

Disentangling Educational Curation: How Lecturers in Higher Education Handle Educational Resources

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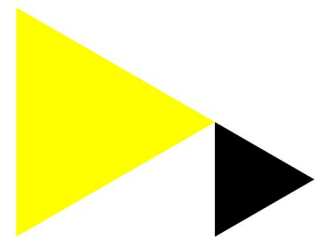
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Innovative Higher Education

Disentangling Educational Curation: How Lecturers in Higher Education Handle Educational Resources

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Disentangling Educational Curation: How Lecturers in Higher Education Handle Educational Resources

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Disentangling Educational Curation: How Lecturers in Higher Education Handle Educational Resources

How lecturers in higher education handle, or curate, educational resources during course design, has become increasingly important with the growing amount of digitally available educational materials. Despite the recognition of curation in educational literature and the development of two conceptual models, there is a lack of empirical knowledge of lecturers' actual curational practices. Through 23 semi-structured interviews at a Dutch University of Applied Sciences, this study identified six categories of distinguishable but interconnected activities that constitute lecturers' curational behaviour, taking place within the context of course design. These activities are: searching for resources, assessing and selecting resources, creating and editing resources, structuring resources, sharing resources, and soliciting feedback. The findings suggest that lecturers underemphasize the construction of a narrative that relates the resources and are providing students with little didactical support when sharing the resources. This paper offers an empirical foundation on educational curation and suggests directions for future research to inform lecturers' course design practices and enhance support for lecturers in this critical task.

Keywords: curation; educational resources; lecturers' behaviour; course design; higher education

Introduction

Over the last two decades, more and more information has become available digitally, leading to an explosive growth in the amount and variety of resources available for education (Scott, 2015). Demands on lecturers to present their students with up-to-date knowledge from a wide range of resources have increased (Baas et al., 2023; Dutch Ministry of Education, Culture and Sciences, 2015), and lecturers are expected to select, use, and modify these resources so that they match their students' needs (Baron & Zablott, 2015; Heine et al., 2023).

1 This means lecturers not only have to search for resources in a vast amount of available
2 materials, they also have to handle these resources in ways that will benefit their
3
4 students' learning. A term that has increasingly been used when it comes to this
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6 handling of large amounts of available resources in education, is the concept of curation
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8 (e.g. Anderson, 2015; Cherrstrom & Boden, 2020; Siemens, 2008). In educational
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10 curation, arranging, organizing, and displaying resources includes adding guidance and
11
12 a layer of didactical support for the target audience of a course's specific students
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16 (Hansen & Gissel, 2017; Siemens, 2008).

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19 However, as empirical research into curation in higher education is lacking, very little is
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21 known about how lecturers approach the task of curating educational resources
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23 (Cherrstrom & Boden, 2020; Leighton & Griffioen, 2021). As such, it is unclear what
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25 activities lecturers undertake when they handle educational resources in the design of
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27 their courses, and if and how they provide didactical support when curating educational
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29 resources. This study aims to shed light on the lecturers' curational behaviour in order
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31 to provide an empirical addition to the current body of knowledge and impart insights
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33 into means of supporting lecturers in their curational tasks.
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40 **Theoretical framework**

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42 In this section we will look into what curation entails, consider what we mean with
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44 educational resources, and describe what is known about curational behaviour in the
45
46 context of education.
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51 ***Curation***

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53 The word curation stems from the Latin *curare*, meaning 'to take care of', making a
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55 curator a 'caretaker' (Balzer, 2015). When the Wunderkammer and the first museums
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57 emerged in the 17th and 18th century, the people who made collections of objects,
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1 taking care of them and selecting and arranging what was displayed, were referred to as
2 curators. Since then, the word has mainly been used in the context of museums, where
3
4 curators are experts who take care of and preserve artefacts, select and arrange them for
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6 exhibitions, and tell stories that explain and contextualize what a visitor sees (Bhaskar,
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8
9 2016).

