Creative Technology

self-assessment Report

(2010-2014)

a critical reflection

Preface

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Introduction

Administrative data

Programme:	B Creative Technology
Isat:	50447
Orientation and level:	Academic Bachelor's degree
Specializations:	Smart Technology and New Media
Location:	Enschede, The Netherlands
Study mode:	full-time
Institution:	University of Twente
Institution status:	publicly funded (bekostigd)
Institutional Quality Assessment	NVAO accredited in 2014

Organization

Creative Technology is a Bachelor's degree programme of the faculty of Electrical Engineering, Mathematics, and Computer Science (Elektrotechniek, Wiskunde en Informatica, EWI)) of the University of Twente.

The organization chart of the university is presented in annex 1.

The organization chart of the EWI faculty is presented in annex 2

Programme board

The Creative Technology programme has a programme board (opleidingsbestuur) which consists of a single person, the programme director (opleidingsdirecteur, OLD).

Other boards and committees

The programme has a programme committee (opleidingscommissie, OLC), as prescribed by law (WHW Art. 10.3c). The programme committee is a shared one with the MSc degree programme Human Media Interaction. It has four staff members and four student members.

The programme has an examination board (examencommissie, ExCie), as prescribed by law (WHW Art. 7.13.1). It consists of four staff members and is dedicated to Creative Technology.

The programme has an advisory board. It consists of 8 members, who meet (at least) once a year. They discuss matters regarding the programme (and give their advice to the faculty dean and the programme director) from an external perspective.

Intake (and exchange)

Admission and enrolment is organized at university level in the Admission Office and the Central Student Administration. Matching events are the responsibility of the Creative Technology programme.

Support for foreign students regarding visa and housing is provided at university level by International Office. International Office also supports outgoing mobility, and maintains the exchange agreements.

Teaching

Creative Technology teaching staff are department members. They are from departments in various (4) university faculties: mostly from EWI, but also from Engineering Technology (Construerende Technische

Wetenschappen, CTW), Behavioural Sciences (Gedragswetenschappen, GW) and Management and Governance (Management en Bestuur, MB). There is a functional relationship between director and teaching staff, but the supervisor of a staff member is his department chair.

Support staff

The programme director has support staff. Support staff belongs to the Educational Support Bureau (Bureau onderwijsbegeleiding, BOB) of the EWI faculty. The support staff for Creative Technology consists of

- a programme coordinator
- a study advisor shared with Electrical Engineering on a fifty-fifty basis
- an exchange officer shared with the entire faculty as international affairs expert
- a graduation bureau

There is a functional relationship between the director and his support staff, but the head of BOB is the support staff supervisor.

BOB also provides secretarial and administrative support to the programme director and the support staff.

The Examination Board and the Programme Committee get their administrative support from the Center for Educational Support (CES) at university level. This support covers issuing certificates, diplomas and diploma supplements.

Information and management systems

Both student and course data are recorded in Osiris, the university's student information system (SIS). Support for use of Osiris and for data recording is organized at university level, in the Center for Educational Support (CES).

The university's learning management system is Blackboard. Support for use of Blackboard, and for registration of users in Blackboard is also provided by CES.

History

This self-assessment covers the period from April 2010 – March 2014.

The initiative to investigate the start of a new programme on applied technology in the EWI faculty dates from early 2007. The work of two preparatory committees made this initiative evolve to a Creative Technology programme proposal.

After ample preparations it was decided in 2009 to ask for initial accreditation of Creative Technology, and to start with a pilot class in Creative Technology at the same time. Volunteers were recruited, who enrolled in either Computer Science, or Communication Studies, or Electrical Engineering or Industrial Design, and who, with permission of their Examination Boards, started participating in Creative Technology teaching activities in September 2009.

Initial accreditation was granted to Creative Technology in March 2010. Students of the pilot group were re-enrolled as Creative Technology students in April 2010.

In our quantitative overviews we include this 2009 pilot group. However, our experiences with this pilot made us drastically reconsider our programme. We will not present and analyse the pilot programme in this self assessment.

During the further development of the curriculum in its first three years (2010-2012) it was decided that the University of Twente would adopt a new paradigm for teaching and learning: the Twente Educational Model (Twents onderwijsmodel, TOM). As a consequence, the curriculum for the 2014-2015 generation underwent some drastic changes again. In our self assessment we will look at both curricula, pre-TOM paradigm (September 2010 - August 2013) and TOM paradigm (from September 2013 onwards).

Quantitative data

Data on intake, transfers and graduates (last 6 cohorts)

Teacher student ratio

Average amount of face-to-face instruction (for each stage of study)

The Creative Technology BSc programme

Short summaries in reply to the following questions:

What is the programme aiming for?

How is the programme realizing this aim?

Is the programme achieving its objectives?

Standard 1: Intended learning outcomes

The learning outcomes

The Creative Technology aims at graduates who are problem-solvers.

