in a structured format.

The openness and terms under which data sourced can be accessed/used varies widely: while some data is published under highly constraining conditions, essentially prohibiting any kind of scraping, download or reuse, other data sources are fully available as open data, either without any restrictions (e.g. CC0) or with conditions that do not prevent use within QualityLink (e.g. CC Attribution or ShareAlike). For some data sources, advanced access (download or API) is a paid service.

Based on the analysis below, the following data sources are the most promising for potential integration into a QualityLink pilot platform:

- Content Relevance, Labour Market Demand and Accuracy
  - Skills-OVATE (Cedefop)
  - Skills intelligence (Cedefop)
  - Skill Forecast (Cedefop)
  - EUR-ACE (ENAEE)
- Teaching Methods and Pedagogy
  - DEQAR (EQAR)
  - EHESO / ETER (EU)
  - o <u>Coursera</u>
  - <u>edX</u>
- Learner-Centred Approach, Satisfaction and Success
  - EHESO Student Hub/Observatory
  - EGRACONS
- Institutional Reputation
  - EUA & EURASHE membership





- <u>CWTS Leiden Ranking</u>
- QS World University Ranking
- <u>Platform for inter\*national student mobility (PIM)</u>

The technical feasibility of the analysed data sources can, however, not be seen in isolation. In the next stage, the project will compare this list of possible sources against the prioritisation/ranking of indicators by the importance stakeholders attach to them.

Further efforts will then be directed towards those sources that are both highly relevant and feasible technically.

The following data sources bear some technical or organisational limitations, but there seems to be a fair chance of overcoming those with reasonable efforts. These will not be pursued with priority, but are a "reserve list" the project might turn to if any of the sources above reveal less feasible:

- Content Relevance, Labour Market Demand and Accuracy
  - <u>Jobmonitor</u> (Bertelsmann)
  - Euro-Inf (EQANIE)
- Accessibility and Inclusivity
  - <u>Eurostudent</u>
- Learner-Centred Approach, Satisfaction and Success
  - <u>AsCOLA</u>
  - EUROGRADUATE
- Institutional Reputation
  - ORCID
  - THE World University Rankings
  - DAbeKom



# 4. Detailed Analysis

# 4.1 Content Relevance, Labour Market Demand and Accuracy

#### Accurate and up-to-date information

Definition	Are learning outcomes published using a standard ontology such as ESCO? (yes/no)
Data source - name	education provider
Coverage	n/a
Data model/standard(s) used	ESCO
Institutional identifier(s) used	not specified in ESCO
Course identifier(s) used	not specified in ESCO
Analysis	It is straight-forward to include the possibility of publishing learning outcomes as ESCO skills. If the provider publishes learning outcomes in textual form, the <u>Skill Finder tool</u> could be used to auto-translate the description to ESCO.
Conclusion	focus/priority

#### Demand for skills in micro-credentials

Definition	Level of similarity of micro-credential skills/learning outcomes with those identified in forecasts
Data source - name	Skills-OVATE
Data source - owner/publisher	Cedefop
Data source - URL for info	https://www.cedefop.europa.eu/en/tools/skills-online-vac ancies
Coverage	EU27 + CH + IS + LI + NO
Licence/terms + pricing	free to use/access online, no policy on re-use or embedding posted



Data model/standard(s) used	Skills: ESCO, O*Net Breakdowns: ISCO-08 (occupations), NACE (sectors), NUTS-2 (regions)
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
API or bulk download options	none advertised publicly
Analysis	The skills data contained in Skills-OVATE is highly relevant and could be used to match courses' ESCO-classified skills against the demand for these skills.
	As the data is broken down at regional level it would allow users to assess courses/credentials against the specific demand for skills in the region(s) relevant to them.
	The data is updated quarterly. In theory, it could be quarterly updated from the source or queried live when users access the QualityLink dataset, although the latter might not be very efficient.
	The choice also depends on options available for integration, which would need to be discussed with Cedefop.
	As the data is at the level of ESCO skills and not courses, there are no challenges in terms of matching courses involved.
Conclusion	focus/priority

Definition	Level of similarity of micro-credential skills/learning outcomes with those identified in forecasts
Data source - name	Skills intelligence
Data source - owner/publisher	Cedefop
Data source - URL for info	<u>https://www.cedefop.europa.eu/en/tools/skills-intelligenc</u> <u>e</u>
Coverage	EU27 + IS + NO
Licence/terms + pricing	free to use/access online, no policy on re-use or embedding posted





Data model/standard(s) used	Skills: ESCO
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
API or bulk download options	none advertised publicly
Analysis	Similar to the data in Skills-OVATE (see above), this data is highly relevant and could be used to match courses' ESCO-classified skills against the demand for these skills.
	The data is updated annually. Otherwise, the technical feasibility is the same as for Skills-OVATE and also here depends on what integration options are available or could be agreed with Cedefop.
Conclusion	focus/priority

Definition	Level of similarity of micro-credential skills/learning outcomes with those identified in forecasts
Data source - name	Skills Forecast
Data source - owner/publisher	Cedefop
Data source - URL for info	https://www.cedefop.europa.eu/en/tools/skills-forecast
Coverage	EU27 + CH + IS + NO + MK + TR
Licence/terms + pricing	free to use/access basic visualisations, full download restricted (see below)
Data model/standard(s) used	Occupations: ESCO (presumably)
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
API or bulk download options	According to the Cedefop website, Skillsnet Forecast Members can access an additional detailed data tool and download a full dataset; conditions are not fully clear however.
Analysis	Compared to the two previous Cedefop tools, the Skills Forecast - despite its name - focuses rather on occupations and how the demand for different occupations is expected to change over the coming



Conclusion	focus/priority
	Generally, the technical feasibility is comparable to the above-mentioned datasets, with the additional step of mapping/converting occupations to the relevant skills,
	Since ESCO maps occupations to relevant skills this could nevertheless be used and could bring in a different angle on the relevance of skills offered by a course.
	years.

