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Stevens Ruth

*Hasselt University, Faculty of Architecture and arts, Diepenbeek, Belgium*

Sanne Balendonck

*Hasselt University, Faculty of Architecture and arts, Diepenbeek, Belgium*

Milan Nullens

*Hasselt University, Faculty of Architecture and arts, Diepenbeek, Belgium*

Nette Hilven

*Hasselt University, Faculty of Architecture and arts, Diepenbeek, Belgium*

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## Investing in soft skills in (interior) architectural design education?!

Ruth STEVENS

Hasselt University, Faculty of Architecture and arts, Diepenbeek, Belgium

Hasselt University, School of Educational Studies, Diepenbeek, Belgium

ruth.stevens@uhasselt.be

Sanne BALENDONCK

Hasselt University, Faculty of Architecture and arts, Diepenbeek, Belgium

sanne.balendonck@uhasselt.be

Milan NULLENS

Hasselt University, Faculty of Architecture and arts, Diepenbeek, Belgium

milannulens@gmail.com

Nette HILVEN

Hasselt University, Faculty of Architecture and arts, Diepenbeek, Belgium

nette.hilven@gmail.com

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**Abstract:** Design education is beyond learning to design. This paper is a first exploration in the metacognitive skills (i.e. soft skills) that first-year bachelor students at the faculty of Architecture and arts at Hasselt University apply and lack in their path to becoming professional designers. Based on a literature study into soft skills in design education and ethnographic experiences from the researchers, we performed observations at the (interior) architectural design studio jury, to detect what phases are present in a typical jury moment, and how and what soft skills students as well as tutors rely on. We were able to identify crucial co-experiential moments in which students missed out on specific soft skills such as communication and ownership, influencing their overall performance in a negative manner. Simultaneously, we could notice that the tutors heavily relied on their well-advanced soft skill of communication while often being inattentive to the emphatical, ethical component therein. We conclude our paper by explaining how we will continue our research via the co-experiential moments.

**Keywords:** (interior) architectural design education; design studio; soft skills; first-year student

### Introduction

*"\*Sigh\* That tutor kept on focussing on one particular construction detail, I did not get a chance of talking them through the entire project, I lost track and could not find my voice in the end..."*, is what a fellow student might tell you after his/her jury in the (interior) architectural design studio.

*"\*Sigh\* That is odd, now that student came across as insecure, did he/she had to work the entire night to finish the project? Not a single question we posed got answered in a correct way!?"*, is what your co-tutor in the design studio might say after that same jury-moment.

Indeed, when training the 'hard skill' of (interior) architectural designing, our design students simultaneously get acquainted with or are challenged to rely upon the 'soft skills' they have already developed through secondary education. Or worse, often they get -in a rather harsh manner- in contact with certain soft skills that seem to be underdeveloped once they enter the design studio context in a first bachelor year.

When entering educational design programs, it is not explicitly expected that the students have developed certain hard skills, such as designing, drawing, structural thinking, etc. However, the tutoring staff seems to implicitly rely on the presence of certain soft skills, such as communication, professionalism, curiosity, systematic thinking, etc.. within



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the student population. Additionally, a student intrinsically expects propelling feedback from their tutors from the start (Barr, 1995; Muller, 2011). As we look back at the student and tutor perspective in the example of the jury moment described above, for both parties there seems to be room for improvement when it comes to understanding the situation as well as assessing the particular soft skills they (could have) mobilised in that moment.

### Hard skills meeting soft skills

Hard skills consist of job-specific and tangible abilities that are to be acquired through education and training, and are usually valued via the diploma one receives after graduating from a specific education (Vansteenkiste, 2017). These skills can be measured and evaluated due to their technical nature. Examples are the knowledge of software for drawing architectural plans. The set of hard skills are essential for performing specific tasks related to a specific profession. Soft skills on the other hand, are related to interpersonal and behavioural traits (De Freitas & Almedra, 2021). A well-rounded set of developed soft skills is very valuable for workplace success. For instance in architectural design practice, in which architects often have to work in multidisciplinary teams (soft skill of collaboration), or encounter complex challenges that need to be analysed and for which a specific design solution needs to be identified that balances aspects such as budget, sustainability, functionality, aesthetics, etc. (soft skills of problem-solving and creativity).