- They can trace back (or help a client trace back) a possibly ill-posed initial question to the underlying challenge;
- they can generate ideas and concepts;
- they can identify opportunities for the exploitation of new technologies; and
- they can develop ideas and concepts into key prototypes.

To this end, they have acquired skills and knowledge in five areas:

1. Controlling the process of creation by a designer;
2. Understanding and use of technology;
3. Designing for interaction, expression, impact and experience;
4. Societal and economic value; and
5. Academic and professional skills.

The specific attainment targets in these five areas are in annex 3.

[$] personal profile

Meijer's Criteria

First part of the self-assessment of our intended learning outcomes is to evaluate them by Meijers' criteria. Meijers' criteria are in annex 4. Our evaluation of the learning outcomes by these criteria is in annex 5.

We claim that creative technology graduates reach levels of qualification in the seven competency areas of Meijers as depicted in the spider web below.
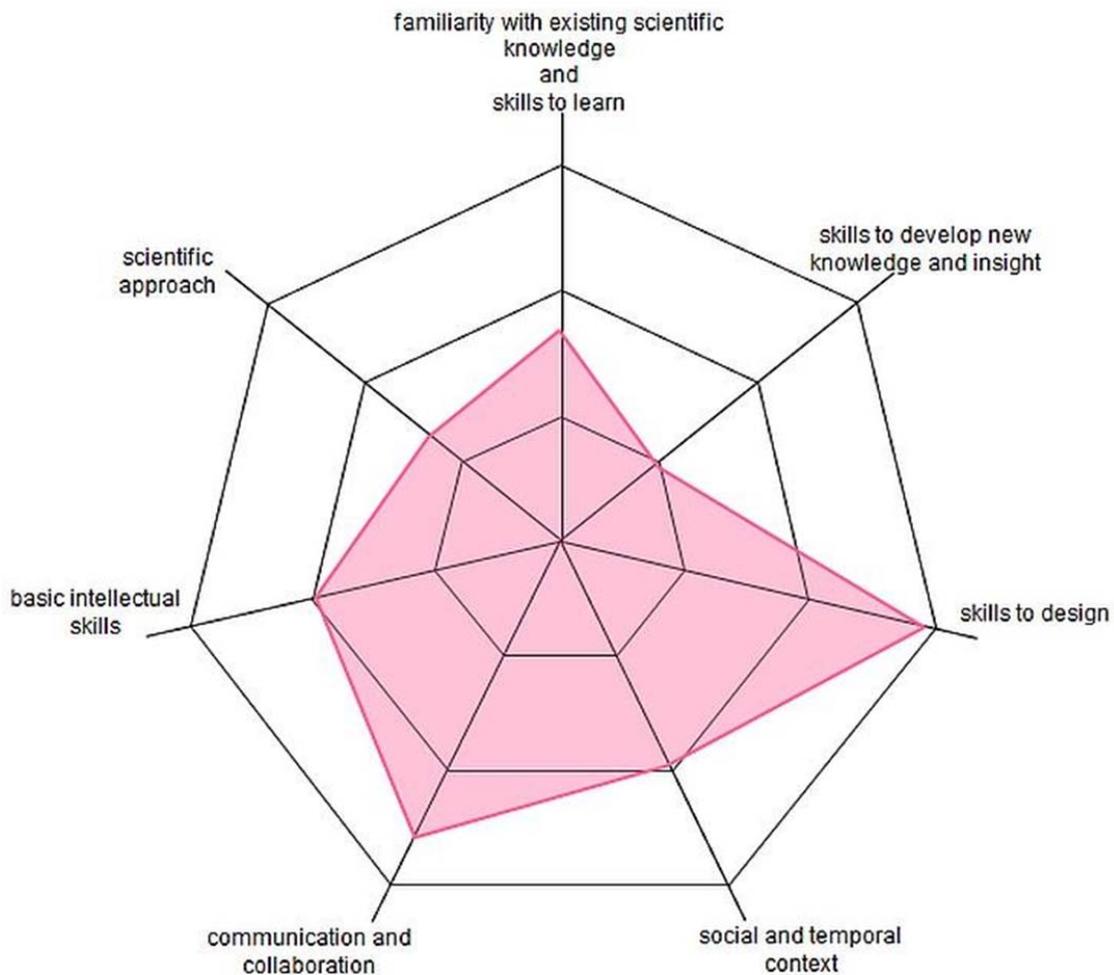
The domain specific frame of reference

Second part of our self-assessment of the intended learning outcomes is to adopt a domain specific frame of reference, and to evaluate the learning outcomes relative to that framework.

The domain specific frame of reference we adopted combines viewpoints on the academic and professional context of Creative Technology from different sources. *[$]mention source*s

The domain specific framework is in annex 6 *[$] let's get a domain specific framework*

Our evaluation of the intended learning outcomes relative to that framework is in annex 7

[$] Present a picture here which makes conclusions immediately visible

Level and orientation

Explain why this a Bachelor's degree programme (and not at Master's, nor at VWO level)

Explain why the degree is academic, and not professional.