## Specific requests for skills / micro-credentials

Definition	Level of similarity of micro-credential skills/learning outcomes with those required in job ads
Data source - name	Jobmonitor
Data source - owner/publisher	Bertelsmann Stiftung
Data source - URL for info	https://jobmonitor.de/
Coverage	Regional focus on D-A-CH (German speaking countries)
Licence/terms + pricing	CC BY-SA 3.0 DE
Data model/standard(s) used	Occupations: national classification based on ISCO-08 Transversal skills: ESCO v1.1 Activity fields: own classifcation
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
API or bulk download options	none mentioned/advertised, even though FAQ contains a reference to data download
Analysis	The tool is based on the web scraping of millions of online job ads in German-speaking countries. The focus is on analysing jobs and skills in demand, with a focus on future skills.
	Similar to the Cedefop tools, the Jobmonitor could be used to match the relevance of skills provided by courses/micro-credentials.
	Technically, a copy of the data could be stored or an API





Conclusion	reserve list
	As the Jobmonitor has a smaller geographical focus it would be of relevance especially if it turns out that Cedefop data cannot be used.
	As for the Cedefop sources discussed above, the feasibility also depends on integration options and openness to cooperate by the authors.
	of Jobmonitor be queried live. Similar to above, the latter might not be efficient or feasible.

## Stackability

Definition	Number of known further learning pathways (e.g. possibilities to stack this specific micro-credentials together with other ones to a larger credential or full degree) and number of education providers that offer these pathways (numeric)
Data source - name	education provider
Coverage	unknown to which extent providers maintain this information as structured data
Data model/standard(s) used	no existing ones
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
Analysis	On the one hand, it is straight-forward for education providers to publish information which micro-credentials they recognise towards a degree programme or for other "stackable" learning paths. There is, however, no existing data standard that models this information. Given the importance of this indicator it would make sense to develop an ontology for this type of information.
Conclusion	focus/priority

Definition	Number of known further learning pathways (e.g. possibilities to stack this specific micro-credentials
	together with other ones to a larger credential or full



	degree) and number of education providers that offer these pathways (numeric)
Data source - name	Coursera
Analysis	see below
Conclusion	focus/priority

Definition	Number of known further learning pathways (e.g. possibilities to stack this specific micro-credentials together with other ones to a larger credential or full degree) and number of education providers that offer these pathways (numeric)
Data source - name	edX
Analysis	see below
Conclusion	focus/priority

### Additional QA / Labels

Definition	Has a specific label been awarded to the micro-credential, a larger programme it is part of, or the provider offering it? (yes/no)
Data source - name	EUR-ACE
Data source - owner/publisher	ENAEE
Data source - URL for info	https://eurace.enaee.eu/node/163
Coverage	ca. 4500 labelled degree programmes
Licence/terms + pricing	free access/browsing, but "extraction or re-utilisation of any or part of the content of the database" prohibited without ENAEE permission
Data model/standard(s) used	own
Institutional identifier(s) used	presumably no external one
Course identifier(s) used	presumably no external ones
API or bulk download options	not mentioned/offered publicly



Conclusion	focus/priority
	Given the large number of programmes covered it would be relevant to explore this with ENAEE.
	<ol> <li>How automated the matching of programmes could be.</li> </ol>
	1. Whether there is willingness/openness from the side of ENAEE to cooperate;
	The feasibility of sourcing EUR-ACE label information into QualityLink depends mainly on two factors:
	It is unclear whether the database uses any existing or established identifiers for HEIs or programmes. Considering variations in spelling etc. it does not seem that programmes are a very managed entity in the data.
Analysis	As one of the largest quality labels, the EUR-ACE label database would be a relevant source.

Definition	Has a specific label been awarded to the micro-credential, a larger programme it is part of, or the provider offering it? (yes/no)
Data source - name	EQUIS & EFMD Programme Accreditation
Data source - owner/publisher	EFMD Global
Data source - URL for info	https://www.efmdglobal.org/accreditations/business-sch ools/equis/equis-accredited-schools/ & https://www.efmdglobal.org/accreditations/business-sch ools/efmd-accredited/efmd-accredited-programmes/
Coverage	223 accredited providers, 141 accredited programmes
Licence/terms + pricing	unclear
Data model/standard(s) used	own
Institutional identifier(s) used	none/own
Course identifier(s) used	none/own
API or bulk download options	none offered
Analysis	The website does not necessarily suggest that the information on accredited schools/programmes is



Conclusion	not for now
	Moreover, no further information is available on-line (e.g. no validity dates or links to decisions or reports).
	powered by a structured database.

