

On the Integration of Soft and Academic Skills in the Modules within the BSc. Program of Technical Medicine

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Introduction

Soft skills and academic skills are considered to be of high importance for the success of students after their graduation.

To be able to propose methods to integrate, assess and monitor learning objectives related to soft and academic skills in the bachelor curriculum of Technical Medicine (TM), more insight should be gained in 'whether' and 'at what level' integration is currently applied.

Methods

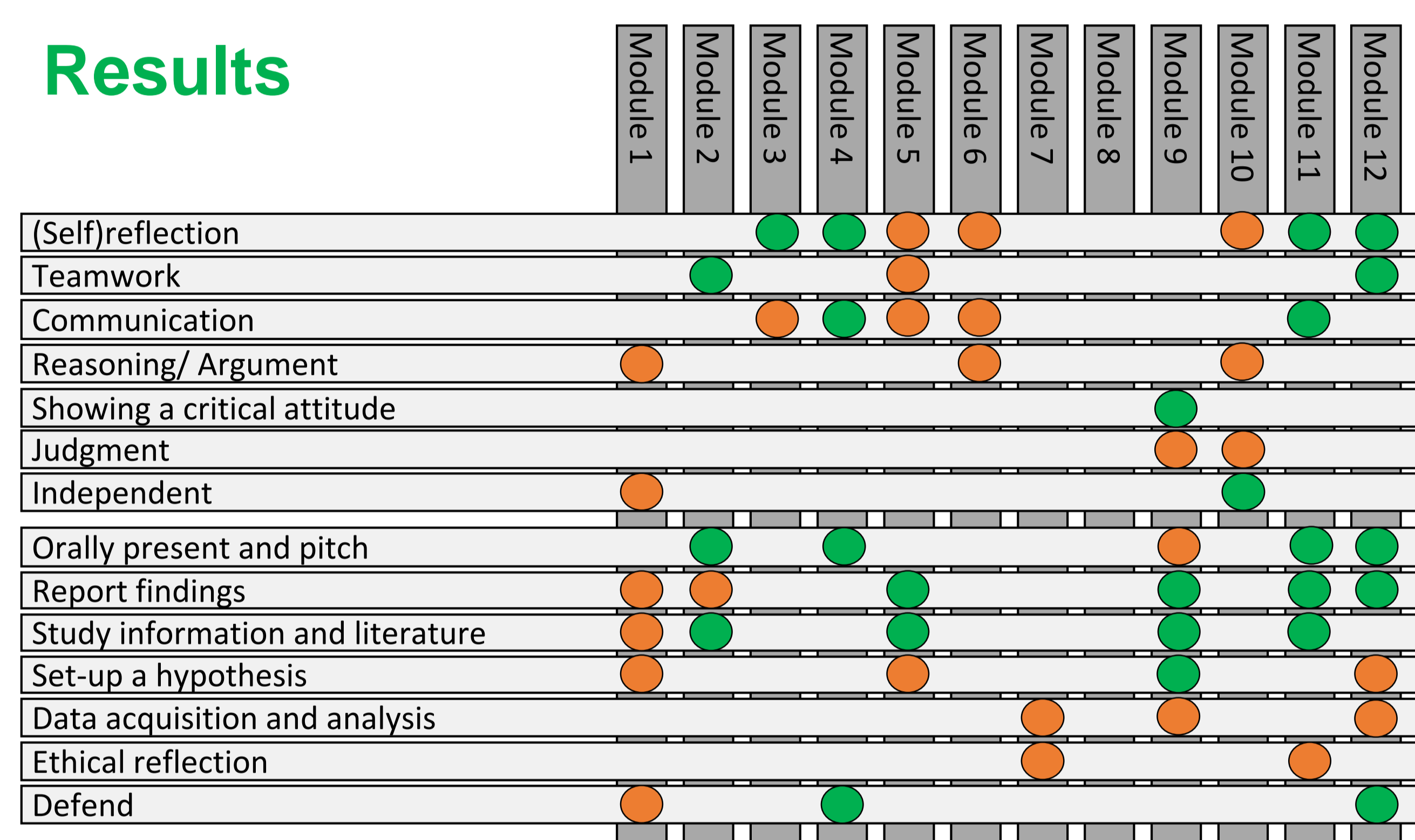
Screen

- the competence profile of the program of TM,
 - learning objectives in the course information and
 - criteria in assessment matrices
- to identify soft and academic skills

Conduct interviews:

- with 3 lecturers on soft skills, the educational manager and
- with a focus group of 4 third-year bachelor students of TM.

