

Ref: BMS QA 2782\26

**ACTION PLAN EDUCATION BMS 2019-2024**  
**(including WSV Quality Agreements funded projects)**  
version 18-09-2019

***Introduction***

In October 2018, the first BMS plan for the allocation of the WSV-budget (Quality Agreements) was made. This plan was developed in close cooperation with the programme directors and the programme committees. As input for the plan, also results were used of a survey concerning the preferences of students in relation to the quality agreements. In April 2019, the BMS plan Quality Agreements was expanded with ambitions of individual programmes, which were formulated in the Programme Development Plans 2018/2019 (ref: QA2689), resulting in the Action Plan Education BMS (ref: QA 2689/13). This action plan provides an overview of all the actions that have been planned within BMS in relation to the improvement of education, including Quality Agreements and the regular quality assurance and improvement actions of programmes. This action plan has been submitted to the OLDs for verification and subsequently sent to the chairs of the OLCs and the departments for (formal and informal) advice.

In June 2019, the NVAO has sent a letter to the universities regarding its experiences with the reviewing process of the Quality Agreements. Based on their findings so far, the NVAO has urged universities to provide plans that are more precise and contain detailed project plans for investments funded by WSV budget. As a response to this letter, the Board of the UT has asked faculties to revise their plans in order to meet the requirements of NVAO. To achieve this, the mentioned Action Plan Education BMS has been updated and its structure has been adjusted; now it also includes detailed project plans. The result of this revision is included in this document.

***BMS vision on education***

The vision on education of the BMS faculty is in line with the broader vision and ambitions of the UT. Although the UT ‘shaping 2030’ strategy has not been yet finalized, tackling societal challenges related to digitalization, sustainability, and inclusion form the core of its vision.<sup>1</sup> BMS aims to, directly and indirectly, contribute to effectively address those challenges through fitting educational approaches. Particularly, it believes that providing technology-oriented teaching from a social science point of view is pivotal in this endeavor. Technology is drastically changing our world. Technological developments and innovations are shaping a dynamic, fast-paced and continuously altering society and are increasingly influencing virtually all facets of our lives. As a result, current jobs might not exist anymore in the future and new jobs that currently not exist might emerge, which instigates debates about the development of so-called transferrable skills. In order to keep up with these developments and steer and regulate them responsibly, as well as face and tackle the mentioned societal challenges, it is crucial to raise technological awareness and develop technological sensibilities and suitable capacities and skills among citizens and professionals. Being part of a technical university that “wants to put people first,”<sup>2</sup> BMS has a privileged position to contribute to empowering society through providing education that focuses on socio-technical solutions. Besides studying (new) technologies (such as AI and IoT) and their influence on humans and society, technology-oriented teaching also amounts to teaching students how to employ (support) tools for data collection, data analysis and design of solutions, as well as teaching them how to develop a (value sensitive) design/engineering approach. The technological context at the University enables students to experience technology in practice and to study how the use of technology can be improved and enhanced.

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<sup>1</sup> See draft document ‘shaping 2030:’ <https://www.utwente.nl/en/organization/shaping2030/ut-first-draft-mission-vision-14-mei-2019.pdf>

<sup>2</sup> <https://www.utoday.nl/news/66967/we-want-to-put-people-first>

Besides strengthening and enriching programmes through hooking into the UN's Sustainable Development Goals, BMS, being part of an engineering university, aims more particularly to engage students with Grand Engineering Challenges. In short, BMS wants to groom employees of the future through technology and engineering oriented teaching who can 'put the human touch in the high tech.'

This technology and engineering oriented teaching that ultimately aims to contribute to benefitting society is, in line with the University TOM model, characterized by a student-driven problem and project-based approach. This approach can only be successful in combination with small-scale interactive teaching that takes place in an international classroom and promotes international experience in cooperation with national and international students who actively co-shape their learning trajectory; this active role implies students having an investigating, entrepreneurial and hands-on attitude.

Improving the quality of teaching at BMS and the UT can only be understood and evaluated in the light of what it wants to achieve, which is expressed by the sketched vision on education. Providing high quality technology and engineering oriented education from a social science point of view that anticipates the future needs of society and industry requires particular investments: enough teachers and tutors and ongoing professionalization of teachers and tutors in order to be able to offer small-scale and interactive education; optimal technology-oriented learning facilities; community building among national and international students; integrating the needs of society and industry in curricula and strengthening the interaction between programmes and the professional field; developing knowledge and skills of individual students that enable student driven and problem and project-based learning; offering expertise that is applicable in society and industry; developing transferrable skills that are applicable to rapidly changing environments; offering programmes to mixed international students and promoting the international experience of both the Dutch and the international students in order to enable students to become global citizens.

These BMS aims and means are further elaborated and incorporated in the UT scheme consisting of 5 UT themes, namely *talent development of students*, *global citizens*, *teaching professionalization*, *learning facilities* and *community building*. BMS has formulated a sixth theme, namely *Continuous Development of Educational Programmes*, which contains plans for the regular development and improvement of the educational programmes. The ambitions and measures proposed in this Action Plan reflect how the BMS faculty aims to improve its quality of education and reflects the BMS educational policy for the coming years.

### ***The Revised Action Plan Education BMS***

For each of the above mentioned UT themes, BMS has formulated ambitions that the faculty wants to pursue in the coming years. In this revised Action Plan Education BMS in total eleven ambitions have been identified. To realize these ambitions, specific measures have been formulated. In general, there are two different types of measures:

- a. Measures that include WSV-budget will be indicated by the color **blue**. Within this category we distinguish between projects and teacher time compensation (the BMS capacity model can be used to monitor teacher time). The measures on project base are described in detailed project plans, which contain the aim of the project and the progress that needs to be achieved in 2021 (for an overview of the proposed projects, see Annex 3 WSV-budget: project plans). Each year, the board of the faculty makes specific arrangements with programme directors and departments with regard to these investments (for example in the provision of additional time for teachers or possibilities to hire additional teachers to enable other teachers to do specific tasks or engage in professionalization). Measures concerning teacher time compensation will be funded based on measure 5.2.
- b. Measures that are funded from the regular budget and do not include WSV-budget will be indicated by the color **green**. These measures will be financed using regular financial means.