Definition	Has a specific label been awarded to the micro-credential, a larger programme it is part of, or the provider offering it? (yes/no)
Data source - name	Eurobachelor/Euromaster
Data source - owner/publisher	ECTN (Chemistry thematic network)
Data source - URL for info	https://ectn.eu/committees/label/awards/
Coverage	labels awarded at 67 HEIs
Licence/terms + pricing	not specified
Data model/standard(s) used	own
Institutional identifier(s) used	none/own
Course identifier(s) used	none/own
API or bulk download options	none offered
Analysis	Information is provided as a single-page static list. It is not obvious whether it is fed by a structured database or manually updated. It contains only rudimentary data, but at least validity dates.
	Feasibility of including this data on QualityLink depends on whether there is willingness/openness from the side of ECTN and whether automated matching of programmes could be accomplished. However, given the small number of HEIs/programmes covered the effort might exceed the benefits.
Conclusion	not for now

Definition	Has a specific label been awarded to the
	micro-credential, a larger programme it is part of, or the



	provider offering it? (yes/no)
Data source - name	Euro-Inf
Data source - owner/publisher	EQANIE
Data source - URL for info	https://eqanie.eu/quality-label/accredited-programmes/
Coverage	label awarded to ca. 450 programmes
Licence/terms + pricing	unclear
Data model/standard(s) used	own
Institutional identifier(s) used	none/own
Course identifier(s) used	none/own
API or bulk download options	none offered
Analysis	Information provided as a single page with collapsible per-country lists of institutions. It is not clear whether the list is fed by a structured database or manually updated. Variation between countries might suggest a manually-updated page, however.
	There is no further data available beyond the list, e.g. no accreditation periods. Depending on the country/institutions there might be links to audit reports or to additional, agency-level databases.
	Feasibility of including this data depends again on whether there is willingness/openness from the side of EQANIE and whether automated matching of programmes could be accomplished.
	As the number of programmes covered is slightly larger than for some other labels, the Euro-Inf label data could be explored as a second option next to the EUR-ACE label (see above).
Conclusion	reserve list

## Quality Assurance (ESG)

Definition	EQF level indicated in DEQAR - for programme-level external QA - or by the provider - for institution-level external QA (categorical)



Data source - name	Database of External Quality Assurance Results (DEQAR)
Data source - owner/publisher	EQAR
Data source - URL for info	https://www.deqar.eu/
Coverage	ca. 4000 HEIs, primarily in Europe - 95000 programme-level reports, but number of programmes hard to gauge
Licence/terms + pricing	<u>completely open</u> , under the Open Data Commons Public Domain Dedication and Licence (PDDL)
Data model/standard(s) used	own data model
Institutional identifier(s) used	primary: DEQARINST ID (own identifier), ETER IDs
	secondary: IAU WHED ID, SCHAC, PIC, EU VAT IDs, Erasmus+ institution codes
Course identifier(s) used	practically none
API or bulk download options	CSV download (w/o registration) and REST API available (registration required, but free)
Analysis	Given the availability of a REST API, the data could be easily harvested and integrated into QualityLink. At institutional level, the matching would be facilitated due to a number of indicators being available in DEQAR for many institutions.
	At course/programme level, matching will be more difficult as no identifiers are used. Moreover, the quality/consistency of programme names in DEQAR is not ideal and fully uniform. Data quality is high otherwise, especially for controlled variables. However, there are potentially some duplicate programme-level QA reports.
	Periodic updates would be easy as long as the matching can be automated.
	Agreement from EQAR to use the API would be required, but should not be an issue as long as QualityLink does not create a huge number of requests.
	In addition, it could be relevant to discuss with EQAR the possible integration of the course identifiers as developed by QualityLink
	The coverage is substantial, as some information is





	available on most European HEIs. Additional identifiers might be of benefit for other datasets.
Conclusion	focus/priority

Definition	EQF level indicated by the provider - for institution-level external QA
Data source - name	education provider
Coverage	presumably available for every course
Data model/standard(s) used	ELM, OOAPI, Edu-API, EWP or OCCAPI
Institutional identifier(s) used	depends
Course identifier(s) used	own
Analysis	The EQF level could easily be indicated in any of the widespread data standards for course information.
Conclusion	focus/priority

## 4.2 Teaching Methods and Pedagogy

#### Quality Assurance (ESG)

Definition	Are the ESG guidelines followed? (Yes/No) Is the learning provider registered in DEQAR? (Yes/No)
Data source - name	DEQAR
Analysis	see above
Conclusion	focus/priority

#### **Platform QA**

Definition	The level of conformity to the policies of the major platforms.
Data source - name	Coursera



Data source - owner/publisher	Coursera Inc.
Data source - URL for info	https://www.coursera.org/
Coverage	7000+ courses in partnership with 300+ universities (according to Coursera website)
Licence/terms + pricing	not specific on use of basic course information, commercial use generally excluded by the terms
Data model/standard(s) used	own/unspecified
Institutional identifier(s) used	own/unspecified
Course identifier(s) used	own
API or bulk download options	not publicly offered/advertised
Analysis	Given the scale of their course offer, all relevant data is obviously managed in a well-structured database.
	On a technical level, the possibility to match any data from Coursera with other sources depends on whether any common identifiers could be used or whether one would need to resort to name matching.
	However, the more decisive issue would likely be whether there is any interest to cooperate and openness to share data, and if so in which areas.
	Coursera data could be interesting in various regards:
	1. Basic data on courses offered
	2. Stackability option (Coursera provides information when courses are accepted for credit by HEIs)
	3. Learner reviews
	4. Instructor ratings
Conclusion	focus/priority

Definition	The level of conformity to the policies of the major platforms.
Data source - name	edX
Data source - owner/publisher	edX LLC