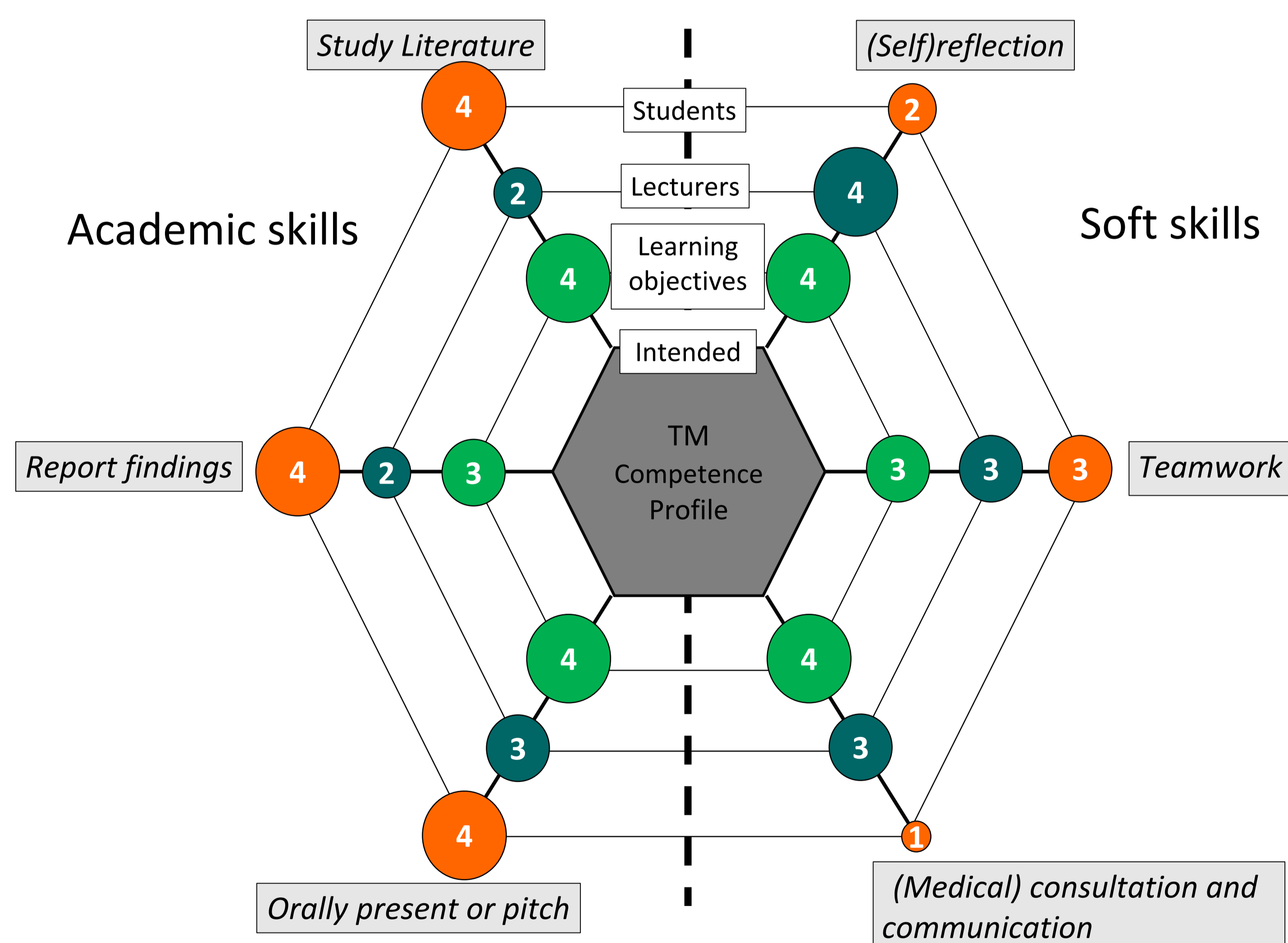
Results



↑ **Figure 1** Overview of skills development in the BSc. curriculum of TM
 ● = skills that are made explicit both in the learning objectives and the assessment matrices.
 ● = skills that are mentioned in the learning objectives or in the assessment matrices, but not in both.

→ **Figure 2** Perceived importance of skills. In the inner circle of green balloons a numerical value is given for the appearance of the skills in the learning objectives and assessment matrices.

The number of lecturers in the interviews and the number of students in the focus group that mentioned or confirmed the skill as important are shown in two outer circles.



