

Meaningful Assessment in Interdisciplinary Education

Meaningful Assessment in Interdisciplinary Education

a practical handbook for university
teachers

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Contents

Acknowledgments	8
Introduction	9
Why this handbook?	9
Structure of this handbook	10
Part 1 Getting started with the assessment of interdisciplinarity	12
Meaningful assessment	13
Assessing with the right purpose in mind	14
Providing powerful feedback	18
Making use of authentic assessment	20
Aligning the assessment with learning outcomes	23
Aligning the assessment with pedagogical beliefs and values	24
Assessing the skills that foster interdisciplinarity	25
Definitions: multidisciplinary, interdisciplinary, and transdisciplinary	25
Subskills and learning outcomes	26
Assessing integration	27
Assessing critical thinking	28
Assessing collaboration	29
Assessing reflection	31
Part 2 The examples	34
How to navigate the examples	35

1	Assessing perspective-taking skills with a simulation game	37
2	Making 'big ideas' tangible with an installation	42
3	Self-assessment of boundary-crossing competences	47
4	Peer feedback on the reflection of a stakeholder dialogue	54
5	Experiencing the learning process using a portfolio	58
6	A rubric for interdisciplinary capstone projects	64
7	Making failure a learning tool for collaboration skills	71
8	Evaluation of the golden principles of collaboration	77
9	Reflection on teamwork and disciplinary expert roles	82
10	A moot court to build critical thinking skills	86
11	Authentic assessment, learning by accident	90
12	Grading the contributions to class discussions	94
13	Dance assessment as experiential learning	98
14	Enhancing critical thinking with Perusall	103
15	Co-creation of a rubric to encourage ownership of learning	107
16	Peer and self-assessment for student-led activities	113
17	From feed-up to feed-forward	120
18	Comparative judgment as a tool for learning	125
19	The co-creation of assessment criteria	129
20	Reflection on interdisciplinary competences using a portfolio	135

Final remarks: towards new ways of assessment	141
Lessons learned for meaningful assessment in interdisciplinary education	141
Taking the next steps	143
Index	145
References	150
Colophon	153
About the authors	153
About the series	153
About the University of Amsterdam	154
About the Institute for Interdisciplinary Studies	154
Contact	154

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When is assessment meaningful? How can we give university teachers useful tools to develop their courses and evaluate whether or not students are making progress in acquiring the skills that are needed for interdisciplinarity? As program managers and senior lecturers of interdisciplinary programs, we were confronted with these questions ourselves and wanted not only to describe how this assessment could be designed but above all to show concrete examples. It took time to find the right focus, and it has been our quest to find the examples that show how to get started in the context of university teaching. We are therefore very grateful for all the enthusiastic cooperation and input we received from lecturers and staff at the University of Amsterdam as well as other universities within and outside the Netherlands. We are thankful that so many lecturers who have been pioneers in meaningful assessment of interdisciplinary skills have been willing to share their experiences in this handbook. Without them, this handbook would not have been possible.

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Introduction

Why this handbook?

Our world faces major societal challenges – population growth, climate change, the availability of quality freshwater, waste reduction, large human migrations, the faster spread of viruses – that require the next generation of graduates to be able to make a difference. These challenges are complex because they involve interactions across components that are unpredictable and because they are often accompanied by a high degree of uncertainty. Universities are expected to play a critical role both in conducting research and in educating a new generation of academic professionals who are committed to the public good and capable of responding to the challenges of an uncertain world. Calls for a strong connection between academia and the rest of society are growing. Science, technology, and innovation are seen as the breeding ground for the societal and economic innovation that is necessary for the well-being of society. Backward mapping these perspectives to courses and degrees shows an increasing need and interest for interdisciplinary and transdisciplinary education. Academic institutions that successfully harness the potential of interdisciplinary research and education while keeping the right balance between disciplinarity and interdisciplinarity will be able to reap major benefits, positioned as they will be at the center of a system that produces knowledge to improve the lives of many (Wernli, Darbellay & Maes, 2016). It is no wonder, then, that the number of student projects, courses, and degrees with an interdisciplinary approach has been growing and that assessing this kind of education has become an increasingly pressing question. How can we meaningfully assess interdisciplinary learning?