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11 Today, the term is increasingly used to describe a number of activities that revolve
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13 around dealing with large amounts of content, not just in museums and the art scene, but
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15 also in other fields, such as retail (e.g. Bhaskar, 2016; Joosse & Hracs, 2015), media
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17 (e.g. Bhaskar, 2016; Jansson & Hracs, 2018; Rosenbaum, 2011), and education (e.g.
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19 Cherrstrom & Boden, 2020; Potter, 2013; Siemens, 2008). When people curate content,
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21 they gather and disseminate information (Snyder, 2015). More importantly though, they
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23 also add a particular perspective to the information by selecting and arranging it to tell a
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25 story or make a statement (Bhaskar, 2016) with a specific audience in mind
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30 (Rosenbaum, 2011). Selecting resources is a central principle of curation, but what is
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32 done with those selections, how they are arranged, organized, explained, and displayed,
33
34 is crucial to make connections between resources and communicate the intended
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36 narrative (Bhaskar, 2016).

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41 Definitions of curation differ between fields, leaving it a ‘fuzzy concept’ (Jansson &
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43 Hracs, 2018) that is described in many different ways. Curation is described, for
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45 example, by Antonio and Tuffley (2015, p. 1) as “the art and science of searching,
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47 analysing, selecting, and organising content”. Potter (2013, p. 189) describes it as
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49 something that “incorporates many sub-components and actions; it suggests at least the
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51 following: collecting, interpreting, cataloguing, arranging and assembling for
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53 exhibition, and displaying”. Yet another definition is offered by Khan and Bhatt (2019,
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55 p. 1), who say curation is “the practices of harnessing preexisting content, transforming
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it through application of criteria [...] and then directing the resulting packet of filtered information to a new audience”. Most definitions offered are in line with Bhaskar (2016) in identifying other activities than mere selection as a crucial part of curation.

Across the board, there appear to be three groups of activities that are key to the process of curation. The first is searching for, analysing and interpreting resources, in order to select them, through applying specific criteria. A second group consists of arranging the selected resources by organizing and ordering them and adding context, and the third group of activities is displaying the arranged resources, by presenting them and by adding a narrative to the selection.

Curating Educational Resources

As mentioned in the previous section, the term curation is used broadly to describe the handling of resources in a variety of fields (e.g. Bhaskar, 2016; Jansson & Hracs, 2018), including education (e.g. Cherrstrom & Boden, 2020; Potter, 2013; Siemens, 2008).

Curating educational resources can be regarded as a part of the instructional design and development process, in which lecturers undertake professional activities to determine what instructional methods will be used, design their courses, and develop instructional resources (Reigeluth, 1983). Several authors acknowledge this (e.g. Bajracharya, 2019; Bennett et al., 2017; Van den Akker, 2004; van Merriënboer & Kirschner, 2018); when looking at the process of instructional design they describe dealing with educational resources as a design component, even when they do not specifically refer to it as curation.

What is meant with ‘educational resources’ within this context of instructional design and development, can differ (e.g. Hansen & Gissel, 2017; Heine et al., 2023). A distinction can be made between resources as ‘materials that hold content’ (such as texts, videos, etcetera) and resources as ‘tools’ (such as hardware, software, learning

1 platforms, etcetera (Gilje, 2019; Heine et al., 2023). In this study, we will look at
2 resources as materials that hold content, meaning we will not include the use of ‘tools’
3
4 such as hardware and software.
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7 The content-holding resources that lecturers include in their courses are typically quite
8
9 varied. They comprise a mix of texts, videos, audio, and images (Baas et al., 2019;
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11 Bonk et al., 2018), and stem from a variety of origins, including commercial
12
13 (educational) publishers, openly licensed Open Educational Resources (OER), and
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15 online sources such as YouTube (Baas et al., 2019; Schuwer & Baas, 2023). Also, the
16
17 function of the resources can differ. Some of these resources might have been
18
19 developed for educational use, for instance textbooks and OER. Other resources might
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21 have been produced for other purposes, outside education, but offer content that is
22
23 relevant to the course, for example YouTube videos or professional publications
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25 (Hansen & Gissel, 2017).
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31 An important characteristic of resources that are developed for educational use, is the
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33 didactic support such resources intend to offer (Elen, 1993; Reints, 2008). Hansen and
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35 Gissel (2017) state that resources that have not been developed for education are
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37 typically lacking this didactic support, leaving it to a lecturer who selects these
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39 resources to offer this. This is also the case when parts of resources for educational use
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41 are re-used or when multiple resources are combined: most often, didactic support will
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43 not be automatically present or fit for the intended purpose, leaving it to lecturers to
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45 incorporate this support. In the context of curating educational resources, offering
46
47 didactic support can be considered as one of the activities that is part of curation.
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54 ***Curational Behaviour***