Conclusions

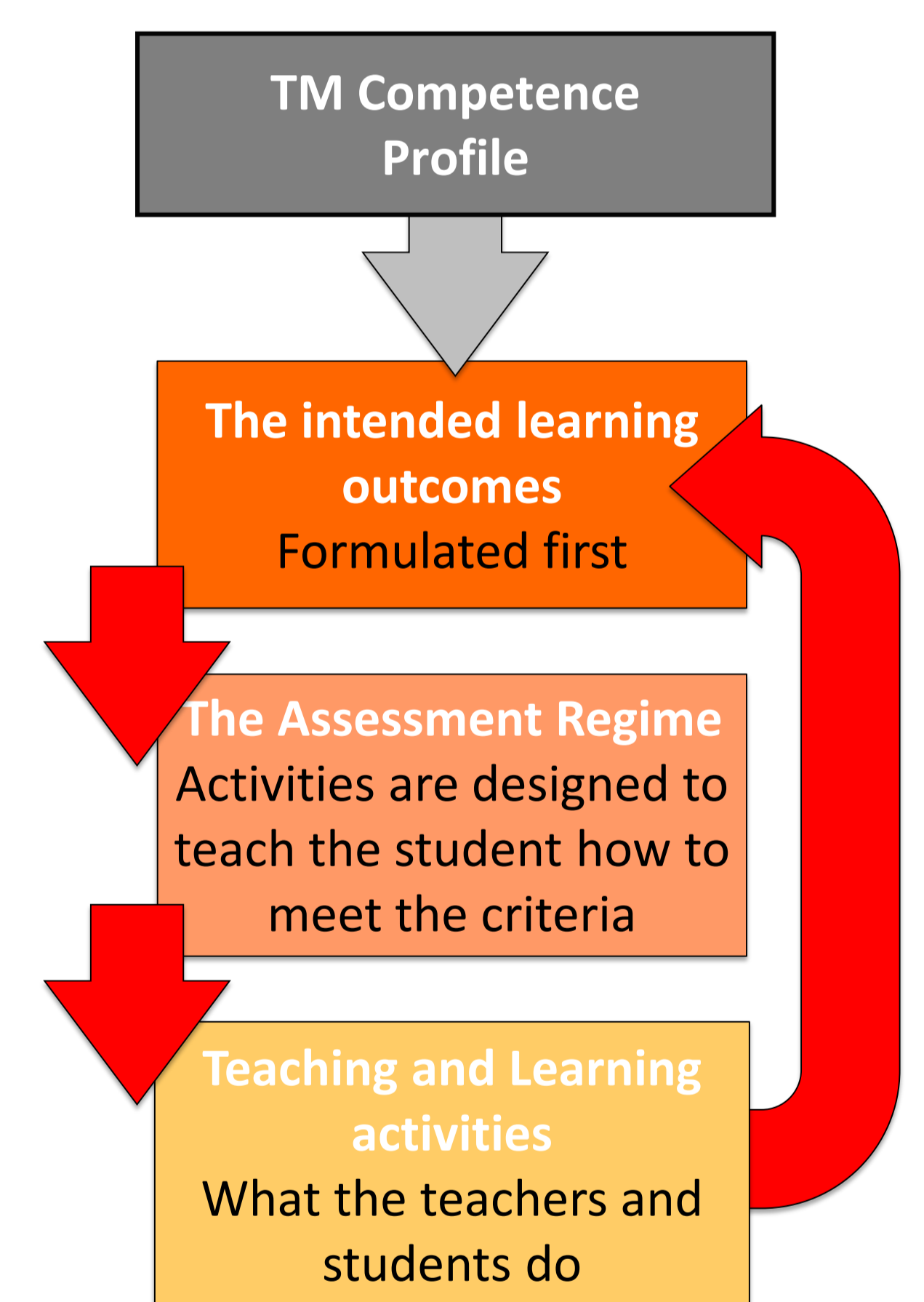
Learning objectives and assessment criteria are not always explicitly aligned. Skills development has to be better designed, implemented and evaluated both at course and at curriculum level. Objectives can be formulated based on the competence profile.

Discussion

As proposed in the Biggs' model of constructive alignment (**Figure 3**), the curriculum design of each educational program should aim at coherence between assessments, teaching strategies and intended learning outcomes.

As can be observed in **Figure 1**, the constructive alignment is not found for about half of the learning objectives. However, it may be that constructive alignment is found within parts of Modules, but that the intended objectives are not made explicit in the Module information or Module's assessment scheme.

Furthermore, the importance of skills are perceived differently by lecturers and students and the perceptions do not always reflect the weight given to the skills in the curriculum.



↑ **Figure 3** Adapted schematic of the Biggs' model of constructive alignment. The competence profile of a TM graduate could serve as a guide in formulating the intended learning outcomes.

Recommendations

- Make learning objectives related to skills not only explicit in course information but also highlight the importance to students by contextualizing the purpose of the skills and by offering educational methods that allow for the development of the skills.
- Ensure constructive feedback at an individual level to fast forward students' development.