Studying teacher coaching:
how is it intended, implemented and perceived?

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Abstract

Professional Identity begins to form when students start their academic study. Although addressing the Professional Identity Development (PID) of students can be very beneficial for students, it seldom is the explicit aim of educational programs and courses. There is little empirical knowledge available to inform teachers, educational developers and program directors on how to foster PID and on how to embed it adequately in a course or an educational program. Against this background, it was studied how teacher coaching, aiming to foster students' professional identity development, was implemented in the departments of Industrial Design and Computer Science. The goal of the project was to gain insight into useful features for coaching models and to learn what good coaching entails. We researched how teacher coaching was intended by the program management, was implemented by teachers and how it was experienced by students. The study resulted in 1) two case-descriptions, 2) an evaluation by experts of the strengths and weaknesses of both cases, and 3) a reflection with several observations on teacher coaching:

- Students are (reasonably) satisfied with the motivational coaching they receive.
- Realizing powerful coaching asks for more than providing coaching conversations only.
- Coaching can be focused on aspects related to: academic career, professional identity and profession, and professional career planning.
- Knowledge and skills students need to possess in order to make teacher coaching as beneficial as possible for themselves seems to be neglected in coaching models.

The project also resulted in useful tools for further implementation of teacher coaching. Firstly, a framework was composed for discussing what teacher coaching entails, and what topics should be addressed in which phase of students' professional identity development. Secondly, a questionnaire was developed for evaluating teacher coaching. Thirdly, a video with examples of important themes related to teacher coaching was created. The fragments in the video were selected from a videotaped coaching conversation of a highly appreciated teacher. The video might be useful for training purposes and reflection on wat good coaching entails.

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1. Introduction

This booklet is written for program directors, education developers and teachers, who are considering the (further) design and implementation of teacher coaching[1] within their department. Coaching aims to support and stimulate students in becoming aware of the kind of engineer they would like to become and how the choices made during their program can affect the development of their professional identity as an engineer.

Our aim is to give insight into how coaching has been implemented in different ways at two departments of the TU/e, and how including coaching in the curriculum can enrich student development, without large costs in terms of time and money. We will provide this insight by presenting two case descriptions. While reading, please keep in mind that both programs have only recently started their implementation of coaching. Therefore, we can only present intermediate evaluation results. After the case descriptions we describe how three educational experts interpreted the cases, what these experts consider to be strong and weak points, and what they consider elements of an ideal set-up for coaching. After that we will reflect on the outcomes. In this reflection we also refer to appendices. These appendices can be seen as separate and additional deliverables of this project. We included the following deliverables:

- Appendix 1: An overview of important theory related to Professional Identity Development.

- Appendix 2: An overview of different strands for Personal Development Planning, which is quite similar to Professional Identity Development.

- Appendix 3: Different models of Personal Development Planning varying in degree of embedding Personal Development Planning in the curriculum.

- Appendix 4: A link to a useful movie for discussing what good coaching entails.

- Appendix 5: A questionnaire for evaluating teacher coaching/Professional Identity Development.

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[1] *From now on we will use the word coaching*

2. Teacher coaching at TU/e: Context for the pilots

Coaching is a concept that was introduced along with the start of the TU/e Bachelor College. After three years, on behalf of the Bachelor College, Vinke (2016) researched the current implementation of coaching. It was concluded that:

- the essence of how coaching was intended, namely stimulating and supporting students to become aware of the kind of engineer they would like to become, had not been internalized by the teachers and students. It appeared that the emphasis in most conversations lay on providing information on electives and less on how students could become aware of their own interests and ambitions, and how they could make decisions starting from these interests and ambitions. In other words, coaches did not seem to coach their students (on how) to direct their own development as an engineer;
- the frequency of meetings was low, leading to a lack of continuation in coaching and establishment of a relation between student and teacher. Furthermore, changing the requirements of the programs for coaching legitimized programs to smoothen their policy with regard to the frequency of coach meetings;
- programs arranged their own set-up of coaching but did not formulate explicit starting points for both students and teachers. Therefore, it was not made clear what the coaching needs of students were, how coaching was evaluated, how coaching results were used for an improvement trajectory, and how both teachers and students can be supported in this process;
- the content of the meetings and the frequency strongly depended on the coach.

As a follow-up it was decided that departments were allowed to experiment with different set-ups of coaching provided that it was in line with the basic thought underlying coaching, namely that:

"Coaching supports and stimulates students to become aware of the kind of engineer they would like to become and how the choices made or to make during their program can affect their professional identity development as an engineer"

One of the ideas behind this was for departments to learn from each other's different experiences and to use this to optimize the set-up in their own department. And, to inspire departments to reconsider the set-up and experiment with new role divisions regarding coaching (e.g. student mentors and alumni). So, it was the intent to broaden the perspectives on coaching.

3. Experiences with coaching at TU/e

As mentioned above, to explore the workings of diverse set-ups of coaching, departments were stimulated by the Bachelor College to experiment with this. Several departments did indeed design and implement a new set-up for their coaching. In this project we analyzed the set-up for two departments: Computer Science and Industrial Design. For both departments we give an overview of how coaching was intended by the department, how it has been implemented by the coaches, and how it is perceived by the students. To determine how coaching was intended in both programs we checked relevant policy documents, guides for coaching and interviewed the program directors about their intentions. To study how coaching was actually operationalized and perceived by teachers we interviewed the coaches about their coaching. For Computer Science we interviewed all coaches individually since only a small selection of all staffmembers are involved in coaching. For Industrial Design we made use of two group discussions in which 23 of the 30 staffmembers were involved. Furthermore, we distributed an individual, digital questionnaire with open-ended questions to complete the picture and get more insight into the diversity of how coaching was operationalized. The students of both departments were asked to give feedback on their experiences by means of filling out a questionnaire. This questionnaire was validated and appeared sufficiently reliable. We distinguished the following scales: 1. Academic career; 2. Coaching; 3. Professional career planning, and 4. Profession and professional identity. The questionnaire consisted of both open and closed questions. For the closed questions we used a five-point Likert scale.

Case 1:
Computer Science

Background and context

With the start of the Bachelor College, coaching was introduced in the educational program of Computer Science (CS). This form of coaching appeared dissatisfactory for both educational management, coaches and students and did not work out as intended. It appeared that coaching was focused too much on which electives to choose and that students demonstrated a passive attitude and seemed indifferent with respect to reflection on professional development whereas many students already had experience with professional work as they worked next to their study in side jobs. Furthermore, the attendance rates were low and new coaches were hard to find. Building on these lessons learned, in the academic year 2015-2016, CS started a pilot with a new model of coaching. In this pilot several factors were considered important to take into account. Both at the university in general and at CS specifically, teachers face a severe workload and many of them perceive coaching as coming on top of other more relevant matters. And, quite some teachers do not feel fully competent in coaching on personal development and identity building. Also, the department had the impression that the average Bachelor student was not yet interested in, or ready for, sincere reflection and a pro-active attitude regarding their professional identity.