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57 Currently, it is unclear if and how lecturers provide this didactic support when curating
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59 educational resources. In general, little is known about what constitutes lecturers’
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1 curational behaviour (Cherrstrom & Boden, 2020; Leighton & Griffioen, 2021). What
2 we can say, is that although to a certain extent managing large amounts of content has
3 become an automated process (Khan & Bhatt, 2019), curation is, at its core, human
4 behaviour (Rosenbaum, 2011). Thus, educational curation is behaviour shown by
5 lecturers or educational developers as they design courses. Rubinstein (2018, p. 36)
6 defines behaviour as “anything a person does in response to internal or external events.”
7 Following from this, we can define curational behaviour as the activities a lecturer or
8 educational developer undertakes when dealing with educational resources. In this
9 study, we specifically look at this behaviour as an element of the instructional
10 development and design process prior to the delivery of a course. With ‘course’ we
11 mean a self-contained unit within a degree programme, that a lecturer designs for
12 students. Depending on specific educational systems and national context, a course may
13 also be differently termed, e.g. module, subject, or unit.
14 As mentioned, there is little empirical knowledge about lecturers’ curational behaviour.
15 However, two conceptual models have been proposed, be it from different approaches,
16 that intend to reflect the process of educational curation. Wolff and Mulholland (2013),
17 based on the analysis of museum practices, state that curational tools for education
18 “should allow the curator to research and tell stories through selected content” (Wolff &
19 Mulholland, 2013, p. 1). Deschaine and Sharma (2015), in turn, look at curation in
20 education through the lens of (new) media literacy, stating that it is important that
21 lecturers display media literacy through their purposeful and critical curation of
22 educational resources. Both models imply that a curator adds meaning to the resources
23 selected, by building a narrative that they intend to communicate with this particular
24 selection of resources. Each of the models seems to build on and extend from the three
25 groups of curational activities identified earlier in this text; they describe how curators

1 start out with a general idea of what they want to convey, and then categorize resources
2 and select the most fitting ones, interpreting them in relation to each other and an over-
3 arching narrative, so that they can be organized and showcased in a way that fits the
4 intended audience. However, neither of the models have been studied empirically.
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10 **Aim of the Study**

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12 Despite the fact that dealing with resources is seen as an element of instructional design
13 and development (e.g. Bajracharya, 2019; Bennett et al., 2017; Van den Akker, 2004;
14 van Merriënboer & Kirschner, 2018), and despite the development of two conceptual
15 models reflecting educational curation (Deschaine & Sharma, 2015; Wolff &
16 Mulholland, 2013), very little is empirically known about what lecturers do when they
17 are curating educational resources (Cherrstrom & Boden, 2020).
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27 The aim of this study is to identify the activities lecturers undertake when they handle
28 educational resources as part of the design of their course. The central question,
29 therefore, is: *what activities make up the curational behaviour of lecturers in higher*
30 *education, who handle educational resources as part of the design of their courses?*
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37 By answering this question, we provide a first empirical foundation in the current body
38 of knowledge regarding lecturers' curational behaviour. Additionally, we hope to
39 generate important insights that can help support lecturers in their task of curating
40 educational resources. With this, curational practices in higher education can be
41 improved; something deemed important for students' learning processes, high quality of
42 education, and where relevant, strong connections with the professional field (Surfnet,
43 2020).
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Method

Sample

To answer the research question, 23 semi-structured interviews were conducted with lecturers at a Dutch University of Applied Sciences. In the Netherlands, Universities of Applied Sciences offer profession-oriented degree programmes, with a more practical focus than research-oriented 'traditional' universities, comparable to former polytechnics in the UK and *Fachhochschulen* in Germany.