For each measure, concrete targets have been formulated that the faculty wants to reach by 2021 (and/or later). Appendix 1 contains tables for internal use that make it easy for both management and participation bodies to monitor whether the set targets have actually been achieved. The information is made available annually in the beginning of October.

In this document, the following abbreviations will be used:

CELT = Centre of Expertise in Learning and Teaching

EB = Examination Board

OER = Education and Examination Regulations

ILO's = programme Intended Learning Goals

OLC = Programme Committee

OLD = Programme Director

PDP = Programme Development Plan

SDGs = UN Sustainable Development Goals

BKO = University Teaching Qualification

WSV = (Dutch Wet Studie Voorschot), funds available for the Quality Agreements with Ministry of Education

Annex 1: Tables for monitoring (for internal use).

Annex 2: Deployment of WSV funds.

Annex 3: WSV-budget: project plans.

## **Talent development of students**

Taken into account the student driven learning approach of the University of Twente, it is important that students discover their strong and weak points and are able to improve both these strong and weak points. BMS on the one hand wants to stimulate students to explore and development their talents in excellence and honours programmes, and on the other hand students should be able to further develop their skill, especial the transferrable skills. Talent Development also means that students are well prepared for the future labour market.

### **Ambition 1: Fostering talent development within and outside educational programmes**

For BMS talent development is not limited to challenging students with high grades. It also refers to to facilitate students with broader interests (societal, political, ethical, administrative, managerial, etc.). In addition, BMS wants to prepare students for a fast changing world by equipping them with transferrable skills.

#### ***Measure 1.1: Stimulating participation in intra-curricular BMS STAR excellence programmes and in the extra-curricular honours programmes Philosophy of Science and Technology and Processes of Change and in the honours track Entrepreneurship and Business Development***

Effect: Students are able to further develop their talents in various areas.

Targets: 1) 10 to 15% of the bachelor students actively participate in the Star Programmes in the study year 2019-2020.  
2) in 2019 and the following years “Philosophy of Technology” and “Processes of Change” will show a growth in the number of participating students of 5%  
3) The honours track “Entrepreneurship and Business Development” within the bachelor International Business Administration (IBA) will start in the academic year 2019-2020. In the year 2021-2022, 5% of the IBA students will participate in this track.

Programmes involved : Bachelor’s COM, IBA, MS&T, PSY (star-programmes), honours programmes “Philosophy of Technology“ and “Processes of Change” and Honours track “Entrepreneurship and Business Development”.

Monitoring: 1) Monitoring through registration number of students that actively participate in a Bachelor’s STAR programme modules and counting the number of stars granted (a star is granted after finishing three star modules from 18/19 till 23/24.  
2) Monitoring the number of students in the honours programmes Philosophy of Technology and Processes of Change from 18/19 till 23/24.  
3) Monitoring the number of students in the honours track Entrepreneurship and Business Development from 18/19 till 23/24.

Budget: **Regular BMS budget.** No additional WSV-budget involved until 2021. From 2022, BMS intends to invest WSV funds to further expand talent development opportunities (see annex 2, Deployment of WSV funds).

#### ***Measure 1.2: Equip students with Transferrable Skills***

Effect: Students are equipped with skills that can be used in constantly changing situations and environments

Target: An inventory will be made to understand which transferrable skills are important for the majority of the educational programmes. Based on the inventory staff will discuss and reflect on transferrable skills that are especial important in coping with technological change. After identifying the most important skills, educational materials will be developed to support the education process in relation to these skills. The aim is to have these materials available in September 2021. In addition, attention will be paid to skills that are important for cooperation in small groups, such as peer-review and providing other forms of feedback.

Programmes involved : All educational pogrammes

Monitoring: Monitoring through yearly Education and Examination Regulation of Programs (in which the Programme Committee is involved)  
Budget: **Regular BMS budget**. Compensation of teacher time via [measure 5.2](#) (see annex 3, project plan 5.2).

**Ambition 2: Strengthen the involvement of the occupational field in the (design of the) educational programmes and to offer students more possibilities within the curricula that prepare students for the occupational field.**

Another element of talent development is that students are able to connect to future national and international occupational fields. This requires good connections between educational programmes and occupation fields, possibilities for student to experience the occupational field and sufficient support to enable this.

**Measure 2.1 *Improve the connection between educational programmes and the Dutch and international occupational field e.g. by establishing (international) occupational field committees***

The aim of the occupational field committees (or panel) is to enable study programmes to optimally prepare students for their future jobs. This can be done by enabling the occupational field committee to provide feedback on the aims of the study programme (intended learning outcomes) and the design of the curriculum from an international perspective.

Effect: Students are offered study programmes that have a good and visible connection to the future, (international) occupational field

Target: All bachelor- and master programmes of BMS have a well-functioning occupational field committee (and, if suitable, an occupational field panel) that communicates with the programmes on a regular basis, also in the light of preparations by the programme for the future occupational field. This goal will be realized in 2019–2020.

Programmes involved:

All BMS Bachelor's and Master's programmes

Monitoring: Via the yearly PDP (Programme Development Plan) (OLC involved)

Budget: **Regular BMS budget**. To develop occupational field committees and improve connections to the occupational field, a time compensation for the teachers involved will be offered via [measure 5.2](#). This can have a permanent character by giving some teachers the role of coordinator with regard to connections with the occupational field.

**Measure 2.2: *Improving possibilities for students to do internships in programmes.***

Within all BMS educational programmes, students will be offered the opportunity to do an internship within a company or organization, possibly in combination with their thesis.

Effect: Students have possibilities to do internships within programmes, which enable them to achieve some work-related experiences in a particular field.

Target: The goal is that in 2020-2021 (depending on the aim of the educational programme) 40 to 80% of the students use this possibility to orient themselves on the occupational field.

Programmes involved:

All BMS Bachelor's and Master's programmes

Monitoring: Monitoring through yearly Education and Examination Regulation of Programmes (in which the Programme Committee is involved). Registration of the number and percentage of students that use the possibility of an internship (including thesis research at an external organisation from 18/19 till 23/24).