Intended by the department

The objective of coaching as stated by CS was to help students to develop a professional identity and an active attitude supporting this development. An intended side effect was that students make a motivated choice for their master, and that the need for professional skills development is recognized and appreciated. One of the underlying assumptions of the model was that Bachelor students were not yet ready for a sincere reflection and did not yet demonstrate a pro-active attitude. The idea was that offering a generic first year for all students and dedicated coaching with different models in year 2 and year 3 would better fulfill students' needs, motivation and preferred time investment. The following coaching models were used:
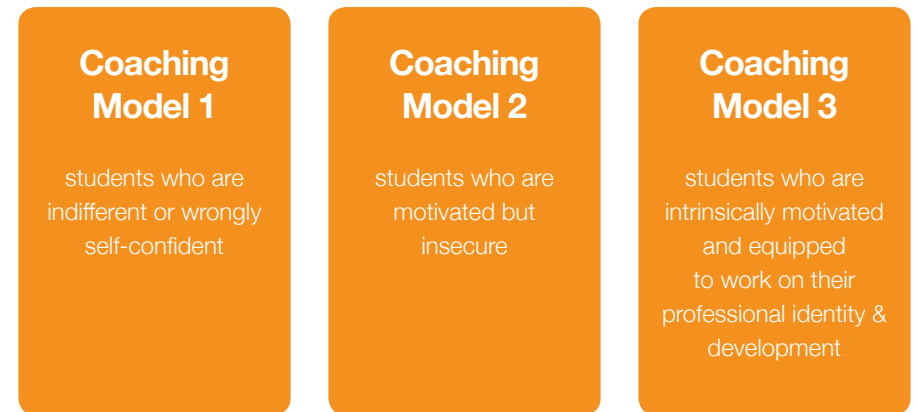

Figure 1. Coaching models 1

In the paragraphs after following describe the three different coaching models throughout the Bachelor course. At CS, coaching really gets started in year 2 of the Bachelor. But in year 1 all students receive the following support in defining their elective program with respect to ambition and current experience:

- Semester 1: Information on first-year electives is provided in plenary sessions, via a website, and guidance of student mentors.
- Semester 2: Opportunity for coaching on demand, e-counter and to attend information sessions.

Towards the end of year 1, students make a choice out of the following three coaching models for year 2 and 3:

Model 1: Light-weight flexible coaching
Coaching on demand and e-counter. Students are able to attend plenary meetings organized by the study counselors at the start of each quarter. During these meetings all kinds of practicalities are addressed. Furthermore, each year a plenary session is organized on Master orientation. To prepare model-1 students for mentoring in the master's program, some obligatory reflection assignments are included in the Final Bachelor Project. An example of assignments is: providing a CV and pitching before a panel of recruiters.

Model 2: Intensive, structured coaching

- One meeting each quarter, either group or individual.
- Students are expected to prepare for meetings by doing assignments, and by keeping a logbook.
- Coach is in charge of planning the sessions, but student initiative is strongly encouraged.
- Additional activities are organized to help students develop themselves and yield input for the coach sessions (e.g. speed-date sessions, LinkedIn workshop, etc.)

Model 3: Advanced, flexible coaching, by coaching on-demand

This model has the same set-up as model 2 but with the difference that students define their own trajectories and assignments instead of being offered fixed assignments, as is the case for model 2 students.

A positive side effect of such a set-up with three models to choose from is that the coach capacity is employed more efficiently. The hope and expectation is that over time, as more students experience the benefits of coaching, other students will learn from their experiences and also choose to participate in model 2 or 3.

In model 2 and 3 professional skills are addressed, and as such there is an implicit link with the courses in the major, which include professional skills practice. No credits (ECTS) are allocated to coaching, but students who participate in model 2 and 3 receive an exemption for reflection assignments in their Final Bachelor Project.

The set-up for model 2 over the second and third Bachelor years is visualized in figure 2.
Clear targets are formulated for the model:

- Each year, the percentage of students choosing coach model 2 or 3 increases (image improves).
- In 2018, less than 30% of the second-year students choose coach model 1.
- In 2018, more than 20% of the second-year students choose coach model 3.
- The students in model 2 and 3 are satisfied with the coaching process rating ≥ 3.8 (1-5).
- Personal Development Plans are input for redefining set of regular Professional Skills (2017).
- A pool of 6-10 excellent CS bachelor coaches.
- Side effect: added value of professional skill activities is recognized and appreciated by students.

Year 2 focusses on

- orientation on labor market

- first analysis of skills and knowledge that need to be developed

- adjustment of elective program

Year 3 focusses on

- further orientation on labor market

- well-considered choice of master's program

- knowing one's own strengths and what skills to develop in the master

Figure 2. Set-up for years 2 and 3 of the bachelor's program

Implemented by coaches

In researching how coaching was actually implemented we focused on model 2 of coaching. We interviewed all coaches who coach in this model. All of them are positive about coaching in general, and about the current set-up at CS, and most coaches explicitly mention that they enjoy their role as a coach. Generally, the coaches follow the set-up and assignments as designed by the program director. Several coaches mentioned that they like the fact that students have the freedom to choose the coaching model that matches their motivation and intended time investment. When asked what they thought of the focus for the two years, and the planning of activities, two coaches mentioned that year 2 might be a bit early for the students to think about their career as the students were more concerned with decisions concerning their Master. On the other hand, they pointed out that the assignments did help the students to become more conscious about these matters, so that perhaps the timing is good after all. And one coach mentioned that coaches feel uncertain about the obligatory nature of the logbook, and would prefer not to have to make students keep it, also because of not being sure what to do with the logbook when received. Another coach mentioned they do not obligate their students to hand in their logbooks.

When asked which goals they strive to achieve within coaching, coaches' answers were quite similar. Delete one anothers, and were closely linked to the intended

objective of coaching. The goals are future oriented and coaches described the goal to let students reflect on and share their experiences and thoughts, and thus help students think critically about who they are, what they want to achieve, how to do this, and which choices they need to make. In relation to this, they also mentioned the terms 'personal development' and 'identity development'.

When asked what they considered to be the added value of coaching, the coaches gave a mix of answers, namely:

- helping students with practical issues, such as the planning of electives;
- students learn from and become inspired by hearing about each other's experiences and thoughts;
- it can help students to learn to reflect on and to develop their attitude;
- realization of what employers consider to be important;
- students undertake things they would not have, if they had not been made to think about it in coaching;
- students come in contact with staff in a different way;
- students save time, by thinking about their careers earlier during their studies.

According to the coaches, important tasks in their coaching are:

- Letting students share their experiences and thoughts.
- Asking students questions for reflection.
- Getting the students to think about their choices.