Respondents were recruited via the researchers' and their research group's network, approaching key informants and using a 'snowballing' approach (Savin-Baden & Major, 2013). Respondents were selected based on having a role as a course coordinator or similar, to ensure they played a large part in the course design and were responsible for the curation of resources in a course.

Considering the explorative nature of the research question, respondents with a wide spread of disciplinary backgrounds were included, along Biglan's (1973) classification of academic disciplines. As demonstrated in table 1, a balance was established between two axes. Firstly, we distinguished those working in 'hard disciplines', that focus on mastery of the physical environment, products and techniques, from those in 'soft disciplines', that mainly concern themselves with improving professional practice and its protocols and procedures (Neumann et al., 2002). Secondly, lecturers were included from both programmes that focus on 'life systems' and 'nonlife systems', thus making a distinction between disciplines that focus on living organisms and those that do not (Doberneck & Schweitzer, 2017). All respondents lecture at a university of applied sciences, therefore focussing on 'applied' disciplines, and excluding the 'pure' dimension described by Biglan. Table 1 provides further insight in the respondents' characteristics.

[insert Table 1 near here]

Interview Process

To strengthen the reliability of the interview protocol, an interview guide was created (Castillo-Montoya, 2016) and reviewed by three researchers, followed by two pilot interviews for final adjustments. Ethical clearance was obtained from the university's ethics committee before the data collection.

Pre-interview emails were exchanged with each respondent to establish rapport (Seitz, 2016) and to obtain consent to recording the interview. Lecturers were also invited to provide the researcher with access to the course guide and the digital learning environment for a course they designed.

Due to COVID-related constrictions, the interviews were carried out via MS Teams. At the start of the interview, to solicit background information respondents were asked to introduce themselves and the course they chose to discuss. This was followed by questions about the respondent's behaviour regarding educational resources and their thoughts and reasoning during the design process, reminiscent of a stimulated recall interview (Vesterinen et al., 2010).

To ensure comprehensive coverage, a second researcher joined the first researcher for 13 of the 23 interviews to cross-check the questions and discussion topics from the interview guide.

Analysis

The 23 interviews were recorded and transcribed verbatim. Using a thematic analysis approach (Braun & Clarke, 2006), the transcripts were analysed in a number of steps.

The first step was to get familiar with the interview content (Braun & Clarke, 2006), by rereading the interview transcripts and notetaking. This was followed by summarizing

1 respondents' professional background, teaching experience, and the context of the
2 discussed course, ensuring easy comparison and retrieval of information.
3
4 Subsequently a codebook was developed through an inductive approach (Ando et al.,
5 2014) applied to six transcripts. Segments that focussed on curational behaviour were
6 identified and provisionally coded with gerunds as a first word in the code to reflect
7 activities (process coding, Saldaña, 2021), and staying close to the data in terms of
8 chosen wording (semantic coding, Braun & Clarke, 2021). Those provisional codes
9 were collated into focused codes and clustered into groups of potentially connected
10 codes (Braun & Clarke, 2021). This led to a first version of a codebook, reflecting
11 initial themes, codes, definitions and example quotes. Additionally, another four
12 transcripts were coded to ascertain codebook completeness and theme saturation (Ando
13 et al., 2014), yielding no new codes.

14 A coding instruction was developed in order to allow insight into the coding process
15 and to improve reliability, validated through a coding consistency check by a second
16 researcher. Following a debriefing, minor adjustments were made and with the finished
17 code book and the coding instruction, all interviews were coded in Atlas.TI.

18 The coded statements were compared to each other and to the code book, leading to
19 detailed descriptions of categories and codes, illustrated with example quotes. This
20 provided a rich description of what curational behaviour within the educational design
21 process may entail.