Budget: **This measure will be funded by WSV budget, based on arrangements**. To develop internships and to improve connections to the occupational field, a time compensation for the teachers involved will be offered via [measure 5.2](#). This can have a permanent character by giving some teachers the role of coordinator with regard to connections with the occupational field, including internship related communication

**Measure 2.3:** *Organizing sufficient support for offering internships for programmes and individual students using the Student Mobility Centre (which will be operational in March 2020).* The support of the Mobility Centre focuses on administrative processes, information on rules and regulations, legal affairs and, if applicable, factual acquisition of possibilities for internships in cooperation with teachers.

Effect: Sufficient support for students who wants to get work experience through an internship.

Target: In September 2022, of the eligible students that can follow an internship, 50% has been supported in some way by the Student Mobility Centre.

Programmes involved: All BMS Bachelor's and Master's programmes

Monitoring: Registration of the number and percentage of students that use the possibility of an internship (including thesis research at an external organisation from 18/19 till 23/24.

Budget: [This measure will be funded by WSV-budget on a project base.](#)

**Effort WSV funds (in k€)**

<i>Project 2.3</i>	2018	2019	2020	2021	2022	2023	2024
<b>total</b>			<b>75</b>	<b>100</b>	100	100	100
Staff mobility center			64	82	82	82	82
Travel costs			1	3	3	3	3
Promotion and relationship management			10	15	15	15	15

**Measure 2.4:** *Better preparing students for the future occupational field by providing sufficient attention to the occupational field in curricula, e.g., by developing learning lines “preparation occupational field” within curricula.*

Effect: During their study, students are offered information and experiences about the future occupational field. This enables students to make better choices in relation to the educational programme and the future occupational field, which can also foster student driven learning. NSE scores on this item could be a useful indicator.

Target: Two programmes have developed a learning line “preparation occupational field” in 2021-2022. Based on the evaluation in 2022, it can be decided to further develop these learning lines in additional programmes.

Programmes involved: : In principle all (English language) Bachelor's and Master's programmes, but in practice not all programmes will participate.

Monitoring: Advice of the OLC about the developed learning line preparation occupational field and NSE.

Budget: [This measure will be funded by WSV-budget, based on arrangements.](#) To develop a learning line occupational field, a time compensation for the teachers involved will be offered; see measure 5.2.

**Measure 2.5:** *Enable students to develop their talents in relation to a more specific occupational field*

Effect: Improved ability for students to connect their study path to preferred occupational fields. Develop specific tracks in the master Philosophy of Science, Technology and Society (PSTS) and in the master Industrial Engineering and Management (IEM)

Target: a) From the academic year 2019-2020, the master PSTS will include specific tracks that focus on particular areas of application. In the year 2021-2022, these tracks in total have at least 7 students.

b) From the academic year 2019-2020, the master IEM will include specific tracks that focus on particular areas of application. In the year 2021-2022, each of these tracks has at least 10 students.

Programmes involved: Master IEM and PSTS.

Monitoring: The effects will be monitored by registration of the number of students in the new PSTS and IEM tracks.

Budget: [This measure \(PSTS\) will be funded by WSV budget on a project base.](#)

**Effort WSV funds (in k€)**

<i>Project 2.5</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2024</i>
<b>total</b>	<b>75</b>	<b>73</b>					
Staff project*	75						

\* Semi integral tarif

**Measure 2.6:** *Strengthening the relation with alumni and the use of alumni in curricula by the appointment of a coordinator that provides administrative support to all alumni associations, and keeps records of alumni, including alumni that are willing to do specific support for educational programmes.*

For educational programmes, it is important to have good connections to alumni. Alumni who work in the intended occupational field have often good ideas about developments in the occupational field and can support finding internships for students and practice assignments. If suitable, alumni can also provide educational support to the students at an academic level during their internship or practice assignment.

Effect: For the students, additional internships and guidance during the internship by alumni teachers will become more available.

Target: In 2021, alumni organizations aligned to BMS will be supported by the faculty and all educational programmes have a record of alumni that are prepared to cooperate with the educational programme in providing internships and guidance of students during internships.

Programmes involved:

All educational programmes

Monitoring: Number of alumni that are willing to support and internship or graduation place and number of alumni that supports educational programs from 18/19 till 23/24. Data provided by the alumni office BMS.

Budget: [This measure will be funded by WSV budget on a project base.](#)

**Effort WSV funds (in k€)**

<i>Project 2.6</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2024</i>
<b>total</b>			<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>
Staff alumni bureau			20	20	20	20	20
Website			10				
Events			20	30	30	30	30



## **Global citizens**

The world is becoming more and more international. The BMS faculty wants to prepare students for living and working in an international environment. This aim is in line with the internationalization vision of the UT, as well as with the mentioned 'Shaping 2030' ambitions. To become global citizens, BMS educates students during their study on how to communicate in an international context and how to cope with intercultural differences. These skills are also a proper preparation for students to work in an international work environment. According to BMS, responsibility and ethical behavior are important characteristics of global citizens. Global citizens need to pay sufficient attention to sustainability and global responsibility. In line with the UT strategy 2030, we want to develop the capabilities of students in this respect and promote that them becoming future generators of sustainable value for business and society at large, and can contribute to an inclusive and sustainable global economy, with sufficient attention to the Grand Challenges for Engineering in the 21st Century.

### **Ambition 3: Creating possibilities within the curricula that enable students to function well in an international context with regard to communication and coping with intercultural differences.**

The BMS faculty wants to equip students with sufficient capacities and skills in order to cope with and function in international situations. The BMS faculty offers students a number of possibilities to achieve international experience, such as studying in educational programmes in international classrooms with students from various countries, double educational programmes in cooperation with renowned international partner universities, and student exchange programmes that enable students to study at an international university as part of their study (usually half a year). In addition, the BMS faculty aims to offer international students optimal support and guidance.