Data source - URL for info	https://business.edx.org/business/world-class-content/int egration-reporting
Coverage	3500+ courses in partnership with major HEIs
Licence/terms + pricing	integrations as a commercial service
Data model/standard(s) used	own/unspecified
Institutional identifier(s) used	own/unspecified
Course identifier(s) used	own
API or bulk download options	API offered as commercial service
Analysis	Similar to Coursera, all relevant data is obviously managed in a well-structured database.
	On a technical level, the possibility to match any data from edX with other sources depends on whether any common identifiers could be used or whether one would need to resort to name matching.
	As with Coursera, the more decisive issue would likely be whether there is any interest to cooperate and openness to share data, and if so in which areas.
	edX data could be interesting in various regards:
	1. Basic data on courses offered
	2. Stackability option (tbc)
	3. Learner reviews and testimonials
Conclusion	focus/priority

## Active methodologies

Definition	List of active learning methodologies used (categorical - e.g. challenge-based learning, project-based learning, etc)
Data source - name	education provider
Coverage	doubtful that many providers maintain this information as structured data
Data model/standard(s) used	Could be modelled in ELM as a separate/extended controlled vocabulary for the mode and type properties of a LearningActivitySpecification.

1



Institutional identifier(s) used	not defined
Course identifier(s) used	not defined
Analysis	The relevant ELM vocabularies (Mode of learning and assessment; Learning activity type) in their current form are too broad/generic to serve as a reliable indicator for learning methodologies being active. This could be modelled in an extension to the ELM ontology. It is unclear how easily most institutions could provide that information. The lack of an widely-accepted standardised list of learning methodologies, however, makes the modelling of this indicator slightly more complex than others.
Conclusion	reserve list

## Tutoring

Definition	Availability of tutoring or mentoring (yes/no)
Data source - name	education provider
Coverage	(partners to provide if possible, otherwise KIC)
Data model/standard(s) used	not modelled in any analysed existing standards
Institutional identifier(s) used	not specified
Course identifier(s) used	not specified
Analysis	Information could presumably easily be provided by education providers.
	However, it needs to be modelled newly and should include a clear definition to ensure that data provided will be comparable.
Conclusion	reserve list

#### Student/staff ratio

Definition	The ratio of students per academic staff (numeric)
Data source - name	EHESO / ETER





Data source - owner/publisher	EHESO consortium
Data source - URL for info	https://eter-project.com/
Coverage	EU27 + IS/LI/NO/CH + AL/BA/XK/MK/ME/RS/TR + UK + VA + AD - most HEIs in those countries
Licence/terms + pricing	freely available
Data model/standard(s) used	own
Institutional identifier(s) used	ETER ID
Course identifier(s) used	n/a
API or bulk download options	CSV/XLS download & API
Analysis	Student/staff ratio can easily be retrieved for a huge number of providers from ETER, but unfortunately there is no data at course level.
	It could be useful to also model information on student and staff numbers as part of the extended ontology, so that education providers could additionally provide such data at course level.
Conclusion	focus/priority

#### Assessment methods used

Definition	The provision of exhaustive information on assessment methods
Data source - name	education provider
Coverage	most providers could presumably map their own information system to the ELM vocabulary
Data model/standard(s) used	ELM (partial), OOAPI (rudimentary), OOCAPI (rudimentary)
Institutional identifier(s) used	differs
Course identifier(s) used	own
Analysis	The education provider itself is the only known (potential) source for this information.
	Very basic/rudimentary information on assessment



Conclusion	reserve list
	ELM includes the most sophisticated controlled vocabulary that providers can refer to: <u>https://op.europa.eu/en/web/eu-vocabularies/dataset/-/re</u> <u>source?uri=http://publications.europa.eu/resource/datas</u> <u>et/assessment</u>
	methods is already modeled in some data standards.

#### Virtual learning environment available

Definition	The presence of information on VLE
Data source - name	education provider
Coverage	presumably easy to provide by everyone
Data model/standard(s) used	no existing
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
Analysis	This information will be relatively easy to specify for an education provider, as the provider will often be using a single VLE across all courses and programmes.
Conclusion	reserve list

## 4.3 Accessibility and Inclusivity

#### Make-up/diversity of the student body

Definition	Measurable by specific proxies, e.g. ratio of mature students (numeric) or ratio of students from a disadvantaged socio-economic background (numeric)
Data source - name	Eurostudent
Data source - owner/publisher	project consortium
Data source - URL for info	https://www.eurostudent.eu/
Coverage	26 countries, mainly EU





Licence/terms + pricing	basic data freely accessible, full dataset accessible based on a dedicated contract (terms to check)
Data model/standard(s) used	own
Institutional identifier(s) used	ETER ID (tbc)
Course identifier(s) used	unspecified
API or bulk download options	full download subject to restrictions
Analysis	Eurostudent is based on a regular student survey on social and economic conditions. Respondents indicate the HEI they are studying at as well as their field of study.
	Thus, technically data could be disaggregated at provider level, but is currently not published by Eurostudent. Eurostudent currently makes such data available to HEIs themselves to a certain extent. It is questionable whether sharing disaggregated data publicly would be of interest to Eurostudent.
	At the same time it would technically be unproblematic to model such information in the extended ontology and then allow education providers to self-report, possibly based on their Eurostudent data.
Conclusion	reserve list

## **Recognition of prior learning**

Definition	Although recognition policies cannot be measured, one can identify recognition policies and compare them across the providers
Data source - name	education provider
Coverage	should be unproblematic for providers
Data model/standard(s) used	not covered in existing data models
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
Analysis	It would be worth considering whether it is feasible/promising to try and model further details about RPL policies, beyond a simple yes/no information if they



	exist and a link to further information.
Conclusion	focus/priority

### Learner support services

Definition	One can determine if the course provider offers learner support services, and if so, which services are available.
Data source - name	education provider
Coverage	
Data model/standard(s) used	none known
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
Analysis	To our knowledge, no existing data source that covers learner support services.
	Provision by education providers is certainly possible, but there is no existing established ontology. Going through the establishment of one and modelling this to an extent that will actually be helpful, e.g. provide useful information for learners, would be substantial work.
	Not worth unless this is a very high priority for learners or other stakeholders.
Conclusion	not for now