22 **Findings**

23 The findings show that lecturers describe six different groups of activities that make up
24 curational behaviour: searching for resources, assessing and selecting resources,
25 creating and editing resources, structuring resources, sharing resources and soliciting
26 feedback. Furthermore, it has become clear from the data that lecturers' curational

1 behaviour explicitly takes place in the context of wider course design activities, that
2 reach beyond curational behaviour.
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4 The following section firstly reflects the interaction between educational curation and
5 course design as part of the findings, followed by further descriptions of what lecturers
6 reported on with regards to the categories of curational behaviour.
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11 *Course Design as Context*

12 When asked about their behaviour pertaining to educational resources during the design
13 of a course, virtually all respondents also describe activities that relate to the wider
14 design of a course. They report that the broader course design often serves as a starting
15 point and a spring board for educational curation, making the course design the context
16 in which lecturers curate. Activities they describe as being part of their course design
17 are: determining the learning outcomes, structuring the course, designing the exam, and
18 developing lessons, activities, and assignments.
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34 The findings show that determining learning outcomes is an important activity that
35 often serves as a starting point in the process of curating resources: *'first, I looked at*
36 *what do I want them to learn, so the learning outcomes'*. An alternative to formulating
37 goals and learning outcomes that lecturers mention, is determining the topics they feel
38 need to be addressed in the course and that the resources should cover.
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47 The second activity many lecturers mention in relation to designing the course, is
48 structuring the course. They do this either by organizing lectures or topics on a week-
49 by-week basis, or by following a content-based structure: *'with a subject like*
50 *mathematics, we build it up, you start simple and try to advance to more complex*
51 *topics'*. Making a structure for the course helps lecturers in the process of curating the
52 resources.
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Another activity within the category of designing the course is developing lessons, activities, and assignments. Lecturers describe preparing PowerPoint slides and designing classroom activities as examples of activities that they undertake when developing lessons.

Lastly, there are lecturers who mention designing the exam as an activity related to the resources they curate. They talk about determining the type of exam, creating an assessment model, and creating the actual exam, for example by making exam questions.

The fact that lecturers mention these course design activities when asked about curating educational resources, shows that lecturers' curational behaviour explicitly takes place in the context of wider course design activities.

Search for Resources

Searching for resources is an activity that practically all lecturers describe as part of their handling of resources. The findings show that they mention what resources they search for, and they elaborate on how they search, which includes taking inventory of what resources are needed, using search engines, gathering information from external parties, and collecting potential resources while not actively designing a course.

There are lecturers who take report that they start their search process with taking inventory of what it is they need. Lecturers who do take such an inventory describe thinking about what they want to convey and what resources are needed for that, considering both topics and resource types: *'do we need, for example, a video to go with that, or maybe a short video lecture, or perhaps an additional article or something?'*

When it comes to how they search for resources, the findings show that lecturers employ various approaches. Google and YouTube are mentioned as search engines that are used regularly. Some lecturers also report on using industry information, such as

1 newsletters, websites from industry organisations, and protocol databases. In some
2 cases, lecturers mention gathering information through ‘external parties’, meaning from
3 someone who is not a direct colleague. They describe consulting with authors or
4 publishers as part of their search for a fitting book. Alternatively, they inquire with
5 people at other institutions or industry contacts: *‘I reached out to the industry, to the
6 hospital I worked at, saying guys, I need this protocol, do any of you have something
7 available?’*

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There are also lecturers who report on collecting interesting potential resources throughout the year, so when they are not actively designing a course, filing them away for future use: *‘I have a personal interest as well, and many things I come across or that I read, I collect in a separate folder, in case I am going to design a related course one day. So that’s something I check first, this folder I have’*.

Additionally, lecturers describe that they look for specific types of resources, for example for books: *‘I really started searching at Publisher A, at Publisher B, so specifically educational publishers, book publishers.’* Or they use YouTube to specifically look for videos: *‘some topics I felt should be explained in a video [...] so I searched for a You Tube video that maybe explained it even better than I could’*.