#### ***Measure 3.1: Developing double degree programmes for one year master programmes to enable talented students to study both at the UT and at an international partner university***

Effect: Available for students of international study programmes to practice coping with intercultural differences

Targets: a) Each year, at least one (one year) master programme within BMS agrees on a double degree contract with an international partner.  
b) In the study year 2021-2022, 80% of the English language one year master programmes within BMS offer students the possibility to follow a double degree.

Programmes involved: All (English language) Master's programmes (also Bachelor's and JOINT programmes if applicable)

Monitoring: Number of English language double degree Master's programs from 18/19 till 23/24.

Budget: **Regular BMS budget.** To develop double degree programmes, departments will be offered a compensation for the teachers time involved via **measure 5.2** (see annex 3 project plans, project 5.2 Innovation of educational programmes).

#### ***Measure 3.2: Developing exchange programmes.***

In the summer of 2018, an exchange coordinator was appointed to strengthen and maintain the network of partner universities and to support students with regard to (selecting) exchange programmes

Effect: For students, exchange programmes are available that offer them possibilities for international experience at international universities.

Target: In agreement with the UT policy, 2020-2021 at least 50% of the BMS bachelor student will follow at least 15EC of education internationally.

Programmes involved:

All (English language) Bachelor's programmes

Monitoring: The effects will be monitored by using Mobility Online to monitor the percentage of bachelor students that follow 15 EC at an international university.

Budget: **This measure will be funded by WSV-budget on a project base.**



**Effort WSV funds (in k€)**

Project 3.2	2018	2019	2020	2021	2022	2023	2024
<b>total</b>	<b>59</b>	<b>73</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>	<b>79</b>
Projectleader*	55	67	69	70	71	72	73
Travel costs	5	6	6	6	6	6	6

**Measure 3.3: Providing sufficient support to international students. To achieve this an International Student Support Officer has been appointed in 2018**

**Effect:** For international students better guidance and optimal support will be available. All students will be able to study in an international classroom that supports their international learning experience.

**Target:** a) By 2021 the number of talented students that start a study at BMS after scholarship coaching shows an annual rise of 10%.  
b) In 2022 70% of the students are satisfied to very satisfied about the support at the UT and at least 30% of the students are willing to act as ambassador for BMS/UT in their home country.

**Programmes involved:**

All BMS (English language) Bachelor's and Master's programmes

**Monitoring:** The aim is that more and more students are guided and do receive appropriate scholarship coaching. This will be monitored by over the years monitoring the number of applicants, the scholarship coaching and the number of applicants that with a scholarship have successfully started a study from 18/19 till 23/24. To monitor the satisfaction of the international students, who receive support, information will be used from the International Student Barometer.

**Budget:** [This measure will be funded by WSV budget on a project base.](#)

**Effort WSV funds (in k€)**

Project 3.3	2018	2019	2020	2021	2022	2023	2024
<b>total</b>	<b>34</b>	<b>37</b>	<b>37</b>	<b>39</b>	<b>39</b>	<b>40</b>	<b>40</b>
Projectleader	34	37	37	39	39	40	40

**Measure 3.4 The BMS faculty aims to realize international classrooms with a balanced mix of Dutch and international students from various origins. To highlight the international character of their educational programme, at least two programmes will aim to achieve the special feature Internationalization of the NVAO (ECA certificate) in the next accreditation.**

**Effect:** Students will receive their education in classes with a balanced national and international composition.

**target:** a) In the study year 2021-2022, all English language bachelor and master programmes do have an internationally mixed composition with a substantial contribution of international students (at least 30%, calculated over the faculty as a whole). The recruitment of students is performed in such a way that it contributes to realizing this goal.  
b) Two programmes will aim to achieve the NVAO distinctive feature Internationalization (European Consortium for Accreditation provided Certificate for Quality in Internationalisation). The planning to achieve this, will be depending on the time of the accreditation.

**Programmes involved:**

All BMS (English language) Bachelor's and Master's programmes

**Monitoring:** Monitoring through MISUT data on international composition of students in bachelor programmes.

**Budget:** [For measure a\), no additional WSV funds involved.](#)  
[For measure b\), WSV funds can be used on project base \(from 2022\) for those programmes that aim to achieve the distinctive feature Internationalization.](#)

**Ambition 4: Strengthening and enriching curricula by including the values of global social responsibility, such as the United Nations Global Compact (Sustainable Development Goals) and, more particularly, Grand Challenges for Engineering.**

**Measure 4.1: Appointing a project manager to stimulate the implementation of the SDG's in curricula (as evidence shows from ILO's of educational programmes and from learning objectives of modules and courses) and attention for Grand Challenges for Engineering.**

From January 2017, the BMS faculty has signed the Principles of Responsible Management Education (PRME). To execute this policy and to promote the implementation of the SDGs in the curricula from 2018 on the project leader has organized a yearly SDG award for students and writes the two-yearly PMRE SIP-report (sharing information on progress). From 2020 also attention will be given to the Grand Challenges for Engineering.

**Effect:** Students are challenged to solve assignments in a responsible and sustainable way with a particular focus on grand engineering challenges.

**Target:** a) the first SIP report will be published in December 2018 and then every two years (each time containing the plans for the next two years). The yearly SDG student award will be granted from 2019.

b) In 2021, at least 8 educational programmes have SDG's in the ILO's and in the learning goals of 30% of the courses within these programmes.

**Programmes involved:** All BMS Bachelor's and Master's programmes

**Monitoring:** via the two-yearly SIP-Report, which include the progress of the project and includes an overview of plans for the next two years. The SIP report will also be sent to the Faculty Council to inform them.

**Budget:** [This measure will be funded by WSV-budget, both on project base as based on arrangements.](#) To include SDG's in curricula, modules and courses, a compensation for the teachers time involved will be offered compensation via measure 5.2

**Effort WSV funds (in k€)**

<i>Project 4.1</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2024</i>
<b>total</b>	Via 5.2	Via 5.2	<b>72</b>	<b>122</b>	<b>122</b>	<b>122</b>	<b>122</b>
Projectleader			50	70	70	70	70
Support staf (student assistant)			20	50	50	50	50
Student-award			2	2	2	2	2

## **Teaching professionalization**

Teachers with good academic and didactic knowledge who teach in an inspiring way are of key importance in every educational programme. Besides basic qualifications, sufficient attention should be given to continuous professionalization. Not only in training or workshops, but also in promoting cooperation between teachers. Also stimulation of innovation in education and SKO trajectories can contribute to further professionalization. Small scale and interactive (interaction between student-teacher and student-student) education in project groups with regular testing and optimal feedback is part of TOM and strongly embraced and encouraged by BMS.