Strong points and challenges

Strong

Inspiration by material combined with inspiration by challenge

Explorative and demand driven design

Physical engineering with software engineering

Personal profile

Challenge

more justice to areas 3 and 4

Standard 2: Teaching learning environment

Curriculum

Pre-TOM

The floorplan of the pre-TOM curriculum is in annex 8. It shows the following structure.

Year 1 has 14 mandatory units of study (totalling a study load of 60 EC)

Year 2 has 11 mandatory units of study(totalling a study load of 45 EC), plus one unit chosen from 2: either Smart Technology or New Media (each with a study load of 15 EC)

Year 3 has unspecified units of study with a study load totalling 30 EC to establish a personal profile, plus units of study which count as electives (totalling a study load of 15 EC) plus a graduation project of 15 EC

A personal profile in year 3 is established by choosing a minor programme (which can be deepening, but which is mostly broadening), or a bridging programme towards a Master's programme (mostly deepening), or an international exchange programme (which could serve as a bridging programme as well).

Electives in year 3 have to be chosen from a fixed list, at least one is devoted to Ethics and professional standards. The common characteristic of electives is that they consider design issues from a user viewpoint, and include theory regarding human behaviour and use of technology in a specific context

In graduation projects there is a "third party" involved which has an independent interest in the outcome of the project, and acts as a client/co-supervisor for the student doing the graduation work.

The learning objectives of the courses in the pre-TOM curriculum are in annex 10

TOM

The (simple) floorplan of the TOM curriculum is in annex 9. It consists entirely of 15 EC units which are typical for the TOM paradigm. These units are called modules. It shows the following structure

Year 1 has 4 mandatory modules, each with a study load of 15 EC (totalling a study load of 60 EC)

Year 2 has 3 mandatory modules, each with a study load of 15 EC (totalling a study load of 45 EC), plus one unit chosen from 2: either Smart Technology or New Media (each with a study load of 15 EC)

Year 3 has two unspecified modules with a study load totalling 30 EC to establish a personal profile, plus one mandatory module which incorporates elective subjects (with a study load of 15 EC) plus a graduation project of 15 EC

 The characteristics of personal profile and graduation in the TOM curriculum are the same as the characteristics for the pre-TOM curriculum.

[$] REVISE!!--Electives in year 3 have to be chosen from a fixed list, at least one is devoted to Ethics and professional standards. The common characteristic of electives is that they consider design issues from a user viewpoint, and include theory regarding use of technology and human behaviour.

The learning objectives of the TOM modules are in annex 11.

/*Explain what courses are offered, by drawing the floor plan (in time). Include information about compulsory and optional items.

In an annex: floorplan + contents and learning outcomes at course level*/

Relationship with learning outcomes

Explain that the learning outcomes are addressed in an adequate way in the curriculum

Coherence

Explain why the organization of the curriculum supports a student in reaching an intended learning outcome over a longer period of time, by following various courses pertaining to that learning outcome

Feasibility

Explain why a student can follow the courses of the curriculum in their intended order and coherence without being confronted by an unacceptably high study load.

Learning methods and contact hours

Explain why the teaching methods are an effective way to support the students in their development

(Include quantitative data on contact hours)

Intake and throughput

Explain why the procedures for restricting and/or monitoring intake are effective to attract potentially successful students

Explain how these potentially successful students are guided through the curriculum

(include quantitative data)

Personnel

Explain adequacy of staff

Programme specific facilities

Explain adequacy of facilities

[Internationale oriëntatie en oriëntatie op de arbeidsmarkt

Excellentie]

Strong points and challenges

Standard 3a: Assessment

Strong points and challenges

Standard 3b: Achieved learning outcomes

Strong points and challenges

Remaining issues

Institutional quality assurance

Institutional quality assurance report (annex)

User and teacher satisfaction

Explain how user and teacher satisfaction are measured, how the outcome of such measurements is analysed, and how action is taken.

Outcome of the initial accreditation

Explain how the recommendations of the initial accreditation have been handled.

Analysis of strengths and weaknesses

Appendices

annex 1 Organization Chart of the University of Twente

annex 2 Organization Chart of the EEMCS faculty.

annex 3 Final qualifications of a Creative Technology graduate

annex 4 A.W.M. Meijers, C.W.A.M. van Overveld, J.C. Perrenet.

Criteria voor academische Bachelor en Master Curricula

annex 5 Evaluation of learning outcomes relative to Meijers' criteria

annex 6 The domain specific frame of reference

annex 7 Evaluation of learning outcomes relative to the domain specific frame of reference

annex 8 Floorplan of the Creative Technology curriculum (pre-TOM)

annex 9 Floorplan of the Creative Technology curriculum (TOM)

annex 10   Learning objectives of Creative Technology courses (pre-TOM)

annex 11   Learning objectives of Creative Technology modules (TOM)

Conclusions