Assess and Select Resources

The second activity lecturers mention is assessing and selecting resources. In this category, lecturers report on assessing, choosing, and reusing as separate activities they undertake.

The findings show that there are lecturers who specifically mention assessing resources by reading or reviewing them carefully, and by considering how well they fit with their learning goals and their students: *‘I will consider, well, do I feel this explanation is clear, or is it too longwinded, and do I feel it is relevant for what we want to achieve’*.

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Apart from assessing resources, lecturers describe actually choosing which resources to use. They talk about selecting the books and other resources such as newspaper articles or videos they decide to use, and some mention selecting parts of books or videos: *'we selected chapters that might be interesting. For some books, we had them read multiple chapters - other books, only one chapter'*.

Reusing resources from previous years is something that also rises from the data, for example when lecturers assume these resources are still a good fit for their course.

Another reason is because it is just pragmatic to reuse what you have readily available: *'the course is a redesign, so honestly, I reuse as much as possible, because you have to keep it practical'*.

Create and Edit Resources

Other behaviour that lecturers report on when talking about curating resources, is creating and editing resources. Two types of activities emerge in this regard: the making of new resources and the editing of existing resources.

When creating their own resources, there are lecturers who describe how they produce their own textual resources such as essays, chapters, or even an entire book: *'I just started writing my own chapter [...] and now I'm writing a whole book that aligns with the course and the level we need for our teaching'*.

Others describe making short video lectures (or 'knowledge clips' as they are often referred to) in order to clarify certain topics or concepts and add more detail: *'to make sure they understand it thoroughly, I want to provide them with further explanation so I'm making a 'knowledge clip'-video'*.

Another activity is editing an existing resource to make it suitable for a lecturer's specific needs. This ranges from rewriting a blog post or making small text edits, to translating texts or editing videos into shorter segments: *'we wanted to reuse fairly long*

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'knowledge clips' [...] so we split them to shorter parts because students said they were too long'.

Structure Resources

The fourth category of behaviour pertains to structuring resources. In this category, lecturers mention how they connect the selected resources. They mainly refer to the order in which they distribute the selected resources over the course, aligning them with the course structure they developed when designing the course: *'we started building it up, and made a matrix of what topics do we want to talk about each week and what parts of the book we selected match with that'.*

Lecturers mention structuring primarily in relation to setting up the virtual learning environment, when they consider how they present the resources. They mainly do this in a 'week by week'-format, in which students can access resources by looking at the week in which they need them. In some cases, lecturers present the resources in a structure by theme or by difficulty level.

Share Resources

In describing their behaviour regarding the handling of resources, lecturers also extensively report on 'sharing resources' with their students. The findings show that in this category, lecturers firstly mention that they set up a virtual learning environment, and in some cases, arrange for resources to be accessible outside the virtual learning environment, for example in a Google Drive, a YouTube channel, or printed reader/syllabus.

Additionally, when they describe setting up the virtual learning environment, lecturers mainly talk about presenting the resources, which entails placing them in a format that

1 reflects the structure they have set up. This leads to resources being presented either in a
2 week-by-week format, or in a format reflecting themes or difficulty levels.
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4 Furthermore, there are lecturers who describe how they add explanatory texts or short
5 introductions that tell students what they are expected to do with the resources. Some
6 lecturers also mention adding texts to explain an overarching narrative that ties the
7 resources together: *'that's how we try to make those separate building blocks come to*
8 *life in the narrative, in the story we convey, so that students can see 'with this*
9 *knowledge I can also realize this or that'*. Others talk about explaining why these
10 particular resources are used: *'I've tried to state what the goal is and why we use this –*
11 *so why does this text help you see your own project through the lens of human rights'*.
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25 ***Solicit Feedback***