When asked whether they felt unprepared for anything in their role as coach, the coaches did not mention that they felt unprepared for the abovementioned aspects that they consider to be key aspects, but individuals did mention they were lacking the following:

- Knowledge of specific programs and options for students.
- Knowledge of LinkedIn.
- Knowledge and experience of working in industry or setting up your own business
- How to find a form of coaching that matches non-typical students, e.g. a student with autism.
- Clarity on do's and don'ts in coaching and advising students in decision making, e.g. how (non) directive to be.

Two coaches explicitly mentioned that the quarterly reflection sessions with their fellow coaches were useful.

Experienced by students

From the 40 students participating in Model 2, 50% completed the questionnaire. All students who completed the questionnaire participated in the activities related to coaching.

When asked why they chose to participate in model 2 they gave the following reasons:

- Good to do something on personal/professional development and concerning future and career decisions.
- Seemed like a good balance of required effort and time, and of own responsibility combined with having some guidance.

The activities most highly valued by the students were the coach meetings, and the alumni speed-dating activity. Many students also valued the lunch information sessions, the assignment about vacancies, and the LinkedIn workshop. The students had mixed reactions about keeping a logbook, and about composing a personal development plan. Students believed that their coach supported and/or challenged them to improve their reflection skills, their attitude of being proactive and provided them with insight into where they stood in their professional skills development and the goals they needed to set for their development. Students indicated that the coaching did not stimulate them to improve other professional skills than reflection skills.

Overview of questionnaire results

Table 1. Provides an overview of the means and standard deviations for CS on the scale of the questionnaire.

Scale	N	Mean	Std. Deviation
Academic career	20	3.39	0.66
Professional career planning	20	3.53	0.72
Profession and professional identity	20	3.39	0.59
Coaching	20	4.05	0.64

Table 1. Means and SD

Academic career

Students indicated that their coaches supported and/or challenged them to consider issues related to their academic career but that the extent of support and/or challenge was relatively limited. This means that in the students' view the coaching did sometimes, but not that often, focus on the relevance of choices to make for courses and follow-up programs, activities they undertook to inform themselves, and how certain they were of their choices (mean of 3.39 and standard deviation of .66). When looking at the individual items, it appears that coaching supports and/or challenges students to see the relevance of making well-argumented choices for electives of their elective package. Coaching does not support and/or challenge students to undertake more activities to get information for electives and think over which activities to choose for their elective package. It does also not make students more certain of their choice for a follow-up program. It appears coaching supports and/or challenges students to undertake more activities to get information about Master or different Bachelor programs after their Major and to reflect on their choice for a different Major or Master.

Professional Career planning

When asked about how they experienced the extent of support and/or challenge by their coach regarding professional career planning students indicated that these topics had been addressed in coaching. Students had been coached to see the relevance of professional career planning, to think about it, to picture their path and to increase their networking skills (mean of 3.53 and standard deviation of .72) but the extent of coaching on these topics is relatively limited. The standard deviation, though, points to large differences in perception among students with respect to how they perceive the coaching on professional career planning.

Profession and professional identity

The scale for profession and professional identity has a mean of 3.39 and a standard deviation of .59, which indicates that students experience support and/or challenge with respect to coaching on these topics but to a relatively limited extent. When looking at the individual items of this scale, it appears that students gain some insight into the daily activities of a CS Engineer and really gain insight into the different jobs/functions a CS Engineer can fulfill and also feel supported and/or challenged to reflect on the professional practice of CS engineers. Furthermore, students feel that their coach supports and/or challenges them to think about the CS Engineer they would like to become. It appears though that coaches could pay more attention to what students need in order to become a CS Engineer and that some of the coaches could support their students more in seeing their ambitions and interests clearer.

Coaching

Students generally valued their coaches highly, and gave them an average grade of 7.7 but the standard deviation of 1.4 indicates that individual differences in perceptions exist. Findings from the coaching scale also point to high student satisfaction with regard to coaching and considerable individual differences in student satisfaction (mean 4.05 and standard deviation of .64). All items score around 4.0. Students value the genuine interest and empathy the most.

Case 2:
Industrial Design

Background and context

The context at the department of Industrial Design (ID) was quite different to the one described above in Computer Science. The teachers at ID had a wealth of experience in coaching students on professional development and identity building but did not have experience with the concept of coaching. Teachers at the department of ID had been coaching their students on their competence development. A major aim of the redesign of the Bachelor program implemented in 2015-2016 was to better align the program with the Bachelor College. Another goal of the redesign was to scale up the program and increase the student-staff ratio. With the redesign a new concept of coaching was introduced. An appreciated concept, competency coaching, was replaced by it. The teachers at Industrial Design had a wealth of experience with competency coaching and coaching students on their identity and vision but did not have experience with this particular concept of coaching.

The introduction of coaching was intended as a simplification and a clear separation of, on the one hand, integration of expertise areas and competency development in the project and, on the other hand, the long-term development of a professional identity and vision in coaching. The program director foresees that adjustments of the set-up are needed: "We have redesigned the whole curriculum and it is the first year of its implementation so we need to monitor the process and make adjustments where needed. We expect that changes are needed."

The introduction of the new coaching concept, as part of the redesign of the Major, took place in the context of a reorganization, with high workload and less time available for coaching students. Furthermore, the department as a whole needed to pay more attention to research.

Intended by the department

Lesson learned from the past
Based on the experiences with coaching in the other departments of the TU/e (see section context description), the program director decided to implement coaching in the context of a professional learning line. To support students' preparation for the coach meetings, a blended learning line on "Professional Identity and Vision

development" was designed. Offering only four to five conversations a year was believed to be too limited to realize the goals of coaching and to provide the ID students with the necessary knowledge and skills. The digital element of the learning line is comprised of a series of modules offered via an online platform. These modules (compulsory for first- and second-year students) offer students the basis to learn about self-directed and continuous learning and provide the necessary knowledge and skills for personal development. Each module has a dedicated topic. There are modules about reflection, building a showcase, about presentation, about graphic design skills etc. Each module makes use of digital exercises and a tutor session and prepares for the coach sessions.

Another important lesson learned is related to the previous accreditation outcomes. Results of the accreditation committee demonstrated that there was a large variety in the feedback teachers provided to their students on students' identity and vision. This variety was largely caused by different conceptions of these concepts. Therefore, definitions of these concepts are provided in the study guide. It creates an explicit starting point and is used to create a shared mental image of the concept of professional identity and vision. Additionally, it was decided to create rubrics for the exam years to make explicit for students what is expected of them with respect to their Professional Identity and Vision Development. The ID department has staff members with diverse scientific backgrounds who value the freedom to determine how to coach. Therefore it was decided to only formulate general goals and provide a general role description and set-up of coaching.

Goals and role description
The coach is a staff member who supports and challenges the students' professional identity and vision development and helps students to (learn to) reflect on where they stand in their competence and professional skills development, what they want to develop, and how to get there. Coaching is provided throughout the whole Bachelor. In short, a coach helps students to:

- choose electives and projects;
- create a personal development plan (PDP);
- develop professional identity and vision;
- reflect on choices made;
- develop professional skills.