### Eligibility for grants / loans

Definition	One can determine if the course provider offers grants or loans, and if so, compare the conditions of the grants or loans.
Data source - name	education provider
Coverage	Most providers presumably dispose of the required information.
Data model/standard(s) used	Modeled in basic terms as part of ELM: https://europa.eu/europass/elm-browser/documentation/ rdf/ap/edc/documentation/edc-generic-no-cv.html#edc:G





	<u>rantShape</u>
Institutional identifier(s) used	various
Course identifier(s) used	various
Analysis	To our knowledge, no existing data source covers information on grants or loans. Provision by education providers is certainly possible. ELM provides a structure for describing available grants in general terms. Not worth unless this is a very high priority for learners or other stakeholders. At the same time, grants/loans available are often the same for the whole system and do not depend on the specific programme or course; this makes the information easier to provide.
Conclusion	not for now

# 4.4 Learner-Centred Approach, Satisfaction and Success

#### **Student ratings**

Definition	The score of student rating
Data source - name	EHESO Student Hub/Observatory
Data source - owner/publisher	EHESO consortium
Data source - URL for info	https://eter-project.com/
Coverage	EU27 + IS/LI/NO/CH + AL/BA/XK/MK/ME/RS/TR + UK + VA + AD - most HEIs in those countries
Licence/terms + pricing	under development
Data model/standard(s) used	under development
Institutional identifier(s) used	ETER ID
Course identifier(s) used	under development, possibly n/a
API or bulk download options	under development
Analysis	The EHESO student hub/observatory is under



Conclusion	focus/priority
	While the granularity will not be the course or programme level, but rather the field which might include several programmes/courses, it could be highly relevant to include the relevant student feedback data.
	development and at its early stages. What is known so far is that it will be based on a Europe-wide student survey, initially for a number of selected fields/subject areas. The focus will be on students' perception of quality.

Definition	The score of student rating
Data source - name	AsCOLA
Data source - owner/publisher	AUTh
Data source - URL for info	https://projects.uni-foundation.eu/ascola/
Coverage	Any course (at a host HEI) included in a Learning Agreement managed via the OLA platform may be covered; HEIs must approve open publication via an opt-in mechanism. <i>Note: as of April 2025, the project is ongoing and the</i> <i>opt-in mechanism is not yet fully settled.</i>
Licence/terms + pricing	Terms of use are not yet published as of April 2025; no fees are expected
Data model/standard(s) used	https://api.ascola.eu/swagger/index.html#model-model. Course
Institutional identifier(s) used	SCHAC code (as used in EWP / OLA)
Course identifier(s) used	Course code (as used in OLA)
API or bulk download options	https://api.ascola.eu/swagger/index.html
Analysis	Given the close link with the EWP network, this could be a promising data source for student ratings and be naturally interoperable with the proposed ecosystem.
	At the same time, the project is still in development and such an integration could thus not be performed in the very short term.
	Moreover, it remains open to what extent HEIs would be



	ready to opt in for sharing evaluation data.
Conclusion	reserve list

Definition	The score of rating
Data source - name	education provider
Coverage	Most HEIs in Europe conduct regular student surveys.
Data model/standard(s) used	no known Europe-wide standards; inspiration might be drawn from initiatives such as <u>Quality Indicators for</u> <u>Learning and Teaching (QILT)</u> in Australia
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
Analysis	There is currently no data standard or ontology in use Europe-wide to describe evaluation results. Even though non-European initiatives and standards could serve as an inspiration, the content of student surveys are diverse and not harmonised between institutions, usually not even within a country. Hence it would be challenging to express the results in a readily comparable form.
Conclusion	not for now

#### Graduation rate

Definition	The ratio of students that successfully graduate (numeric)
Data source - name	education provider
Coverage	presumably most education providers have and manage (in their own analytics systems) information on graduation rates.
Data model/standard(s) used	no Europe-wide standards known; inspiration might be drawn from initiatives such as <u>Quality Indicators for</u> <u>Learning and Teaching (QILT)</u> in Australia or the US <u>Integrated Postsecondary Education Data System</u> (IPEDS)





Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
Analysis	Data on graduation rate would be technically relatively simple to model and provide in a standard format. Existing non-European standards could serve as a model. It is, however, doubtful if a significant number of HEIs would be willing to share/expose such data openly.
Conclusion	reserve list

Definition	The ratio of students that successfully graduate (numeric)
Data source - name	EHESO / ETER
Data source - owner/publisher	EHESO consortium
Data source - URL for info	https://eter-project.com/
Coverage	EU27 + IS/LI/NO/CH + AL/BA/XK/MK/ME/RS/TR + UK + VA + AD - most HEIs in those countries
Licence/terms + pricing	freely available
Data model/standard(s) used	own
Institutional identifier(s) used	ETER ID
Course identifier(s) used	n/a
API or bulk download options	CSV/XLS download & API
Analysis	The graduation rate might be possible to estimate from data available in EHESO / ETER. However, this would be only at institutional level or at ISCED-F level at best, not at course level.
Conclusion	focus/priority