A number of these soft skills can be naturally present in a person, and some people may display them more naturally (Struyven et al., 2020). However, that does not imply that other people cannot acquire or enhance those skills as well. Soft skills are malleable and can be cultivated through conscious effort and development. Extrapolated to the field of design education, Norman (2010) already advocated for training design students in complex thinking, while Davis (2017) values the link between creativity, design and human values and Frascara (2018) points at the importance of teaching our students research skills in the context of interdisciplinary work, teamwork and civic work (e.g. living labs or Live Projects, see Stevens et al., 2021).

In international design educational studies, there seems to be a hiatus in research into soft skills. With their work, De Freitas and Almeida (2021) were able to identify 20 soft skills related to the discipline of design, see Table 1 below. The authors acknowledge that some of the soft skills overlay and that others can only be taught to students once others have been trained. For instance, in order to be able to ‘reflect critically’, a student needs to first train to be ‘creative’, ‘open-minded’, ‘curious’, etc.. Consequently, when training a certain soft skill, this can be beneficial to an entire cluster of skills, making it worthwhile to train at least some of these skills throughout the educational path of a young person.

Table 1. 20 identified soft skills related to the discipline of design and their conceptual definition (Freitas and Almeida, 2021)

<b>Communication</b>	Understanding and making oneself understood through the exchange of messages	<b>Flexibility</b>	Adaptability, the ability to view thoughts from different perspectives or to change approaches to problems.
<b>Critical thinking</b>	Reasoning concretely and clearly, constructing and evaluating arguments, data, consequences.	<b>Learning to learn</b>	The ability to persevere in learning and organise one’s own knowledge.
<b>Problem-solving ability</b>	Working from an initial situation towards a goal or solution, overcoming obstacles along the way	<b>Teamwork</b>	The ability to work together, communicate effectively, anticipate and meet each other’s demands and build trust.
<b>Curiosity</b>	The desire to learn or know everything, the ability to be curious.	<b>Self-regulation</b>	The ability to regulate emotions thoughts and needs effectively.
<b>Research and exploration</b>	Using instruments to learn about objective reality and obtain reliable information.	<b>Ethics/ compromise</b>	The ability and willingness to consider the needs, goals and perspectives of others when making one’s own decisions.
<b>Decision-making</b>	Applying established principles or standards when making decisions.	<b>Judgments</b>	The ability to form valuable opinions and make sound decisions.
<b>Openness</b>	The ability to be open to new possibilities, share ideas and consider different perspectives.	<b>Leadership</b>	The ability to influence others through behaviour or action.
<b>Systematic thinking</b>	The ability to observe, think, model, simulate, analyse, design and	<b>Ownership</b>	The ability to create new businesses, products, services, values and/or a state

	synthesise components.		of mind that thrives on innovations.
<b>Empathy</b>	The ability to imagine the role of another person and assess the situation from that perspective.	<b>Participation</b>	The ability to participate or be involved in something.
<b>Collaboration</b>	The ability to participate or be involved in something.	<b>Creativity</b>	Going beyond the existing by generating and implementing new ideas.

In this paper, we present an explorative study in which we gauged for the presence of and the importance of soft skills within first year bachelor students in the architectural and interior architectural design studios at Hasselt University, Faculty of Architecture and arts, Belgium. We performed our research in one design cyclus, that is during the design weeks in the design studio context after the instruction of the challenge was given, and at the concluding jury moment. However in this paper -due to place restrictions- we focus on the observations of the jury moment. Our overarching aim was to detect where soft skills are a necessary asset to fall back upon, and in what interactions at the jury moment both pupils and tutors can benefit from a set of well trained soft skills. This exploration is part of a larger study that questions in what way soft skills should be trained during secondary and higher design education in order to positively influence academic performance and wellbeing.

The research questions that are discussed via this paper are:

**At what interactive moments during guidance/jury were soft skills detected (to be deployed or to be missed)?  
What are co-experiential states between pupils-teachers that could be enhanced by trained soft skills?**

## Study set up

An ethnographic empirical study in the design studio of the first year bachelor of architecture (AR) and interior architecture (IAR) at Hasselt University was developed incorporating methods such as observations and feedback sessions via feedback files and informal talks after the jury moments. The study was developed and executed by a design educator-researcher together with three researchers who were all students of the Hasselt University educative master program in design sciences. The study took place within the framework of a joint master thesis to obtain the degree of design educator. Prior to enrolling in the educative master program, two students had obtained a master degree in interior architecture and the third student had obtained a master degree in architecture, also at Hasselt University, Faculty of Architecture and arts.