Students have to learn to regulate their professional identity, vision and overall competence of designing throughout the whole Bachelor program. Coaches monitor where they are in their development and what they want to develop, and

provide verbal feedback during meetings. Students are expected to summarize this feedback and use it as input for follow-up meetings. Students should proactively look for information and not expect their coach to have insight in all developmental possibilities.

Set-up per year
The program management strongly advises coaches to use the following set-up.

Year 1:

- Two meetings in first quarter to get acquainted, to focus on Professional Skills and to support students in the choices they need to make concerning two electives in their first year and the USE learning trajectory.
- Starting from Q2, students have a meeting each quarter to go through the decision-making process concerning the learning activities to choose for/in year two. Focus during the meetings is on the long-term perspective.
- Students make a PDP and use it as input for coach meetings.
- At the end of year 1, students submit a study plan with a proposal for their complete elective course part.
- The coach is advisor in the assessments regarding the propaedeutic exam of their students.

Year 2:

- One meeting per quarter with a focus on the development of professional identity and of the students' vision as a designer, and to support students on 'bigger' choices, such as: How to organize Semester 1 of Year 3, and which Master to select.
- Students update their PDP.
- Students submit their study proposal for Semester 1 of Year 3 (electives/internship/ exchange/free minor) which has to be approved by their coach.

Year 3:

- One meeting per quarter with a specific focus on reflection of experience gained during internship or other learning experiences, and the link to the development of their professional identity and their vision as a designer.
- Students write internship report, and include a link to development on professional identity and vision. Students doing a minor or following electives do not write a report, but have to reflect on the development of their vision and professional identity.

- Coach is involved in the formal assessment of students' vision and professional identity at the end of semester 1 of Year 3, and they are part of the assessment panel of the final Bachelor Exam.

The program director considers the program a success when both students and staff are committed and engaged to the goals of coaching. For staff this means stimulating students' long-term (professional identity) development, helping students to direct their development in the proper direction, to provide feedback on this development and make them reflect on it. For students this means that they are intrinsically motivated to learn and develop, know how to use the expertise of their coach and invest in their development in between meetings.

In the next section, we present how both teachers and students experienced the implementation of coaching. We conclude this case description by presenting measures for improvement that have been undertaken for the academic year 2016-2017 after a reflection on one year of implementing coaching.

Implemented by coaches

When asked which goals they strive to achieve within coaching most coaches stated goals that related to guiding the students in their development. They mentioned: "guide students in choices (inside & outside TU/e), refine vision & identity, help students set and achieve learning goals (both short- & long-term) and support students in composing and using their PDP".

Topics also mentioned, but less frequently, are:

- Give them the necessary information.
- Get a feeling whether they are comfortable with the direction they are going.
- Give feedback on showcases & PDP.
- Create an open relationship with them.
- To help them cope with the system.
- To co-construct a framework/narrative/hero's journey for the student to make sense of the disparate learning activities into something that feels meaningful.

Quite some of the coaches felt that they managed to achieve the main goals of coaching. A few coaches felt that they did not achieve these goals. The other coaches were less outspoken about this.
Coaches indicated that they discuss the documents students bring to the meetings but

that they do not have time to correct PDPs on the computer and prefer to go through a document with a pen. Some coaches indicated a clear line in the topics discussed: in year 2 about the PDP, internship plans, and vision, and in year 3 about the students' careers.

Coaches all have their unique way of organizing the meetings, with different combinations of group and individual meetings. Also, there is a variety in whether the coach plans the individual meeting, or whether this is only organized if requested by the student. But most coaches organize a group meeting as their first meeting with year 1 and 2 students. Half of these coaches only organize group meetings, and the other coaches also (give students the option to) organize an individual meeting, usually only if requested by the student. Most coaches organize individual meetings with B3 students. Only a few coaches only organize individual meetings with all students, and one of these coaches mentioned that time-wise this is not sustainable. One coach organizes meetings with student duos. Some coaches mentioned that there is not enough time to coach on all topics.

The coach group discussion demonstrated that coaches were still wondering what their precise role is and what is actually expected of them. Furthermore, it turned out that many coaches are still experimenting with the approach to be used in coaching. In this context, coaches expressed a variety of needs for support. Coaches felt the need for a platform, file or online log with information per student (current status: semester, electives, their history, plans and ambitions). Furthermore, some coaches indicated that they need a short guide with topics (what to address when) for coach meeting. Furthermore, a few coaches indicated that general information on PDP, internship, exchange and graduation project could be done collectively by the department, rather than spending a lot of time on this in coach meetings.

During the group discussion it also appeared that teachers still hold different conceptions of what a professional identity and vision and a good PDP and reflection entails. Coaches felt that a next step in the implementation of coaching is to:

- Create a common ground for identity and vision (suggestions: extensive paper about Identity and Vision).
- Create a common ground on what is a good PDP and reflection (can be done by sharing the module information of the platform with the coaches and discussing the content).
- Coaches and other staff members involved in the discussion during the education day were (very) optimistic about the support a professional identity and vision platform could give the students as well as the coaches.

Experienced by students

From the 99 second-year students participating in coaching, 45 students (45%) completed the questionnaire. Students indicated that they prepared their coach meetings, attended the meetings, actively participated in the meetings and regularly updated their PDP.

Students also pointed out that their teachers organized both individual and group meetings depending on the preferences of the individual coach. Most students discussed their PDP with their coach and they addressed their identity, vision and goal-setting in the meetings. Several students indicated that their coach did not look at their products before the meeting.

Students answered that their coach supports and/or challenges them to improve their vision, professional identity and insight in where they currently stand in their development, and where and how to develop further. Furthermore, students indicated that they are highly stimulated to take control of their own development and to improve their reflections. Students indicated that they are hardly stimulated to improve their professional skills.

Overview of questionnaire results

Table 2 provides an overview of the means and standard deviations for ID on the factors of the questionnaire.

Components	N	Mean	Std. Deviation
Academic career	45	3.23	.73
Professional career planning	45	3.19	.70
Profession and professional identity	45	3.41	.59
Coaching	45	3.84	.75

Table 2. Means and SD per scale

Academic career

Students indicated that the extent to which their coach supported and/or challenged them to consider issues related to their academic career is rather limited. This means that in the students' view the coaching is not often focused on the relevance of choices to make for courses and follow-up programs. There is little stimulation for students to undertake activities to inform themselves and this does not influence how certain students feel about the choices to make. Students answered that they are only

stimulated to see the relevance of making a well-argumented choice for electives of their elective package.

Professional career planning

When students were asked about how they experienced the extent of support and/or challenge by their coach regarding professional career planning, students indicated that these topics were hardly addressed in coaching. Students were hardly supported and/or challenged to see the relevance of professional career planning, to think about it, and to picture their path (mean of 3.19 and standard dev of .70). The standard deviation can be considered high. This points to large differences in perception among students with respect to how they perceive their coaching on professional career planning.