We are faced with the challenge of educating our students to see beyond the limits of their own discipline and to come up with innovative, integrated solutions to our contemporary challenges. Many lecturers have started to rethink the education they are offering and are helping to initiate change. We see university teachers who, besides transferring knowledge, want to put more emphasis on teaching students how to integrate knowledge, to collaborate, to think critically, and to reflect. We know lecturers who are breaking down the barriers not just between scientific disciplines but also between academia and society, allowing different types of knowledge to play a role in academia. They are responding to the changing role of universities in society and the changing needs of a new generation of professionals.

Just as teaching and learning are ready for change, so is assessment. A lecturer is faced with the challenge of assessing students daily. But to assess more complex or higher-order skills-oriented learning outcomes that are common in interdisciplinary projects and courses is quite a challenge.

This handbook is of interest to you if you are looking to be inspired to implement innovative assessment methods that assess higher-order skills and/or interdisciplinary learning outcomes rather than assessing solely the acquisition of knowledge. If you and your team are looking for ways to assess integration, collaboration, reflection, and critical thinking, the examples in this handbook point to new directions in assessment and provide illustrations of inspiring initiatives.

To sum up, interdisciplinarity is on the rise in higher education, but we are still at the onset of systematically answering the question of how to meaningfully assess interdisciplinary learning outcomes. With this handbook, we want to give this a kick-start by explaining interdisciplinary understanding and presenting ample examples of pioneers who are showing us how to introduce the necessary changes to make our education future-proof. We hope that this handbook will give you a foothold for initiating changes in your assessment practice.

Structure of this handbook

The book is divided into three parts. In the first part – *Getting started with the assessment of interdisciplinarity* – we explain why we think that meaningful assessment drives student learning and how feedback is a crucial element in learning. We also provide an overview of what interdisciplinary understanding is, including the necessary skills and knowledge that constitute interdisciplinary understanding and frequently used learning outcomes.

The second part of the book includes examples of assessment methods used in practice. The examples vary across a range of academic disciplines and institutional settings. Some examples are taken from interdisciplinary courses; others are used within a more disciplinary context. However, all examples can be applied to courses and student projects with interdisciplinary learning outcomes or can be adapted in such a way that they can be applied within your course, regardless of the discipline from which the course stems.

The examples in this handbook show methods to assess not only student work such as integrative final papers, student portfolios, and capstone presentations but also the outcome of simulation games, the learning process of students, and the way students collaborate. The examples explain how the change to meaningful assessment was implemented. There is a focus on what innovation in assessment comprises as well as on the assessment methods themselves, with helpful formats, rubrics, and reflection questions. Our intention is to provide a representative variety of inspiring good practices that cover the most important aspects of interdisciplinary understanding.

Education has changed dramatically as a result of the COVID-19 pandemic, with the distinctive rise of distance learning whereby teaching is undertaken remotely and on digital platforms. We acknowledge that this situation may require other assessment methods to be used. Some of the examples are suitable for online assessment; for others, a digital alternative may be able to be developed.

In the third and final part of this book – Towards new ways of assessment – we summarize the lessons learned and good practices found from the examples in this book. We also outline the steps that can be taken to get started.

The reason we wrote this handbook is straightforward: we want to share good practices of interdisciplinary skills assessment that are already used in higher education, including our classrooms. By doing so, this book will hopefully serve as a foothold for designing and implementing innovative assessment methods for projects and courses. Both lecturers and educational developers can take the examples given in this book and adjust them to fit their own situation, regardless of whether they are working on an interdisciplinary course or a course that focuses more on one discipline.