In total, two observation moments were held per design studio AR and IAR: (1) a typical work day in the design studio in which all design students receive a one-on-one feedback session with the design tutor, and (2) the observation of the jury day (discussed in detail in this paper), in which the design students have to present and 'defend' their final design to a jury consisting of design tutors and external designers. The observations took place between January and March 2023, and took approximately one day per type of observation (feedback sessions AR, feedback sessions IAR, jury AR and jury IAR).

The observations were guided by an observation scheme, see Figure 1 below, that was developed based on (i) literature on soft skills in design education that steered towards grasping and interpreting body language, interactions between the jury members and the student, the allround atmosphere, (ii) a feedback model from the Dutch Foundation leerKRACHT (2021) explaining the strength of feed forward and feedback and (iii) the proper (auto-ethnographic) experiences between 2017 and 2022 of the three researchers on the chronological phases that are present in a typical jury moment in the design studio. The scoring in the scheme is based upon the ethnographic interpretation of the situation by all researchers. Argumentation and additional information on the situation is added on the observation form as well.

After each observation of a jury moment, the involved design student that presented at the jury was given a questionnaire in which he/she could express his/her subjective expectations, concerns, and retrospective thoughts on and emotions regarding his/her experiences of the jury moment. In most cases, the researchers were able to pose a few in-depth questions to render more in-depth context to the researchers' interpretations during the jury. This provided a more detailed image of chronological roll out of a typical jury moment in a bachelor design studio.

DESIGN FEEDBACK OBSERVATION FORM – Feedback in the design studios of the Faculty of Architecture and Art				
Educational Studies in the Design Contexts – (research) Academics, year 2022-2023 Sanne Balendonck, Netti Hilven and Hilvan Nulless				
Date:	Course: Architecture / Interior architecture	Name student / professor:	Number:	
Additional notes, chronological progression of the design – preferences, interesting ideas, ... Topic chosen: - Atmosphere (concentration, motivation, focus, willingness to learn, help-oriented work - interaction between student and teacher)				
<b>To what extent does the teacher/student undertake the following activities?</b>				
<b>1. Welcome</b> Both parties welcome each other in a friendly way.	Scale [end indication]	0	1	2
<b>2. Explanation project</b> The student has all the supplies for or the needs and meets the teacher's expectations. - How are the expectations?	Scale [end indication]	0	1	2
<b>3. Observation</b> The student listens to the professor without interrupting.	Scale [end indication]	0	1	2
<b>4. Effort</b> The professor remains their self and can express what the design does to them. They discuss the effect of the design choices that have been made (materials, colours, etc.).	Scale [end indication]	0	1	2
<b>5. Dialogue</b> Both parties ask for improvement together. A dialogue is conducted about the purpose, intention and effect.	Scale [end indication]	0	1	2
<b>6. Reflection</b> The student builds on acquired insights. They think about how to act on the feedback.	Scale [end indication]	0	1	2
<b>7. Summary</b> The teacher provides space to process the insights and helps the student look for improvements. (highlighting weak points).	Scale [end indication]	0	1	2
<b>8. Final remarks</b> The teacher focuses mainly on the strengths of the design, so that a better result can be worked from there.	Scale [end indication]	0	1	2

Figure 1. The observation scheme used to guide the observations of the jury moment in the AR and IAR studio.

## Architectural scene in which the study was executed

As the physical organisation of the jury moments occurred in a different manner in the AR versus the IAR jury, we provide a detailed image of both settings in which the students and jury members were present.

### Jury Interior architectural design studio (IAR) - 22 students - 18 January 2023

In the room, tables were arranged in a U-shape and four zones were created in which four students could simultaneously set up their output (see right image in Figure 2 below). The jury team consisted of the two design tutors belonging to the design studio and one external member which is also a designer. While one of the four students is presenting, the other three are to follow that presentation. Once all four students have presented their work, the students leave the room, and the tutors immediately grade the work of each of the four students. During the observations, one researcher observed the tutor and another focused on the student explicitly. When each group of four design students left the room, they were given the feedback questionnaire to fill in, and in some cases the third researcher could start a small discussion based upon the answers on the feedback file. This depended heavily on the emotional wellbeing and need for decompression of the student at that moment.