Profession and professional identity

The scale for profession and professional identity has a mean of 3.41 and a standard deviation of .59, which is almost sufficient. When looking at the individual items of this scale it appears that students do feel stimulated by their coach to see the relevance of having an adequate picture of the profession and to think about the professional practice of Industrial Designers but students feel hardly supported and/or challenged with respect to undertaking activities to get an adequate picture of the professional practice of Industrial Designers, to gain insight into the daily activities of an Industrial Designer, the different functions an Industrial Designer can fulfill and the knowledge and skills needed to become a successful Industrial Designer. Students did indicate that they are really stimulated to see their own ambitions and interests and competencies clearer and to further explore and define their professional identity and vision. Finally, students indicated that they are really supported and/or challenged to reflect on the Industrial Designer they would like to become.

Coaching

In general, students valued their coaches, and gave them an average grade of 6.6 (standard deviation of 2.29). The scores of students on the coaching scale also indicate that students are satisfied with the coaching they received (mean: 3.8; standard deviation: .75) but also demonstrate that there is a huge individual difference between students in how satisfied they are with the coaching they receive. When looking more in depth at the scores on the individual items, it appears that coaches really give students room to determine the content of the meetings, create a good atmosphere in the group, demonstrate empathy, and have knowledge of the professional practice of ID, but that they could improve in stimulating students to discuss matters with others and making students feel comfortable enough to actively participate in the meetings.

4. An interpretation of the case descriptions by experts

After collecting and analyzing the information about the two cases at CS and ID, we asked three educational experts to review them and use these examples to come up with recommendations for an ideal model of coaching. Below we first present the experts observations about the two cases. This is followed by their recommendations.

Computer Science

The educational experts really valued the freedom CS students have in choosing one of the coaching models. And they are also of the opinion that it is very clear how coaching is intended at CS. They found it very striking that the different components of the student questionnaire were scored similarly whereas they would expect differences to arise due to the differences in focus in years and differences between coaches. Also, very notable was the high appreciation the students had for the coaching. The experts did question whether reflection is sufficiently embedded in the program. Related to this, they felt that the exemption for reflection in the Final Bachelor Project for model 2 and 3 students seemed a little in contradiction with the goals of coaching. As mentioned above, the offering of different coach models was highly valued, but the experts wondered whether students were able to make the right choice based on the right motives. They felt that students should be prepared for making this choice. Based on the input we gave them it was unclear how this takes place at CS. They also argued that model-1 students are likely to be the students who are most in need of coaching. So, those who are in need of coaching the most receive the least coaching. Furthermore, it was striking to them that the coaches all coach as intended by the department. And, they noted that support for the coaches has been arranged really well, among others by arranging intervision sessions. They also commented on the labeling of the models: model 2, which is labeled as 'intensive coaching' offers four coaching sessions per year. They questioned whether that qualifies as intensive. Another point they made was that they saw the lack of embeddedness of the coaching model in the curriculum, in terms of lack of integration of the goals and content in other courses, as a weak point. They also wondered whether there is sufficient opportunity for students to learn from each other.

Industrial Design

The experts viewed the coaching model of ID as a generic model, in the sense that it does not make a distinction between different types of students as CS does. This was not valued in a positive or negative way. They noted that the overall image of how coaching is intended at ID was a little unclear to them. They thought this might be caused by the fact that coaching at ID addresses more goals and offers more content, and that the freedom provided to the teachers results in a more general and more abstract description of how coaching is intended. Also, the embeddedness within the program makes it more difficult to understand. The learning-line approach which is a combination of both the face-to-face sessions and online modules coupled with tutoring was strongly supported and highly valued by the experts. It seemed to them that ID is more focused on reflection than CS is, and is less concrete and focuses on learning by doing. It is striking that each year there is a lot of attention for professional identity, but not so much attention for career planning and academic career. They feel that the reorganization and difficult context for teachers seem to have influenced the perception of both students and teachers. Somewhat more regulation seems needed. After reading the case descriptions, it is still a little unclear for the experts what the assessments look like and how to maintain the quality. The experts, however, do value the attempt to define professional identity and vision and to provide general levels for professional identity and vision development.

Recommendations for an ideal model

When asked what they consider to be the ideal coaching model, the experts chose the differentiated model option used by CS. The experts also believe that coaching in the first year should be more intensive and focused on preparing students to make the right choice. In the course of the program career elements should be introduced according to two of the three experts. Each year should have specific focus. The different strands that will be provided in Appendix 2 were considered to be very useful to support educational programs in determining the specific focus of coaching and to reflect on it.

Furthermore, the experts highlighted the importance of training for coaches: when implementing coaching, supporting activities for teachers should be provided. Based on their experience with teacher training, the experts believe a training in conversation skills to be a good starting point for improving coaching skills. They also advise to organize regular intervision sessions throughout the whole trajectory. They also felt that if capacity permits, it is a good idea to select coaches who acknowledge the value of personal development. Finally, they advised using a blended approach and supporting students before and after the coach meetings with exercises to help them understand the basics well, e.g. what is a good reflection and what does being a self-directed learner entail.

5. Reflection and suggestions

In this reflection we return to the basic thought of coaching as formulated by the Bachelor College. After three years of implementing coaching, the Bachelor College team decided to provide educational programs the opportunity to experiment with different set-ups of coaching provided that these experiments adhered to this basic thought of coaching:

"Coaching supports students in becoming aware of the kind of engineer they would like to become and how the choices made during their program can affect their professional identity development as an engineer."

We will relate our case descriptions to the findings of three years of coaching at the TU/e (as described in the section: Context for the pilots). Some topics immediately follow from the case studies and opinion of experts presented in this booklet. Other topics are the result of observations while working on this project.

Observation one - Both coach models align well with the basic thought behind coaching and students are (reasonably) satisfied with the motivational coaching they receive.

Both models intend to foster students' professional identity development. Teachers of both programs recognize and share these goals. However, it appeared difficult in the interviews to pinpoint what coaches actually focus their coaching on. The teachers provided general answers. This may be caused by the interview methodology. Another explanation might lie in the spontaneous nature of the meetings where students bring the topics to the table. Another, and perhaps more likely, explanation can be found in the lack of explicit starting points for what PID is, what topics can be addressed during coaching and what questions can/need to be asked (Vinke, 2016). During this project we created a theoretical framework to measure how students experienced coaching. We developed this framework based on interviews with teachers, consultation of important documents used within the programs, important literature and intuitive reasoning. This framework is outlined in Appendix 1.
Looking back on the project, we are able to make some statements about the goals and content of coaching. The analysis of the questionnaire data, for example, revealed interesting insights. It appeared that coaching can be focused on aspects related to: academic career, professional identity and profession, and professional career planning. Students are (reasonably) satisfied with the coaching they received. Parallel to that, it seems that students of both programs are of the opinion that there is sufficient opportunity for increasing the support and challenge of the coach with respect to educational and professional career planning, exploring the profession,

and professional identity development. Both the fact that students indicate that coaches could support and/or challenge students more on the aforementioned aspects and the general answers of teachers during the conversations made us wonder what is actually discussed during coach sessions and what makes the students satisfied with respect to coaching. Are these meetings about practicalities, other relevant info not-related to Professional Identity Development (PID), or is it instrumental and for example focused on the use of PDP (ID) and discussing the assignments (CS)? Actually, it made us wonder whether Vinke's findings (2016) that coaching seems to largely be about information provision on electives and less on how students become aware of their own interests and ambitions, still stand.