26 Finally, the data shows that when talking about handling resources in the design stage of
27 a course, lecturers report on soliciting feedback from colleagues on the resources they
28 use. They describe asking colleagues for suggestions on good resources, and also
29 consult with colleagues who act as a sounding board, to check ideas or act as an extra
30 pair of eyes. Lastly, they report on soliciting their colleagues' feedback to actively align
31 selected resources with resources used in other courses within the curriculum, to make
32 sure there are no major repetitions or big gaps.
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45 They also mention cooperating with one or more colleagues in developing the course. In
46 these cases, they also describe collaborating when it comes to the resources used, for
47 example in dividing the work or discussing and collaboratively assessing resources that
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Background and Experience

1 We purposefully interviewed a variety of lecturers, leading to a rich and diverse view on
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3 lecturers' curational behaviour. Although differences between lecturers' disciplinary
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5 backgrounds or teaching experiences were not the focus of our study, it stood out that
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7 not all activities found are brought up by all lecturers. This is most apparent when it
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9 comes to sharing resources, where almost all lecturers describe setting up the virtual
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11 learning environment, but only few talk about explaining the overarching narrative and
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13 introducing the 'why' of the particular resources selected. Those mentioning the
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15 narrative have a background in a hard-nonlife discipline, such as Physics, and those
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17 mentioning the 'why' have considerable or extensive experience teaching, teaching
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19 longer than 8 years. In the category of searching for resources, it stood out that
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21 gathering information through 'external parties' such as publishers, industry
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23 professionals and/or information specialists at a library is only mentioned by lecturers
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25 who teach no more than 7 years. Lastly, lecturers of different experience levels indicate
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27 that they create resources themselves, but it stands out that this includes all lecturers
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29 with extensive experience, who have been teaching for over 20 years.
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Discussion

40 This study aimed to shed light on the behaviour of lecturers in higher education who
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42 curate educational resources in their course design.
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45 The findings show that lecturers' curational behaviour consists of six categories of
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47 activities, pertaining to searching for resources, assessing and selecting resources,
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49 creating and editing resources, structuring resources, sharing resources, and soliciting
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51 feedback. Furthermore, it can be concluded that these categories of activities can be
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53 distinguished from broader course design activities, that lecturers explicitly mention
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1 without being asked. It can therefore be concluded that these course design activities
2 provide an important context for lecturers' curation of educational resources.
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4 These findings provide a first empirical insight in the behaviour of lecturers in higher
5 education who are handling resources as part of the design of a course. They also lead to
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7 a newly proposed, empirically founded, definition of educational curation:
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11 *Educational curation can be seen as an interconnected set of activities (e.g.*
12 *searching, assessing and selecting, creating and editing, structuring, sharing,*
13 *and soliciting feedback) within the context of designing a course, with the aim to*
14 *provide students with a coherent selection of resources.*
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21 When we further discuss the findings, five aspects stand out. Firstly, it has become clear
22 that what remains lacking is the didactic layer that is crucial for educational curation.
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24 For lecturers, sharing resources mainly seems to be about offering resources to students
25 in a virtual learning environment and telling them what it is they should do with these
26 resources. Little is mentioned about didactic support through explaining the overarching
27 narrative or introducing the 'why' of the particular resources selected. A small number
28 of lecturers talk about doing this while sharing the resources. Additionally, some
29 respondents talk about offering this information during face-to-face classes with
30 students, but as this study focusses on the course design, leaving out the in-class
31 delivery of the course, this was not followed up. The finding that there seems to be little
32 attention for explaining why resources are selected and for making the narrative
33 explicit, raises questions: do lecturers omit this step of the curational process or is it an
34 implicit activity that they did not mention? Are lecturers unaware of the fact that they
35 build a narrative with the resources they select, structure and share? As an explicit over-
36 arching narrative that connects the selected resources is an important aspect of curation
37 that contributes to offering didactic support (e.g. Bhaskar, 2016; Wolff & Mulholland,
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2013), we suggest more research is needed to establish whether the didactic support indeed requires more attention in lecturers' curation of resources, and if this is the case, to look into reasons for this. This could improve the quality of the delivery of resources and with that, of education.