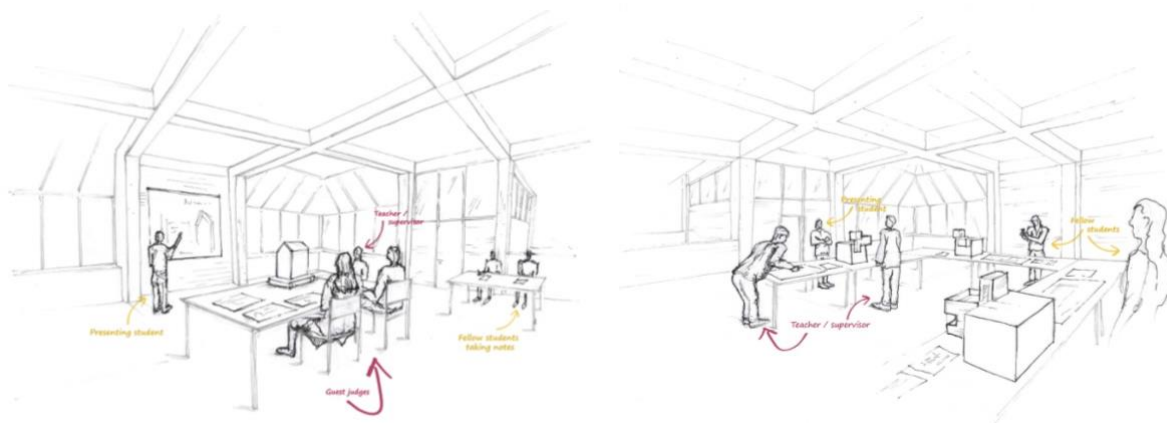


Figure 2. Impression of the jury moments in the AR studio (left image) and IAR studio (right image).

*Jury Architectural design studio (AR) - 14 students - 19 January 2023*

In the room, a central space was reserved for the presenting student. The student presented in front of a screen on which his/her powerpoint presentation was running, in front of the student was a table with the physical output on it (scale model, technical plans and 3D renderings). The jury team consisted of the two design tutors belonging to the design studio and one external member which is also a designer. These members of the jury were seated in front of the output table. Other students were allowed to join in, but not obliged to. However, one student was appointed to make notes of all the comments that were given by the jury members. This student was seated next to the jury setting. During the observations, one researcher observed the tutors and another focused on the student explicitly. When a student was done presenting his/her work, he/she left the room and was given the questionnaire by the researchers.

## **Analysis of the results**

To answer the first research question regarding defining interactive moments in which soft skills are present, first a different phases of a jury moment had to be made visible. The researchers had started their observations with a basic timeline of a typical jury moment. Throughout the jury observations and by also using the input of the questionnaire given to the student after the jury moment, the researchers were able to draw a more detailed timeline of the phases within a jury moment in the AR and IAR jury setting. Based upon the relatively recent jury experiences of the three researchers, six phases were included to focus on in the observation checklist (see Figure 1): (i) welcoming, (ii) project presentation by the student, (iii) in-depth inquiry by the jury, (iv) dialogue, (v) jury feedback, (vi) the completion (see Figures 3a and 3b below).

### **Descriptive analysis of the jury phases**

When observing, the researchers noticed that in many cases, before the welcoming moment could start, minor struggles or contingencies crop up. For example, a projector fails to work, parts of a scale model come off, delays occur, a jury member is lingering at the preceding jury table, etc. Those bumps along the road have been addressed in phase 0, an addition to the basic timeline, see the situational timelines in Figures 3a and 3b below. Then, in phase 1, the student kick starts the jury by 'welcoming' the jury members and in most cases jumps to sharing the main conceptual idea(s) and initial point(s) of departure of the design using the sketches, referential images and preparatory studies as visual support. In Phase 2, the student continues by 'presenting the design' and zooming in on the design details and main strengths, using the scale model, technical plans, samples, renders as guidance to anchor the verbal explanation. Jury members are usually attentive and use this time to prepare questions while intuitively and often unwillingly building a first value judgement in their heads. In phase 3, the members of the jury take time to immerse in the design details and react to the reasoning of the design student. As the questions of the jury elicit response, a next phase of 'dialogue' is identified (4). Here, student and jury members speak interchangeably, in a way that the student is constantly invited to provide clearness, in-depth information or defend design decisions, and jury members might further inquire or provide alternatives. The two final phases are conclusive. First, in phase 5, the jury members wrap up the dialogue phase with a roundup of the feedback and a recapitulation of the jury moment. Challenges or deficiencies in the design are explicated and advice for upcoming design tasks is given. Jury members might open up a dialogue within their team in this phase. Finally, in phase 6, the jury moment is wrapped by the jury members and the jury members walk towards the next student.