To get a feeling for what good coaching entails in practice, we videotaped two teachers - one for each program - who are highly appreciated by their students. In appendix 4 we present a link to a video with fragments from a coach meeting useful for discussing what to discuss in coaching and what good coaching entails.

Observation two – both models acknowledge the fact that realizing powerful coaching asks for more than providing coaching conversations only. How this powerful coaching is intended (and implemented) by the program management differs considerably.

As said, both models align well with the basic thought behind coaching. Both models also acknowledge that providing conversations only is too limited to foster students' PID. ID uses a blended-learning approach offering different modules with online assignments, face-to-face workshops and so on. Computer Science offers their students a variety of assignments for the meetings, uses logbooks and offers in-between activities as well. Although both programs offer additional activities, the set-up of coaching for CS and ID differ considerably and reflect different underlying motives. Both models build on a different past and other lessons learned from this past leading to differences in how coaching is embedded in both curricula. CS, for example, was deliberately arranged in a plain and simple manner to make it clear for both teachers and students. CS was also intentionally kept apart from the curriculum whereas ID chose a more integrated approach in order to facilitate transfer of learning. To evaluate the effects of the different set-ups, the outcomes should be judged by looking at the objectives and reasons for choosing a particular set-up. To be evaluated in a positive manner, the benefits should outweigh the costs. In theory there are several other possible models varying in their degree of embeddedness. Appendix 2 provides an overview of different models of Personal Development Planning that are similar to different models of coaching. Having a look at these models provides insight in the different arrangements for coaching and their pros and cons. It might support program directors in choosing the set-up that fits the context and needs of their department.

In addition to differences in the extent of embeddedness, we also noticed differences in the goals and content and the moment to address different topics. Ideally, all programs are set-up starting from a clear idea on what PID is, how PID progresses and what should be offered to students to foster PID. Unfortunately, this is not clear since most programs do not explicitly address PID. Consequently, little is known about how PID can actually be fostered. Obviously, the challenge is to find out what topics should be addressed in which phase of students' academic career and how. It makes sense to use the experiments of the Bachelor College to explore how the learning progression of PID unfolds. To do so, appendix 3 might be a good starting point. Appendix 3 outlines several models of PDP useful for designing coach models. Using these different models as a starting point will make it easier to determine the exact focus of coaching in a program and to decide what goals to address at what point in the curriculum. It will become clear that choosing alumni makes more sense when the intent is to help students consider aspects of their future profession or working in practice, whereas it makes more sense to use staffmembers when the focus is more on academic topics.

Finally, we would like to share something that seems to be neglected in the implementation and evaluation of most coaching models. In a meeting with one of the experts we observed that we tend to focus on what the coaches should know and are able to do and overlook the students' knowledge and skills they need to make coaching as beneficial as possible. So, focusing on what students need to possess in terms of knowledge and skills might be a topic for a follow-up project.

Follow-up and further support
To further support teachers, policy developers and program directors in (re)considering the design of coaching we have included several appendices to this document:

- Appendix 1. Provides an overview of important theory related to professional identity development.
- Appendix 2. Provides an overview of different strands that can be taken in personal development planning which are quite similar to professional identity development.
- Appendix 3. Outlines different models of personal development planning varying in degree of embedding personal development planning in the whole curriculum.
- Appendix 4. Contains links to useful movies that can be used to discuss what good coaching entails.
- Appendix 5. Provides a questionnaire that can be used to evaluate coaching.

6. Acknowledgments

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Appendix 1:
What is Professional Identity about?

Professional Identity begins to form when students start their academic study. Although addressing the Professional Identity Development (PID) of students can be very beneficial for students, it seldom is the explicit aim of educational programs and courses. Often the development remains implicit. Consequently, there is little empirical knowledge available to inform teachers, educational developers and program directors on how to foster PID and on how to embed it in a course or an educational program adequately.

This appendix tries to explicate what PID can be about. It is not intended as a complete overview but merely as a starting point for discussing what PID entails and how it can be fostered. Such a discussion will lead to a better understanding of what PID is. The more teachers understand it, the better they are able to recognize its importance, to explain it to their students and to indicate what is expected of them. In the following paragraph we formulate some theoretical starting points. Then, we translate these requirements to the context of coaching.

Theoretical starting points:

We are strongly inspired by the work of Beijaard, Meijer and Verloop (2004) and, to a lesser extent, Eteläpelto, Vähäsantanen, Hökkä, & Paloniemi (2013); Trede, Macklin and Bridges (2012). Based on the work of these authors we formulate several notions about:

PID:

- PID can be seen as an ongoing process of a) learning from experiences and b) exploring and making decisions, and committing to these decisions.
- PID is about who someone is and would like to become or where someone is and would like to go.
- PID always involves reflecting on issues/experiences that involve both person and context that vary per role/sub-identity one can fulfill.
- Identification and socialization determine how a student defines his PI with respect to personal aspects and the context.
- Students need to be actively involved in their own PID and to exert influence, make choices, and take stances in ways that affect their PID.

- PI becomes manifest in how students express, interpret and explain issues/experiences.
- PI content consists of one's beliefs, norms, values, motivations, interests and competencies.
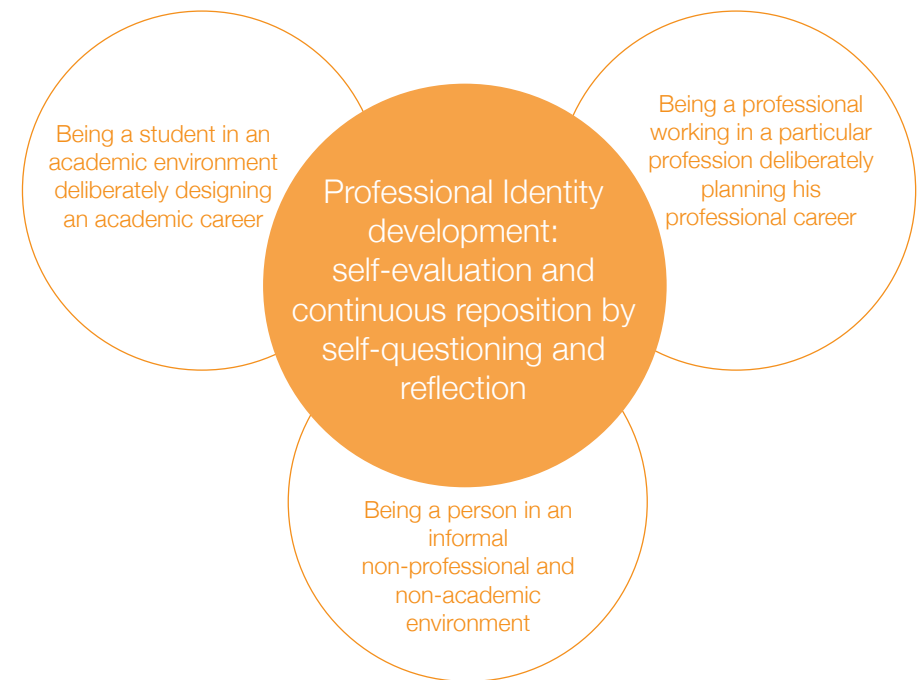- PID requires self-directed learning.