Definition	Measurable by specific proxies, e.g. ratio of mature
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	students (numeric) or ratio of students from a disadvantaged socio-economic background (numeric)
Data source - name	Eurostudent
Data source - owner/publisher	project consortium
Data source - URL for info	https://www.eurostudent.eu/
Coverage	26 countries, mainly EU
Licence/terms + pricing	basic data freely accessible, full dataset accessible based on a dedicated contract (terms to check)
Data model/standard(s) used	own
Institutional identifier(s) used	ETER ID (tbc)
Course identifier(s) used	unspecified
API or bulk download options	full download subject to restrictions
Analysis	Eurostudent is based on a regular student survey on social and economic conditions. Respondents indicate the HEI they are studying at as well as their field of study.
	Thus, technically data could be disaggregated at provider level, but is currently not published by Eurostudent. Eurostudent currently makes such data available to HEIs themselves to a certain extent. It is questionable whether sharing disaggregated data publicly would be of interest to Eurostudent.
	At the same time it would technically be unproblematic to model such information in the extended ontology and then allow education providers to self-report, possibly based on their Eurostudent data.
Conclusion	reserve list

## Student ratings of educators

Definition	Rating score
Data source - name	education provider
Coverage	many education providers would presumably have certain ratings or other structured feedback on their teaching staff as a result of regular student surveys



Data model/standard(s) used	no Europe-wide standards known; inspiration might be drawn from initiatives such as <u>Quality Indicators for</u> <u>Learning and Teaching (QILT)</u> in Australia
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
Analysis	Even though many education providers would have data relevant to this indicator from their regular student surveys, the exact format and questions in those surveys are not standardised.
	Hence it would be challenging to express information from different education providers in an easily comparable way.
	Moreover, it is likely that many education providers would be hesitant to make that data publicly available due to both "commercial" and privacy concerns.
Conclusion	not for now

## Student/graduate performance

Definition	Information on graduate achievements, e.g. percentage of graduates who changed or upgraded their career within a set times from completing the MC
Data source - name	EUROGRADUATE
Data source - owner/publisher	project consortium
Data source - URL for info	https://www.eurograduate.eu/
Coverage	18 countries: AT, BG, HR, CY, CZ, EE, DE, GR, HU, IE, IT, LV, MT, NO, PT, RO, SI, SK
Licence/terms + pricing	comparative report under CC BY; country reports with varying licenses; full dataset not published
Data model/standard(s) used	own
Institutional identifier(s) used	unclear if any
Course identifier(s) used	n/a - but ISCED-F for fields
API or bulk download options	no information
Analysis	EUROGRADUATE is a Europe-wide standardised





Conclusion	reserve list
	At the same time, EUROGRADUATE findings are published only in aggregate form, at European and country level. It might be unlikely that the EUROGRADUATE consortium would be interested or able (considering the privacy terms under which the surveys were conducted) to share partially disaggregated data publicly.
	The survey asks respondents to identify their field of study (ISCED-F) and higher education institution. That is, technically there would be a possibility to use EUROGRADUATE data as indicators based on ISCED-F matching. This is not the ideal granularity (which would be course level), but significantly more informative than institution level indicators.
	survey of higher education graduates. It includes numerous variables that could be relevant, covering areas such as current work situation, transition from study to work, job characteristics, skills match and job satisfaction.

er ide if possible, otherwise KIC)
ide if possible, otherwise KIC)
standards known; inspiration might be tives such as <u>Quality Indicators for</u> aching (QILT) in Australia or the US acondary Education Data System
providers might have data relevant to example based on their own graduate
-



	to develop an ontology as a basis for sharing comparable data.
Conclusion	not for now

### Grade distribution

Definition	Described as grade distribution table following ECTS Users' Guide practices (numeric)
Data source - name	EGRACONS
Data source - owner/publisher	EWP consortium
Data source - URL for info	https://egracons.eu/
Coverage	148 HEIs - detailed coverage within those HEIs is not public
Licence/terms + pricing	free, but access fully restricted to HEI officials
Data model/standard(s) used	own
Institutional identifier(s) used	Erasmus codes
Course identifier(s) used	none
API or bulk download options	no, restricted to use by HEIs
Analysis	The EGRACONS tool implements the grade conversion methodology established by the ECTS Users' Guide (2015). HEIs are encouraged to upload grade distribution tables per programmes, but these are aggregated at ISCED-F Detailed Field level.
	The dataset contained in EGRACONS would be a relevant resource to cover this indicator and it would certainly be feasible to display the grade distribution for the corresponding ISCED field.
	A general agreement to make EGRACONS data public might be highly unlikely, but it could be explored whether this could be enabled per-HEI based on consent.
Conclusion	focus/priority



Definition	Described as grade distribution table following ECTS Users' Guide practices (numeric)
Data source - name	Education provider
Coverage	single provider
Data model/standard(s) used	ELM, EGRACONS
Institutional identifier(s) used	depends
Course identifier(s) used	own
Analysis	As grade distribution is already modelled in ELM it would be easy to enable HEIs to self-publish grade distribution data.
	This could be done at different aggregation levels, and while there could be a general recommendation different approaches might be supported. In a portal, data might be used from whichever level is available with a clear indication.
	In terms of data model/format, it would be worth looking into the EGRACONS templates (see above) to potentially allow HEIs to re-use the data already provided to that tool.
Conclusion	focus/priority