As can be seen in figures 3a and 3b, speaking patterns of the two actors are indicated in the timelines by horizontal bars; the yellow bars above the timeline refer to moments where the student is speaking, the red bars show the jury members' speaking moments. Both converge in the shaded sections and then represent a lively dialogue. Several loops starting from the timeline refer to moments in which either a jury member or a student recapitulates or steers the conversation towards an earlier moment in which he/she had already explained something. Via these loops, the iteration that is inherent to a situation like this, is presented.

**1a. SITUATIONAL TIMELINE OF THE INTERIOR ARCHITECTURE JURY (IAR)**

GLOBAL COURSE OF THE CONVERSATION

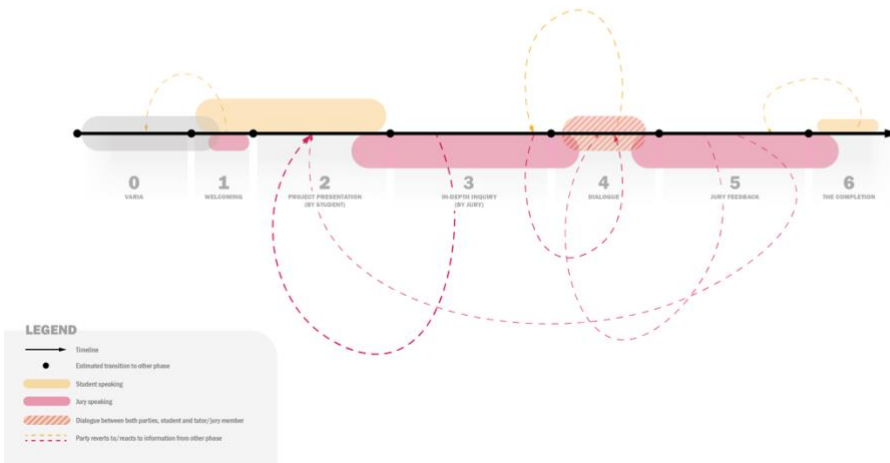


Figure 3a. Timeline of the jury in the Interior Architectural design studio