### **Ambition 5: Stimulating continuous teaching professionalisation**

Teaching methods change and evolve over time and BMS wants to stimulate teachers to continuously engage in educational professionalization, including the ability to request from students feedback on their teaching skills. In concordance with the ambition to further develop small-scale and interactive education, future efforts in the area of teacher professionalization will focus on strengthening the role of teachers as coach and tutor, also with the aim to promote student driven learning (the student as owner and motivator of his/her own learning) with e.g. optimal feedback for students.

#### **Measure 5.1: All teachers will have achieved the University Teaching Qualification (BKO) and all teachers will participate in professionalization activities for 24 hours each year.**

- a) The basic UT policy is that teachers have achieved the BKO three years after their initial appointment. The first focus of the policy is to monitor and persuade teachers to apply to this rule. In the past teachers with many years of teaching experience were provided an exemption and did not need to achieve the BKO. To stimulate these teachers to achieve the BKO, Pressure Cookers (two-day intensive workshops) will be developed that enable also these teachers to achieve the BKO. BMS will also stimulate trajectories like SKO, SKE etc. (see also measure 5.2 for funding)
- b) To promote continuous professionalization the policy is introduced for each teacher to engage in teaching professionalization for 24 hours each year (starting 2021). Teachers will be stimulated to take courses or workshops that support developing necessary and new skills in relation to the role of tutor and coach. This requires a wide range of available courses and trainings. An additional option is to offer lunch meetings to teachers organized by the Programme Director in cooperation with CELT in relation to specific themes or subjects (evaluation September 2022).

Effect: Students are guided by teachers with state of the art forms of education that are in line with the educational vision of the UT and BSM.

Target: 1) In 2019 the majority of teachers have achieved their BKO, including those with exemptions, by the use of short and intensive guidance (Pressure Cookers). The aim is that in 2021-2022 65% of all teachers have acquired the BKO.  
2) In September 2022, at least 80% of the teachers has completed two or more professionalisation trainings (including workshops during teacher lunches). These will be documented in the annual interviews of teachers with their department head and registered in cluster documentation.

Programmes involved: All BMS Bachelor's and Master's programmes

Monitoring: 1) Registration of the number and percentage of teachers with BKO from 18/19 till 23/24. Data provided by HRM BMS.  
2) Registration of the number and percentage of teachers that have used the available 24 hours continuous professionalization from 2021 till 2024.

Budget: [This measure will be funded by WSV budget on a project base.](#)

**Effort WSV funds (in k€)**

Project 5.1	2018	2019	2020	2021	2022	2023	2024
<b>total</b>				<b>337</b>	<b>337</b>	<b>337</b>	<b>337</b>
b1: CELT				22,5	22,5	22,5	22,5
b2: time for teachers				314	314	314	314

**Measure 5.2: Making available an innovation budget for educational programmes.**

Each year Programme Directors thoroughly evaluate their educational programme and record their findings and the measures they want to take in a Programme Development Plan. Small innovations and improvements can be financed from the regular budget.

The faculty wants to use the WSV funds to generate a budget for

- (1) larger innovations, possibly beneficial to other programmes, and
- (2) for activities that fit in the BMS education policy. Teachers will be able to participate in the development of these plans. For example teachers will be stimulated to develop evidence-based teaching; SKO trajectories in which a teacher studies a specific subject, in agreement with the dean of education, are also an option. After finishing SKO, the teacher can provide workshops on the subject and can act as a coach of (junior) teachers of his team.

Effect: Students will be educated within modern and up-to-date educational programmes taught by teachers who master needed competencies.

Target: From 2020 the programmes will provide project plans to be considered for the innovation budget. For 2018 and 2019 no plans were asked (see annex 3. project plan 5.2 Innovation of educational programmes).

Programmes

involved: All BMS educational programmes

Monitoring: via Programme Development Plans (OLC involved)

Budget: [This measure will be funded by WSV-budget, both on a project base as based on arrangements.](#)

**Effort WSV funds (in k€)**

Project 5.2	2018	2019	2020	2021	2022	2023	2024
<b>total</b>	<b>169</b>	<b>119</b>	<b>119</b>	<b>213</b>	<b>428</b>	<b>428</b>	<b>428</b>

**Measure 5.3: Stimulating teachers to use the feedback instrument IMPACT or other comparable instruments to get anonymized but specific and instant feedback from students on their classes.**

Effect: This leads to higher student involvement and satisfaction on teaching items in student opinion surveys

Target a) In 2021-2022, 50 % of teachers who have followed a professionalisation training (see measure 5.1) use, on a voluntary bases, IMPACT, or a comparable instrument, to get student feedback

Programmes

involved: All BMS Bachelor's and Master's programmes

Monitoring: See results student questionnaires in programme factsheet QA (OLC involved).

Budget: [This measure will be funded by WSV budget, both on a project base as based on arrangements.](#) A time compensation for the teachers involved will be offered; see measure 5.2.

**Effort WSV funds (in k€)**

Project 5.3	2018	2019	2020	2021	2022	2023	2024
<b>total</b>			<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>
Use of IMPACT			15	15	15	15	15

Training of teachers			5	5	5	5	5
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**Measure 5.4: Stimulating optimal intensive feedback to students in small and intense education**

Effect: This leads to higher student satisfaction on teaching items in student opinion surveys  
 Target: a) In 2021-2022, 50% of the teachers will use methods to improve optimal feedback to students. Providing optimal feedback will be a main focus in this approach, e.g. by using digital feedback instruments that enable the teachers to provide in an efficient way digital feedback in written assignments, using a list of prior established feedback options.