## **Course description**

Definition	If a learner-centred approach is taken into consideration in the course description - The quality of course description information on approach used.
Data source - name	education provider
Coverage	(partners to provide if possible, otherwise KIC)
Data model/standard(s) used	n/a
Institutional identifier(s) used	n/a
Course identifier(s) used	n/a
Analysis	There is no known 3rd party data source that would rate the quality of course descriptions.
	Education providers obviously publish course



	descriptions, but they would be unlikely to formally rate the quality of their own descriptions. Even if they were to do so, it is doubtful how reliable and informative a self-assigned rating would be.
	One possible approach could be to generate a rating based on the course description provided. For example, Al-based analysis could be used to assess whether the description is learner-centred and corresponds to good practice for writing learning outcomes, such as described in the ECTS Users' Guide or relevant Cedefop publications.
Conclusion	reserve list

## 4.5 Institutional Reputation

### **Expertise of lecturers**

Definition	Number of scientific publications (numeric) Relevance of lecturers' skills to learning outcomes of the course
Data source - name	ORCID
Data source - owner/publisher	ORCID, Inc.
Data source - URL for info	https://orcid.org/
Coverage	millions of researchers world-wide
Licence/terms + pricing	specific licence, generally grants right to use the Public API for non-commercial purposes and subject to rate limits (see <u>https://info.orcid.org/public-client-terms-of-service/</u> ) - public data file is also released under CC0 ( <u>https://info.orcid.org/public-data-file-use-policy/</u> )
Data model/standard(s) used	own
Institutional identifier(s) used	GRID and RINGGOLD directly – various indirectly, including: ROR, ISNI, WIKIDATA
Course identifier(s) used	n/a
API or bulk download options	various APIs and full data file download available



Analysis	<ul> <li>ORCID iD is primarily an ecosystem for uniquely identifying researchers. It also includes information on affiliation/employment as well as works published.</li> <li>The information on works published could be integrated into the QualityLink dataset. However, the main challenge would be whether information is available which lecturers are linked to a specific course or programme. Provided institutions publish this in the basic course data, this could be accomplished.</li> <li>Given privacy matters it might be less likely that education providers widely publish details on lecturers of courses, hence the potential of ORCID might be limited.</li> </ul>
Conclusion	reserve list

Definition	Number of scientific publications (numeric) Relevance of lecturers' skills to learning outcomes of the course
Data source - name	Web of Science Researcher API
Data source - owner/publisher	Clarivate
Data source - URL for info	https://developer.clarivate.com/apis/wos-researcher
Coverage	millions of researchers
Licence/terms + pricing	API use offered as a commercial service only, pricing not published; attribution required
Data model/standard(s) used	own
Institutional identifier(s) used	unclear
Course identifier(s) used	n/a
API or bulk download options	API as commercial service
Analysis	Web of Science could be a relevant data source for scientific publications or citation scores of academics.
	Notwithstanding the same difficulty as for ORCID (i.e. whether structured data on teachers linked to courses/programmes is available in the first place), the commercial conditions are most likely prohibitive. Hence this data source is not considered further.



	Notwithstanding this, Web of Science data forms the basis of the CWTS Leiden Ranking, see below, which is a more feasible data source.
Conclusion	not for now

Definition	Number of scientific publications (numeric) Relevance of lecturers' skills to learning outcomes of the course
Data source - name	CWTS Leiden Ranking
Data source - owner/publisher	Leiden University, Centre for Science and Technology Studies (CWTS)
Data source - URL for info	https://developer.clarivate.com/apis/wos-researcher
Coverage	1506 universities (world-wide)
Licence/terms + pricing	Creative Commons Attribution 4.0 (see <u>https://zenodo.org/records/12606083</u> )
Data model/standard(s) used	own
Institutional identifier(s) used	ROR ID
Course identifier(s) used	n/a, but fields are identified: 4234 "micro-level fields" - 254 journal subject categories defined in Web of Science - 5 broad fields defined by CWTS
API or bulk download options	freely available for download, API unclear
Analysis	The CWTS Leiden Ranking measures institutions' scientific impact. Given the licensing conditions and free availability this is a very relevant and attractive dataset to integrate/link.
	ROR IDs are available in OrgReg, hence facilitating linking of institutions.
	Whether data could also be accessed through an API remains to be explored, but even downloaded data could presumably be included semi-automatic with reasonable effort.
	It would be worth exploring whether either the 5 broad subject fields or 254 Web of Science categories could be mapped to ISCED-F in order to provide a more relevant



	metric than the institutional one.
Conclusion	focus/priority

## Ranking

Definition	Rank of the provider in the specific ranking (numeric)
Data source - name	THE World University Rankings
Data source - owner/publisher	THE - Times Higher Education
Data source - URL for info	https://www.timeshighereducation.com/world-university-r ankings
Coverage	2857 HEIs (world-wide)
Licence/terms + pricing	Terms explicitly forbid use of "data mining, robot, spider, scraping or similar automated data gathering, extraction or publication tools for any purpose" - a commercial offer for advanced data access is hinted to at <a href="https://www.timeshighereducation.com/our-solutions/dat">https://www.timeshighereducation.com/our-solutions/dat</a> <a href="https://www.timeshighereducation.com/our-solutions/dat">a-and-insights/world-university-rankings-dashboard</a> , but conditions are not publicly available
Data model/standard(s) used	own
Institutional identifier(s) used	none / <u>GRID or ROR</u> through <u>rankr</u>
Course identifier(s) used	n/a
API or bulk download options	none advertised on web - possible use of rankr
Analysis	It is unclear whether an official API or other integration option is available and at which costs. The use of <u>rankr</u> has not been tested for the current analysis. It might be feasible technically but would likely violate the terms and conditions. If ranking data turns out to be a priority for learners and other stakeholders it would be worth inquiring with THE.
Conclusion	reserve list