**1b. SITUATIONAL TIMELINE OF THE ARCHITECTURE JURY (AR)**

GLOBAL COURSE OF THE CONVERSATION

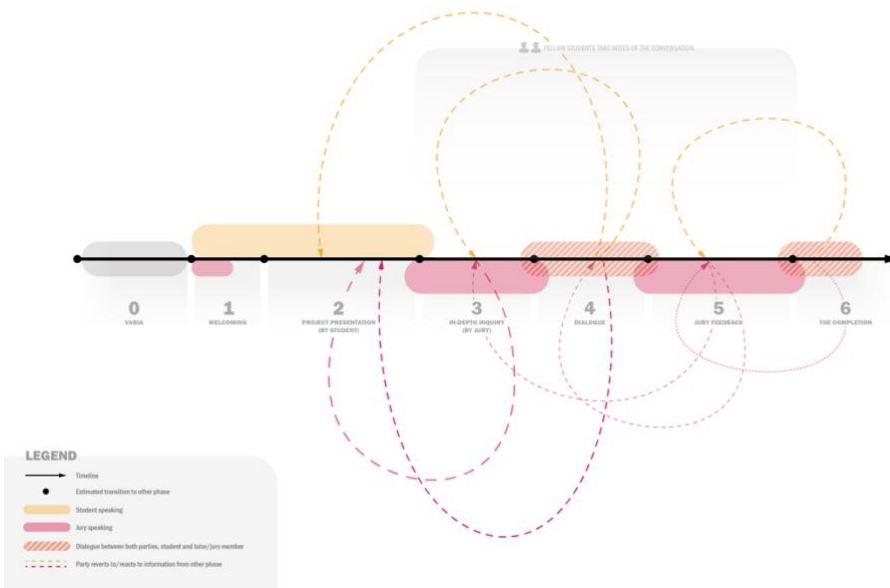


Figure 3b. Timeline of the jury in the Architectural design studio

**In-depth analysis of detection/necessity of soft skills during the jury phases**

Now, to further answer the first research question regarding the presence/absence of different soft skills throughout the different phases of the jury moment, we interpreted the data from the observation schemes and the feedback questionnaires that the design students filled in afterwards, and set out these interpretations on the timelines.

2a. SITUATIONAL TIMELINE OF THE INTERIOR ARCHITECTURE JURY (IAR)

SOFT SKILLS ALREADY PRESENT AND YET TO BE DEVELOPED

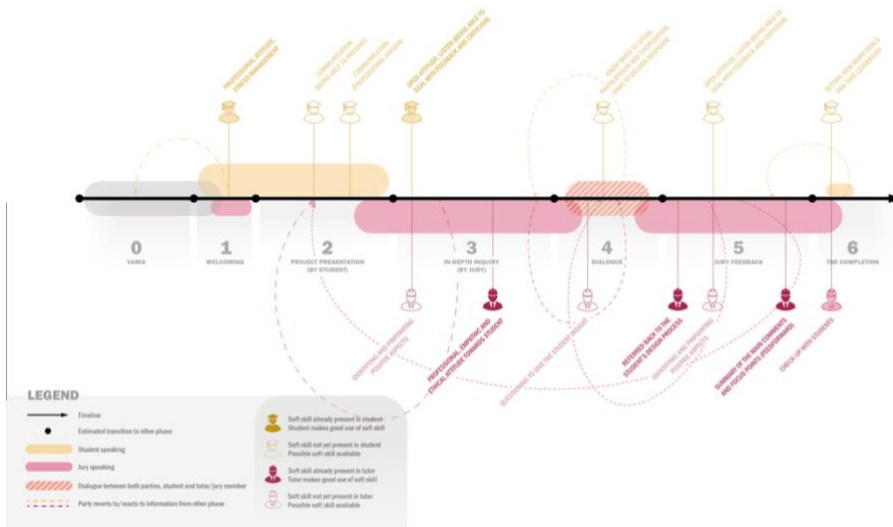


Figure 4a. Situational timeline of the jury of the Interior Architectural design studio

2b. SITUATIONAL TIMELINE OF THE ARCHITECTURE JURY (AR)