Programmes involved:

All BMS Bachelor's and Master's programmes

Monitoring:

The actual use of digital feedback methods and student opinion about quality of feedback (SEQ).

Budget:

Providing optimal feedback will be funded by WSV budget on a project base.

**Effort WSV funds (in k€)**

Project 5.4	2018	2019	2020	2021	2022	2023	2024
<b>total</b>	<b>145</b>	<b>145</b>	<b>145</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>
Digital tools for feedback				20	20	20	20
Training of teachers and (student)tutors				35	35	35	35
Extra tutors to give feedback in small groups	145	145	145	145	145	145	145

**Ambition 6: Stimulate professionalization of teachers through cooperation in testing and assessment**

For the quality of education it is important that teachers properly reflect on the aims of tests and assignments. By discussing tests and assignments with peer teachers, this critical reflection of the reason of testing may lead to stronger focus on the crucial elements of testing and a reduction of the number of tests and assignments. Reduced testing will also contribute to a reduction of the teacher workload. An other element is the discussion between teachers about the grading of theses (calibration). Results of screening and calibration will be reported to the BMS examination boards and enable them to perform their safeguarding tasks.

**Measure 6.1: Stimulating test screening by peers next to the existing screening of tests and assignments by experts.**

In 2019, a pilot was performed at one educational programme with regard to screening of tests and assignments by fellow teachers (of the same educational programme).

According to the participating teachers, this was an instructive experience and also the Examination Board was satisfied with the results that were obtained. The plan is to broaden this peer screening of tests and assignments to other educational programmes.

Effect:

Students face tests and assignments that have undergone a thorough check by peer teachers, and students encounter higher quality exams and assignments.

Target:

a) Regular screening: Every Bachelor's programme ensures that each year at least one module is screened. Every Master's programme ensures that each year at least two courses are screened.

(from PDP 2018) 2019: Bachelor's IBA; Master BA, EEM, ES, IEM.

b) Peer screening: In 2022, for most programme at least two tests (or assignments) are screened each year by fellow teachers (teachers that are involved in the same educational programme).

Programmes involved:

See above.

Monitoring:

Registration of the amount of actual test screening within educational programmes. The target is that every year at least one module from each Bachelor's programme and two

master courses from each master are screened. Report with results of test screening is also provided to the examination boards (EB is involved)

Budget: **Regular BMS budget.** Given the high learning experience of teachers by peer-screening tests and assignments, compensation of teacher time via [measure 5.2](#) (see annex 3, project plan 5.2).

***Measure 6.2: Organising calibration sessions for improving assessment and grading of thesis (will also foster community building)***

Effect: Proper grading of thesis is very important, given the civil effect of a graduation. The grading of theses will be more reliable and individual students become less dependent on the judgment of individual teachers.

Target: All programmes organise thesis carousel and calibration of assessment at least once in 3 years (preferably with international educational programme).  
(from PDP 2018) 2019: Bachelor's IEM, MS&T and Master EEM, ES, IEM, PSTS  
2021: Master PA

Programmes involved: See above

Monitoring: Registration of the presence of calibration sessions within each educational programme over the years 17/18 till 26/27. The reports of the results of the calibration session will be sent to the examination boards (EB involved)

Budget: **Regular BMS budget.** Compensation of teacher time via [measure 5.2](#) (see annex 3, project plan 5.2).



## **Learning facilities**

For BMS, learning facilities are related to creating better and timely learning environments and integrating digital technologies in the learning process. Using labs and e-learning in education is in line with the BMS education vision of restructuring educational programmes towards technology in relation to social science. The availability of modern technology oriented learning facilities also prepares students for professions that require experience with big data, profiling, data science, etc., which will be increasingly important in the future. To promote student driven learning and the autonomy of students, special attention will be given to digitalization in learning.

### **Ambition 7: Making available modern technology oriented learning facilities that allow new types of teaching and training in the curricula to prepare students for professions that require experience with big data, profiling, data science, etc.**

The facilities of the BMS lab are unique for a social science faculty in the Netherlands. By making the research equipment of the lab available for educational purposes, students will experience the use of modern research methods (e.g. virtual reality) that enable them to test certain hypotheses by experimentation and measurements. Student experiences in labs enable them not only to get knowledge, but also enables them to develop transferrable skills and attitudes towards the application of technology in social sciences. Next to the lab, currently a mobile lab is under development which allows students to do field research. Apart from experiencing state of the art equipment in the lab, students will also learn to analyse the data with modern open source statistical software.

In line with with the UT vision to promote student driven learning and autonomy of students, BMS will pay attention to digitalization in learning, enabling enrichment of education materials. As part of digitalization strategy, also digital testing will be promoted, both as a method for formative and summative assessment.

It should be mentioned that plans are being made for the future development of an Industry 4.0 Learning factory (supply chain lab) that allows students to do physical and virtual research into the design of supply chains in and between organizations. From 2022, a WSV-budget is reserved for this lab (see annex 2, 7.0).

#### ***Measure 7.1: Implementing use of modern data production, acquisition and analysis into the curricula of all educational programmes. This will be partly taught by a teacher from the BMS lab. Give students the possibility to do research with a mobile facility for ambient measuring (also coached by members of BMS-lab)***

Effect: During their study students will acquire knowledge of and have experiences with modern types of data acquisition and –analysis, allowing them to develop transferrable skills.

Target: a) In the curriculum of all bachelor and master programmes of BMS attention is paid to the possibilities of modern data production, acquisition and analysis, available and with the support of the BMS lab. This type of education will become a structural component of the programmes. The goal is to start with this in 2018 and to realize this in the years 2020-2021.  
b) A mobile facility for ambient measuring by students will also be realized in 2018 (evaluation Sept. 21)  
c) BMS lab support by thesis preparation of students

Programmes involved: All BMS Bachelor's and Master's programmes.

Monitoring: 1) Registration of the modules and courses in curricula in which attention is paid to modern data acquisition and analysis with support of the BMS lab.  
2) Number of students that use the BMS lab and the mobile facility in their thesis research.  
3) Registration of the number of lectures about BMS lab facilities.