Definition Rank of the provider in the specific ranking (numeric)	1
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Data source - name	QS World University Rankings
Data source - owner/publisher	QS Quacquarelli Symonds Limited
Data source - URL for info	https://www.topuniversities.com/university-rankings
Coverage	1503 institutions (world-wide)
Licence/terms + pricing	Ranking data is licensed under Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License ( <u>https://www.topuniversities.com/data-copyright?check_logged_in=1</u> )
Data model/standard(s) used	own
Institutional identifier(s) used	none / <u>GRID or ROR</u> through <u>rankr</u>
Course identifier(s) used	n/a
API or bulk download options	Excel file available for download, officially after login only
Analysis	This is the only of the three major rankings analysed in this category (i.e. not counting CWTS Leiden Ranking, see under expertise of lecturers) that offers its data freely for download and has licensing conditions that specifically allow reuse.
	Given the lack of institutional identifiers, the integration of this data would probably be semi-automatic, for example using the rankr tool for matching/reconciling institutional IDs. Given the yearly publication this would nevertheless be acceptable.
	One issue that remains to be clarified is whether using the ranking data and incorporating them into the QualityLink dataset and portal is acceptable or would violate the "No Derivatives" constraint.
Conclusion	focus/priority

Definition	Rank of the provider in the specific ranking (numeric)
Data source - name	Academic Ranking of World Universities ("Shanghai Ranking")
Data source - owner/publisher	ShanghaiRanking Consultancy
Data source - URL for info	https://www.shanghairanking.com/rankings



Coverage	1000 institutions (world-wide)
Licence/terms + pricing	unclear / not specified
Data model/standard(s) used	own
Institutional identifier(s) used	none / <u>GRID or ROR</u> through <u>rankr</u>
Course identifier(s) used	n/a
API or bulk download options	none advertised
Analysis	There are no clearly defined terms of use and there is no officially provided download or API available. This data source could presumably be integrated via <u>rankr</u> , but it would need to be clarified whether this would violate terms of use. Given that the feasibility is significantly better for other rankins, this should not be pursued for the time being.
Conclusion	not for now

#### **Networks**

Definition	Whether provider is a member (yes/no)
Data source - name	EUA, EURASHE and various others
Data source - owner/publisher	various
Data source - URL for info	various
Coverage	depends
Licence/terms + pricing	depends
Data model/standard(s) used	none
Institutional identifier(s) used	usually none
Course identifier(s) used	n/a
API or bulk download options	usually none
Analysis	The broadest and most generic European networks/associations of HEIs are EUA and EURASHE. In addition, there are numerous subject-specific or topic-related networks.





Conclusion	focus/priority
	As part of the desk research we could not identify any association/network that publishes its list of members in any structured or downloadable format. Moreover, we did not encounter any association/network that uses any established or widely used identifier of institutions. Network membership is usually institutional, hence the course level is not relevant in this case. At the same time, modelling a data standard for networks to publish their list of members (and possibly their specific membership levels) is extremely straight-forward and could thus be treated as a "low-hanging fruit".
	All of these publish their members on the web. For the larger ones their websites suggests that the data is displayed from a structured database in the background

## Recognition history (direct)

Definition	Number of HEIs that have recognised the micro-credential, e.g. towards a larger degree programme (numeric, plus links to additional information)
Data source - name	Platform for inter*national student mobility (PIM)
Data source - owner/publisher	project consortium
Data source - URL for info	https://pim-plattform.de/en/
Coverage	10 German HEIs (tbc)
Licence/terms + pricing	(partners to provide if possible, otherwise KIC)
Data model/standard(s) used	ELMO (tbc)
Institutional identifier(s) used	unclear, most likely SCHAC
Course identifier(s) used	unclear
API or bulk download options	non known
Analysis	The PIM project covers data exchange between HEIs for student mobility and transfer of credit. As such, it accumulates a significant amount of recognition history

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Conclusion	focus/priority
	As little public information is available it requires further exploration
	that would be highly relevant for the QualityLink dataset.

Definition	Number of HEIs that have recognised the micro-credential, e.g. towards a larger degree programme (numeric, plus links to additional information)
Data source - name	education providers
Coverage	Hard to determine: technically all HEIs would know which courses or micro-credentials they have recognised. But it is unclear how many would have this information sufficiently structured to expose it in ELM format, for example.
Data model/standard(s) used	ELM (work in progress)
Institutional identifier(s) used	various (not prescribed in ELM)
Course identifier(s) used	various (not prescribed in ELM)
Analysis	HEIs could easily self-publish information on micro-credentials they have previously recognised. Work is currently being done to model recognition statements in ELM. In anonymised form this could be used to publish recognition history. Given the importance of that indicator this should be pursued with priority.
Conclusion	focus/priority

### Recognition history (skills)

Definition	Number of HEIs that have previously recognised the skills provided by the micro-credential, e.g. through recognition of prior learning (numeric, plus links to additional information)
Data source - name	DAbeKom

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Data source - owner/publisher	Hochschule Bielefeld
Data source - URL for info	https://www.dabekom.de/dabekom.html?seite=5
Coverage	German HEIs
Licence/terms + pricing	unclear
Data model/standard(s) used	most likely own/internal
Institutional identifier(s) used	not obvious, if any
Course identifier(s) used	not obvious, if any
API or bulk download options	not offered
Analysis	The DAbeKom initiative gathers data on competences from employment being recognised in HEI by way of recognition of prior learning.
	It is unclear what granularity of data would be available, as the data is not public.
	This data source could be explored as a backup if no other data sources for recognition history reveal feasible eventually.
Conclusion	reserve list