What do these theoretical notions mean for coaching?

We translated the previously outlined characteristics of PID to the context of coaching. Students entering the first year of Bachelor College need to start defining their ambitions and interests during coaching sessions to select courses that align with their ambitions and interests. To define these, students need to reflect on themselves and start to verbalize self-knowledge. Their expressions inform coaches and other students about their starting point for developing a Professional Identity. Subsequently, students need to use this self-knowledge to explore different options they need to choose between during their academic career. To be able to make the best choice at that point in time, students need to form a clear and adequate mental picture of the academic context in which they need to study as a student, the discipline they are going to develop expertise in and the professional context in which they need/want to work as a professional. In constructing this mental image, students ought to go and look for information, consider different options, make preliminary choices and commit to these choices. These decisions will provide the student with new experiences. These new experiences then should be seen in the light of the choices made and their underlying reasons. In other words, the student should reflect on it. Furthermore, PID also is a process in which students try to discover what the existing traditions, customs, norms and values and beliefs are in both the academic environment and the profession. It helps them to define to what extent the characteristics of the context align with who they are and would like to become. So, PID is an ongoing process. Some students are convinced of the importance of this continuous process of exploring sources of information, considering alternatives and committing to choices right from the start. These students are active and look for information. Others need to be convinced of its importance and need more direction and structure in order to self-direct this process of PID.

Developing students into self-directed learners asks for students to train, practice, ask and receive feedback from peers and experts, and to reflect on their performance in order to improve skills. The coach is essential in providing the students with situations, such as individual and group coach sessions, in which they learn these skills.

But more importantly, the coach stimulates the students to think for themselves and to create their own learning opportunities, so they can learn to take control of their development, both during their studies and afterwards in their future careers. A self-directed learner assesses himself adequately, asks himself the right questions, explores answers and applies the gained insights.

Based on our ideas on what a professional identity entails and what self-directed learning is and that it should be the goal of coaching, we created a model combining self-directed learning and professional identity development

Being a student in an academic environment deliberately designing an academic career

Being a professional working in a particular profession deliberately planning his professional career

Professional Identity development: self-evaluation and continuous reposition by self-questioning and reflection

Being a person in an informal non-professional and non-academic environment

Appendix 2:
Different strands and models for Personal Development Planning

The concept of coaching is quite similar to personal development planning (PDP) implemented in Higher Education in Great Britain. There, all universities are obliged to offer PDP to their students. In the British context some work has been undertaken to map out how PDP is implemented across different universities and programs. In particular, the work of Atlay (2006; 2007) is very useful. Atlay (2006) studied how British Universities actually implement PDP and concluded there are different strands on PDP. The following table outlines different strands on PDP. These strands may be of use for educational designers, policy makers and program directors to map what coaching actually addresses and whether it targets the right content and goals.

Different strands on personal development planning (Atlay, 2009)

Characteristic	Academic strand	Personal strand	Employability strand
Source of experience	Curriculum	Extra-curricular activities	Work experience
Enabling skills and attitudes	Academic and scientific skills (essay writing, exam technique etc.) and subject-specific skills	Self-management, and motivation	Employability skills (teamwork, presentational and interviewing skills, commercial awareness, etc.)
Higher-order skills	Creativity, problem-solving, analysis, critical reflection etc.	Metacognition and self-regulatory skills	Career management skills
Connectivity	Theory and the real world, and can make connections across modules/levels	Planning a route through module choice, balancing wider commitments and study, career choice etc.	Curriculum and real-world 'professional' practice.
Ethical emphasis	Academic conventions and codes of practice	Personal ethics and values	Professional codes
Preparation for …	Further study/ research	Life	Employment
Most likely to emphasize	PDP and the supportive/anticipatory use of materials	PDP as a process	The context within which PDP is undertaken

Table 3. Different strands on PDP

Appendix 3:
Overview of different models for embedding PDP in the curriculum

The concept of coaching is quite similar to personal development planning (PDP) implemented in Higher Education in Great Britain. There, all universities are obliged to offer PDP to their students. In the British context some work has been undertaken to map out how PDP is implemented across different universities and programs. In particular, the work of Atlay (2006; 2007) is very useful. Atlay (2006) distinguished different models for embedding PDP in the curriculum. The following table outlines these models.

Models for PDP embeddedness (Ward and Wats, 2009; based on Atlay, 2006)

Model	Description of the model	Advantage	Disadvantage
Discrete	Where PDP is conceived as additional to, and separate from, the curriculum. Here students tend to be encouraged to engage in PDP, with perhaps some support from tutors, but whether and how they do so is left largely to them.	Simple, places responsibil- ity on the student, minimal disruption to the existing curriculum, less resource required.	Not all students will en- gage, students' experience will vary; resource may be wasted.
Linked	Where PDP is viewed as being parallel to, but also having explicit links to, the curriculum. These may include personal logs and diaries, or compulsory sessions as part of personal tutoring or skills weeks.	Student experience is more controlled, some (but minimal) disruption to the curriculum and can build on existing activities such as induction and tutoring	Students may still choose not to engage and hence impact on student learning and employability for those most likely to gain may be minimal
Embedded modular	Where PDP is embedded in specific modules, which provide the main support for PDP; they may also serve to link with material covered in other modules.	All students will experience PDP at some stage. PDP can be controlled and built upon.	Experience may be fragmented, PDP modules may be seen by staff and students as being of low value. Only those teaching the modules know what PDP is about.
Integrated	A whole curriculum approach where all or most modules involve activities that are aligned with PDP processes. In this model, every module tutor has a responsibility for supporting PDP.	Becomes part of student and staff thinking in all modules and hence an approach to work and study; PDP helps provide coherence to stu- dents' studies.	Difficult to get all staff to im- plement, maybe become so embedded as to be invisible.