Budget: [This measure will be funded by WSV-budget on a project base.](#)



**Effort WSV funds (in k€)**

<i>Project 7.1</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2024</i>
<b>total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
BMS lab	55	55	55	55	55	55	55
Mobile facility	25	25	25	25	25	25	25
Support students	20	20	20	20	20	20	20

**Measure 7.2: Supporting the implementation and use of the open source statistical programme “R”. Among others by training teachers to be able to teach students “R”**

Effect: Students receive training in their ability to analyse data with a modern open source programme.

Target: Teacher training “R” will start in de academic year 2019/2020 and will continue in the following years. From Sept. 2020 “R” will be implemented in the first year curricula, with gradual implementation in the following years.

Programmes

involved: All BMS Bachelor’s and Master’s programmes

Monitoring: See annex 1 Monitoring tables, Table 7.2. Further info in OER, OLC involved

Budget: **No additional WSV funds required**

**Measure 7.3: Investing in an e-learning specialist to support teachers to set-up digitalization in learning**

The BMS faculty will appoint an e-learning specialist (Spring 2020) that supports teachers to offer students flexible and adaptive methods of studying which are more adapted to the learning needs of the students, in line with making students owner and motivator of their own learning proces. The use of these flexible methods may save teachers lecturing time and allow them to spend more time in answering questions and providing feedback. The e-learning specialist will also be involved in providing support in digital testing (formative and summative). Use of e-learning may also offer further possibilities of enrichment of educational materials in relation to technology development (beyond books and written texts). Digitalisation in learning will also contribute to a reduction of workload among teachers.

Effect: Students will have the possibility to engage in digital education, like simulation, MOOCs , interactive fora, animation, supporting various learning styles, and develop digital competencies and skills, like digital testing and possibilities for flexible and adoptive education using e-leaning.

Programmes

involved: All BMS educational programmes

Monitoring: Registration of the number of courses with digitalization in learning.

Budget: **No additional WSV funds required**

## **Community building**

For a university it is important to pay sufficient attention to community building. A good social network of students within the university promotes well-being of students and supports study success. A good social network among teachers contributes to a good quality culture and mutual exchange of information and support.

### **Ambition 8: Promoting social cohesion among students**

For BMS, community building focuses among others on the promotion of social cohesion among students within a particular educational programme and, if possible, also between students from various educational programmes. Social events and a building environment that promotes social interaction are important elements to achieve this.

#### **Measure 8.1 Investing in study areas in the Cubicus Building that promote studying in groups and enable social interaction between students** (In the Ravelijn building study areas are a basic part of the building).

Effect: The availability of study areas will stimulate more social interaction between students

Target: In 2018 and the following years, means will be made available to facilitate study areas in the Cubicus building and to keep them available for students.

Programmes

Involved: Bachelor's programme COM and PSY; Master's programmes COM, EST, PSTS and PSY

Monitoring: Relevant NSE items on social integration of students (programme factsheet QA) will be used for evaluation.

Budget: [This measure will be funded by WSV-budget on a project base.](#)

#### **Effort WSV funds (in k€)**

<i>Project 8.1</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2024</i>
<b>total</b>	<b>62</b>	<b>62</b>	<b>62</b>	<b>62</b>	<b>62</b>	<b>63</b>	<b>63</b>
Rent of the study area	62	62	62	62	62	63	63

#### **Measure 8.2: Paying extra attention to the social integration of foreign students and organise e.g. a BMS Master Day with the help of student associations, in which all new master students participate.**

Effect: International students will get to know fellow students and members of the student association, that play a central role in the social integration of students.

Target: In 2018, a start has been made with the Faculty BMS Master Day. This will be developed further, with the help of students and student associations, and continued in 2019 and the following years.

Programmes

involved: All BMS Master's programmes

Monitoring: Relevant items in the International Student Barometer will be used for monitoring and presented to programme management in programme factsheet QA (OLC involved).

Budget: [Regular BMS budget.](#)

#### **Measure 8.3: TEM budget to strengthen social interaction.**

Effect: For students and staff in TEM, for each module a budget of 1k was available for activities and initiatives that strengthen social interaction.

Target: The budget was made available on request for staff and students in 2017 and 2018.

Programmes

involved: All BMS Bachelor's programmes

Monitoring: It was in the financial administration monitored what types of activities were undertaken, based on the budget.

Budget: The **WSV funding of the project will finish** at the end of the year 2019. From 2020, the project will be funded using **regular BMS budget**.

**Effort WSV funds (in k€)**

<i>Project 8.3</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2024</i>
<b>total</b>	<b>50</b>	<b>50</b>					
TEM module budget	50	50					

**Ambition 9: Improving quality culture**

An important element of community building among teachers are shared values and ideas that contributed to a quality culture. Quality culture refers to a shared focus and proper communication on improvements in education, close cooperation, shared (academic) professionalism and mutual understanding that commitments will be honoured (accountability). Participatory bodies play an important role in community building, both among students and teachers and should be well supported.

**Measure 9.1: Professionalisation and facilitation of participatory bodies to make them well equipped**

Support and training will be provided to ensure that teacher and student members of participatory bodies are well able to participate in participatory bodies. Members of these participatory bodies do have a legal advisory role (and sometimes they even have the right of consent) in relation to the quality of education. Common training and communication between students and teachers is also beneficial for promoting a quality culture.

Effect: Students will be facilitated better to execute their participatory rights in participatory bodies.

Target: In 2019 and the following years, members of the participatory bodies (Programme Committees and Faculty Council) will have the possibility to develop skills that are useful in fulfilling their specific tasks. Next to that, they will be provided with practical tools, like an annual cycle and formats for reporting.

Programmes involved: All BMS Bachelor's and Master's programmes (they have all a Programme Committee)

Monitoring: Registration of the number of participants in training for members of participatory bodies (input CELT).

Budget: **Regular BMS budget**.

**Measure 9.2: Further development of quality culture within programmes**

This will be achieved by stimulating teacher meetings, project BMS etc.