Also of interest is that the findings show that lecturers, especially those with more experience, report on creating resources themselves. If curation pertains to working with existing resources (e.g. Bhaskar, 2016; Khan & Bhatt, 2019) it could be argued that the creation of resources does not fall under the scope of curation. The conceptual models proposed by Deschaine and Sharma (2015) and Wolff and Mulholland (2013) seem to follow this line, as they do not mention creating resources as a part of the curation process. However, as lecturers predominantly describe resources they create as a part of a larger mix of resources, connecting resources and filling gaps, we decided that, based on the analysis, the creation of resources does fall within the realm of educational curation. Therefore, future research might consider the creation process as part of curation, and academic development could consider the needs of lecturers when it comes to support for the creation of resources in this context.

Thirdly, lecturers mostly describe their searching behaviour in quite generic terms. They often mention using Google and YouTube as a search tool, but sparsely mention other ways of searching. Some lecturers with little or some experience though, also mention gathering information through 'external parties' such as publishers, industry professionals and/or information specialists, but this is not mentioned by those who have considerable or extensive experience. As finding relevant, good-quality and up-to-date resources can be challenging (Admiraal, 2022), further research might look into reasons why lecturers approach their search this way, so that strategies can be

1 developed to help lecturers' adopt more varied approaches in order to find the best
2 possible resources.
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4 Another aspect is that lecturers report that they regularly re-use resources that they have
5 used before, for example in predecessors of a re-designed course or in other courses.
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7 Re-use of resources has been extensively researched in the context of Open Educational
8 Resources (e.g. Baas & Schuwer, 2020; Littlejohn & Pegler, 2014), where it refers to
9 the un-edited usage of an open resource created by someone else. Here, when lecturers
10 say they re-use resources, they mean they do not search for something new, but instead
11 use something they have worked with before. We suggest further research into
12 lecturers' motives related to this activity, as it can be the case that a resource is still the
13 best fit to the lecturers' goals, but there could also be more pragmatic reasons at play,
14 for instance saving time or not having to deal with copyright issues. If that would be the
15 case, it might harm the quality of education.
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17 Finally, as mentioned, lecturers relate their curational activities to their broader course
18 design, placing their approach of the course design in the tradition of constructive
19 alignment (Biggs & Tang, 2011). However, their approach is in contrast with the
20 conceptual models for educational curation provided by Deschaine and Sharma (2015)
21 as well as Wolff and Mulholland (2013); neither model explicitly connects educational
22 curation to activities related to the broader design of the course. Additionally, only the
23 latter model briefly mentions learning goals. The fact that lecturers do mention these
24 course design activities in relation to their curational behaviour, is however in line with
25 what could be expected when looking at lecturers' design processes. Bennett et al.
26 (2017) show in their study that lecturers start the design process with making a broad
27 design of the course, and then generally move to more specific design activities such as
28 dealing with resources. In the current study, we specifically focussed on the handling of
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1 educational resources and still found that lecturers reported that determining the
2 learning outcomes and structuring the course have a strong alignment with their
3 curational behaviour. We do not regard the broader course design as part of the curation
4 process, but we can confirm that lecturers' curational behaviour cannot be seen
5 independently from the broader course design.
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11 Over all, this study has provided substantial insights in lecturers' curational behaviour.

12 The findings show that lecturers undertake several distinguishable but interconnected
13 activities when curating educational resources. However, when sharing these resources
14 they underemphasize the narrative that relates the resources and seem to provide
15 students with little didactical support. These findings provide substantial input to design
16 new models for educational curation, that can serve future research and educational
17 development activities, in order to improve students' learning processes and the quality
18 of education.
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Table 1 - Respondents' characteristics

	<i>Frequency</i>
Academic discipline (along Biglan's classification)	
Hard – life	3
Soft – life	8
Hard – non-life	7
Soft – non-life	5
Years of experience as a lecturer	
Little experience (less than 3 years)	5
Some experience (4 to 7 years)	6
Considerable experience (8 to 13 years)	8
Extensive experience (over 20 years)	4
Degree achieved	
Master's degree	16
PhD	4
Pursuing PhD	1
Experience in professional field	
Less than 3 years	5
More than 3 years	18
Gender	
Female	8
Male	15
Total	23

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