Table 4. Models for embedding PDP

Appendix 4:
What does good coaching entail? A useful video to stimulate discussion

In the questionnaire we asked students of both programs to grade their coach. We selected the coaches with the highest grades and asked them for permission to videotape one of their coaching sessions. Both coaches and their students agreed to making the video. We made a video to demonstrate how a teacher highly appreciated by his students coaches. In the recording we highlight themes. The recording can be used to reflect on one's own coaching practice or to discuss what themes to use in coaching. The movie is available via the youtube channel of the 4TU. Centre for Engineering Education.

Appendix 5:
Professional Identity Development questionnaire

The questionnaire outlined in this appendix was designed to evaluate (elements of) coaching students received. The questionnaire was constructed based on interviews with coaches of both Industrial Design and Computer Science. Furthermore, a scale of the questionnaire Personal Development Plan Practice questionnaire (Beausaert, et al. 2011) was included and the GIDS (Bosma and Kunnen, 2012) served as a source of inspiration for formulating items. In a pilot study we validated the questionnaire and checked for its reliability. We found four scales (students' academic career, professional career planning, professional practice and professional identity, and coaching) that appeared sufficiently reliable and distinctive (in follow-up rounds the questionnaire will be further validated and improved). The aforementioned scales contain both items, formulated as statements to be answered on a five-point scale, and open answer questions.

It might be that not all the scales are applicable to each teacher coaching model of each Educational Program. In that case, we suggest only to select the applicable scales. We would also like to advise you to use the outcomes of the questionnaire as a starting point for conversations between students and teachers and as a means to a joint reflection on the quality of the coaching. To date, there is not a fixed format for 'good coaching', a clear image of what good coaching entails and what topics should be addressed in coach sessions. For this reason we also advise to use the answering option "Not Applicable". It provides students with the opportunity to indicate that a topic is not addressed in coaching.

Academic career

One of the goals of coaching is to help you design your bachelor program and further academic career and to stimulate you to explore and reflect on different options. In the end, you are supposed to make a conscious choice in whether (or not) you would like to enroll for another Bachelor or Master program after finishing your bachelor in [..] and which program that should be.

Please indicate to what extent you agree with the statements below (1=fully disagree and 5=fully agree). Please pick not applicable if coaching was not involved/ the item was not discussed during coach meetings. In item 1-6 the word learning activity is used. With this word we refer to for example courses, projects (OGO) and extracurricular activities

Coaching supports and/or challenges me to...
1. make (different) choices for learning activities;
2. become more certain of my choice for a master/different bachelor after my major [xx];
3. see the relevance of making well-augmented choices for learning activities;
4. think over which learning activities to choose;
5. undertake (more) activities to get information about learning activities (e.g. talking to teachers/students, etc.);
6. become more certain of my choices for learning activities to choose;
7. make a choice for a master/different bachelor after my major [xx];
8. think over my choice for a master/different bachelor program after my major [xx];
9. undertake (more) activities to get information about a master/different bachelor program after my major [xx] (e.g. talking with friends or checking websites, etc.);
10. determine the knowledge/skills/competencies I need to realize my ambitions;
11. see my knowledge, skills and competencies clearer;
12. see the relevance of a well-augmented choice for a master or bachelor after my major [xx];
13. become more proactive in my Professional Identity Development;
14. gain (more) insight into the goals I need to set for my professional development;
15. other remarks? [open answer question];
16. please grade on a scale of 1-10 the quality of coaching you received on exploring which program to choose after your bachelor [xx].

Professional career planning

A further objective of coaching is to make you see the kind of [xx] you would like to be, the kind of job you would like to fulfill, the path you would like to follow during your career and how to plan this path. Please indicate to what extent you agree with the statements formulated below (1=fully disagree – 5=fully agree). Please pick the option N/A if coaching was not involved and the item was not discussed during teacher coaching.

Coaching supports and/or challenges me to...
17. see the relevance of planning my career;
18. think about my career path/planning;
19. picture my career path;
20. develop my communication skills;
21. develop my networking skills;
22. other remarks [open answer question];
23. please grade on a scale of 1-10 how satisfied you are with the coaching you received on exploring your professional career.

Profession and professional identity

Another important goal of coaching is to help you form a realistic image of the professional practice of [xx]. With the professional practice we refer to the context [xx] work in (e.g. the different companies or sectors), the work [xx] do (e.g. daily activities), and competencies [xx] engineers need to do their job well.

Please indicate to what extent you agree with the statements below (1=fully disagree – 5=fully agree). Please use the option N/A if the topic/issue was not involved in coaching and you did not discuss the item with your coach.

Coaching supports and/or challenges me to...
24. think about the professional practice of [xx];
25. see the relevance of having an adequate picture of the professional practice of [xx];
26. gain insight into the daily activities of an [xx];
27. create an adequate picture of the professional practice of [xx];
28. see the relevance of thinking over the [xx] i want to become;
29. undertake activities (e.g. talking with friends/Industrial Designers etc.) to determine the [xx] I want to become;
30. gain insight into the knowledge and skills needed to become a successful [xx];
31. undertake (more) activities (e.g. talking with friends/[xx], etc.) to get information about the professional practice of [xx];
32. think over the [xx] I want to become;
33. see my ambitions and interests clearer;
34. gain insight into the different jobs/functions an [xx] can fulfill;
35. gain insight into why I want to develop myself to the [xx] I want to become;
36. become more certain of the [xx] I want to become;
37. to develop my self-directed learning skills;

38. other remarks? [open answer question];
39. please grade on a scale of 1-10 how satisfied you are with the coaching you received on building an image of the professional practice of Industrial Designers;
40. please grade on a scale of 1-10 how satisfied you are with the coaching you received on further exploring and defining your professional identity;

Coaching

Adequate coaching is important for fostering your own professional identity development. Please answer the following questions:

41. how many coaching sessions did you participate in? [0, 1, 2, 3, 4, 5];
42. please describe the format your teacher coach used for the sessions (e.g. individual, group, discussing PDP/log book, presenting your showcase, receiving feedback or other activities; the format changed from meeting to meeting) [open answer question].

Please indicate to what extent you agree with the following statements (1=fully disagree – 5 = fully agree)

My coach...
43. can be seen as genuinely interested in his students;
44. has a lot of knowledge of the professional practice of [xx];
45. shows understanding of my situation;
46. stimulates me to discuss matters with others (e.g. students/teachers);
47. creates a good atmosphere in the group;
48. assures that all students feel comfortable to actively participate in the meetings;
49. leaves me enough choice concerning the content of (assignments for) coach meetings;
50. leaves me enough space to determine the content of (assignments for) coach meetings;
51. can be seen as emphatic.

Coaching supports and/or challenges me to improve my...
52. reflection skills;
53. insight in how I am able to realize the goals I need to set;
54. insight into where I am in my professional development;
55. presentation skills;
56. other remarks [open-answer question];
57. provide a grade on a scale of 1-10 to indicate how satisfied you are with the quality of teacher coaching?;
58. other remarks?;
59. what did you appreciate the most in the coaching of your coach? [open answer question];
60. what advice for improvement would you like to provide to your coach? [open answer question].