Effect: Optimisation of communication about quality of educational programmes

Targets: (from PDP 2018) For 2019 the following educational programme have planned to do so: Bachelor's COM, IBA, IEM and Master's BA, COM, IEM, PSTS. Indicators: teacher meetings, teacher cooperation, teamwork etc. (An extensive list is provided in the document QA 1413).

Programmes involved: See above

Monitoring: Via yearly Programme Development Plans (PDP)

Budget: **Regular BMS budget**. After an evaluation in 2022, it is possible that specific projects are set up using WSV-budget.

## **Continuous Development of educational programmes (from PDP's)**

The quality assurance system of the BMS faculty is focused on continuous improvement and development (ref. BMS QA 2560). To close quality circles at various levels, teachers use Course Development Plans and Programme Directors use Programme Development Plans. At the level of the faculty, each year the quality circle is closed by the Annual Faculty Plan For Education. In principle, no WSV budget is used for the regular development and improvement of educational programmes. For more drastic innovations, an innovation budget is available, which uses WSV budget (see measure 5.2). To be eligible for this budget, educational programmes have to submit project proposals.

### **Ambition 10: To improve the quality of assessment**

An important element of improvement of the quality of assessment is reflection and mutual communication among teachers about the aim and goals of assessment (see also measure 6.1), with a good balance between formative and summative testing. BMS aims to support programme directors in the easy update of assessment plans. Developing rubrics contributes to a more reliable grading of assignments. Rubrics also provide students with better feedback (see also measure 5.4).

#### **Measure 10.1: Supporting further development of assessment plans**

**Effect:** For students, the learning objectives of modules or courses are in line with the intended learning objectives of an educational programme. For students, this also means that the assessments are in line with the learning objectives of involved courses of modules and in line with the aims of the programme.

**Target:** To facilitate further development of assessment plans (available in BMS QA 2690), in 2020, in cooperation with LISA, a project will start to develop a system that will enable educational programmes to digitally update their assessment plans.(ref: UTpK 111). It is planned that this system will be available in July 2021.

**Programmes involved:** All educational programmes

**Monitoring:** Monitoring will be done by the yearly report of the Examination Board. From August 2012, EB's will yearly receive the updated assessment plan.

**Budget:** No additional WSV-funds required.

#### **Measure 10.2: Development of rubrics**

**Effect:** The use of rubrics in grading of assignments provides students with optimized feedback, because rubrics describe the various levels of performance and thus explicate the expectations students can live up to.

**Target:** (from PDP 2018): In 18/19 the following educational programmes have planned to develop rubrics: Bachelor IBA, Master EEM, Master IEM

**Programmes involved:** See above

**Monitoring:** OLC provides OLD advice

**Budget:** No additional WSV-funds required.

### **Ambition 11: Structural development and improvement of educational programmes**

Yearly in October, a Factsheet Quality Assurance is provided to all educational programmes. The management of the programme can use this information (and other available information) to update the Programme Development Plan (PDP). In this plan, also an evaluation in retrospect is made of the plans of the previous year. In the yearly PDP, programmes can, if applicable, update the Intended Learning Outcomes, improve tracks or learning lines, or more in general e.g. take measures to increase progression rates.

#### **Measure 11.1: Adjust Intended Learning Outcomes (ILO's) to changing circumstances (incl. SDG's)**

**Effect:** Students will be confronted with up-to-date curricula that incorporate the latest scientific developments.

Target: When necessary, each programme updates ILO's at least once in three years.  
(from PDP 2018): In 18/19 the following educational programmes have planned to do so: Bachelor COM, IBA, IEM and PSY; Master BA, COM, EEM, ES EST, IEM, PA, PSTS, PSY and Teacher Programmes.

Programmes involved: See above

Monitoring: OER + via yearly Programme Development Plan (PDP) (adjustment of the ILO's can also be subjects of discussion with the workfield committee or be subject to a questionnaire among alumni to ask their opinion on the proposed changes). In all cases of changes, the programme committee will be involved.

Budget: **No additional WSV-funds required.**

**Measure 11.2: Development or improvement of tracks and learning lines**

Effect: Curricula will have a more structured content with learning goals of increasing complexity.

Target: a) (from PDP 2018) For 18/19 the following educational programmes have planned to development tracks/profiles: Master EEM, PA, RM, Teacher Programmes.  
(from PDP 2018) For 2019 the following educational programmes have planned to development or improve learning lines: Bachelor COM, IBA, IEM, MS&T, Master's EEM, PSTS, RM

Programmes involved: See above

Monitoring: Via yearly Programme Development Plan (PDP)

Budget: **No additional WSV-funds required.**

**Measure 11.3: Increase progression rate of students/improving study success**

Effect: Students have the possibility to finish their program in nominal time, avoiding unnecessary delays

Target: (from PDP 2018) for 18/19 Master's BA, PA, PSY

Programmes involved: See above

Monitoring: See annex 1 Monitoring tables, Table 11.3a, 11.3b + via yearly Programme Development Plans (PDP) (OLC involved)

Budget: **No additional WSV-funds required.**

**Ambition 12: Structural development and improvement of modules and courses**

A basic element of quality assurance is the continuous improvement of courses and modules. This not only refers to updates in reaction to changing circumstances, but also to improvements of flaws and failures.

**Measure 12.1: Adjust learning objectives of courses to changing circumstances**

Effect: Students study up-to-date curricula with up-to-date intended learning outcomes.

Target: (from PDP 2018) for 2019 the following educational programmes have planned to do so: Master EEM, EST, Teacher Programmes.

Programmes involved: See above

Monitoring: via yearly Programme Development Plans (PDP) (OLC involved)

Budget: **No additional WSV-funds required.**

**Measure 12.2: Development or improvement of specific (parts) of modules or courses .**

Effect: Students study modules and courses that are subject to continuous improvements and do not contain unnecessary errors or lack of quality.

Target: (from PDP 2018) for 2018-2019 the following educational programmes have planned to do so: Bachelor IBA, IEM and PSY; Master BA, IEM, PSY and Teacher Programmes.

Programmes

involved: See above for involved educational programmes  
Monitoring: Via yearly Course Development Plans (and also PDP; OLC involved) + yearly overview for faculty council.  
Budget: **No additional WSV-funds required**