SOFT SKILLS ALREADY PRESENT AND YET TO BE DEVELOPED

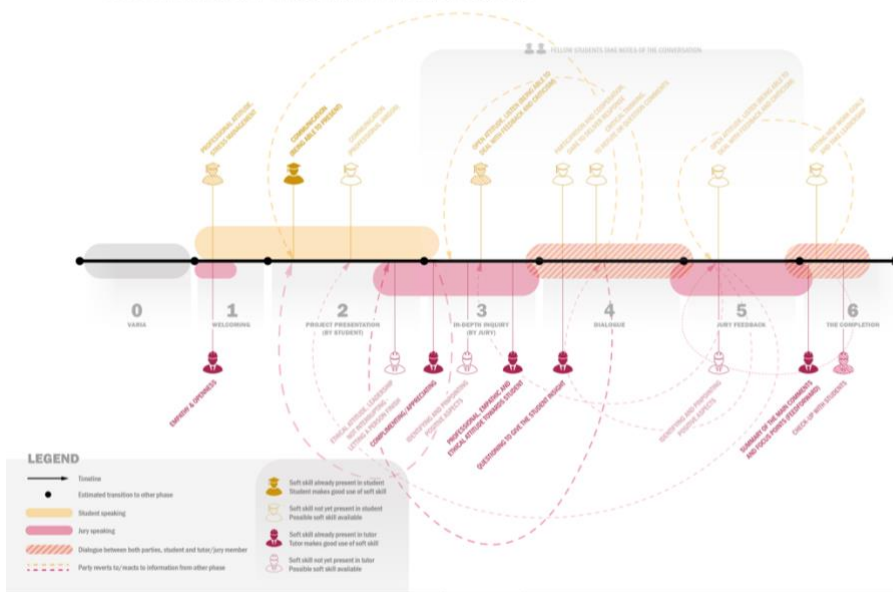


Figure 4b. Situational timeline of the jury of the Architectural design studio

Phase 1. Welcoming

Starting in the welcoming phase, for both actors in both juries (student and jury member) it was immediately clear that all persons involved aimed for a professional, good first impression. According to Vansteenkiste (2017), here we could notice soft skills that can be categorized under *professional attitude* (see Fig. 4a and 4b). In many cases, students' body language betrayed some levels of *nervousness* at the start of the judging moment. Students worked hard on the assignment and did not want to perform badly. They wanted to succeed and, above all, they hoped for good results, as they approached their jury moment from a rather summative focus. Yet nervousness often jeopardises a *less friendly or closed appearance* and a difficult actual start. *Speaking anxiety or presentation stress* is a common obstacle in today's society. It is not a day-to-day activity and not everyone can naturally 'just perform' at a higher level. However, *being able to present, communicate* is an important trait within the profession as an (interior) architect.



During observations in the Architecture studio, it was visible that openness and a friendly appearance of the jury members could put students at ease, in contrast to the more formal setting in which the student is a bit physically isolated of the other persons present. Humorous and short playful remarks were noticed to break the ice and lower nervousness. This indicates the presence of **empathy and openness** (see Fig. 4b) on the jury members' side mostly. In the Interior Architecture studio, the atmosphere - based on physical set-up-, the functioning of the jury and the way the two parties interacted - seemed rather informal. Contrariwise, most of the jury moments were more formal in content and more verbal than expected. Almost all students, probably due to stress, forgot some form of welcoming. Out of uncertainty, explanations in several cases began by pointing out a mistake or something that was not intended to be part of the presentation. Due to the awkward start, the jury members started focusing on the physically brought materials in front of them as they did not seem to be able to put the student at ease or react otherwise to the redundant information the student was starting off with. Questionable facial expressions and crossed arms show **closed or only slightly open body language**, but also hint at the importance of an honourable, ethical attitude.

#### *Phase 2: Project presentation by student*

With regard to 'presentation', it became clear during the observations that the first-year architecture students are already several steps ahead of the interior architecture students. This can perhaps be explained by comparing the assignment specifications of both programmes and the difference that is embedded within the educational objectives of the two educational programs (AR versus IAR). The competences drawn up by the assessing architecture tutors, also contain aspects regarding 'presentation' in which clear expectations are set related to the presentation of the final product at the jury moment, which hints at the soft skill of **leadership and systematic thinking**. Concretising these expectations within the Architecture design studio ensures that, as time goes by, students themselves realise what relevant steps and skills are, a step towards **self regulation**.

Within the Architecture design studio, there is broader exploration in the start-up phase before the designing actually starts. For instance, reference projects need to be researched by the design student and a focus is placed on incorporating the strengths of the reference projects into a proper conceptual design idea. The combination of these different focal points helps to create and train specific soft skills regarding presentation and communication. To be precise, the prepared oral presentation of the Architecture students in most cases followed the structure of the design studio and resulted in a more structured one than those of the Interior Architecture students because these were also structured during the design process. The Architecture students were able to vocalize a clear story and seemed to feel very competent within the soft skill **communication** (see Fig. 4b).

Within the Interior Architecture studio, each assignment focuses on a different content-related topic such as construction, concept, organisation, etc.. The topics are each dealt with within separate assignments in the first bachelor year. During the jury moment, the design student used the scale model as the boundary object to anchor his/her presentation around. Floor plans and cross-sections are often cited when the jury members refer to these items. The use of rather informal language and insufficient knowledge of professional jargon causes students to regularly have to search for words. The design focus is mainly organisational; other aspects such as 'concept' and 'process' are hardly addressed, in contrast to the Architecture Studio. A lack of detailed information and structure in the verbal presentation results in a superficial dialogue in which the jury members tend to adapt their language (in terms of avoiding rich language and jargon) as well. Similar to the findings of de Freitas and Almedra (2021), the need to improve the soft skill **communication** is high (see Fig. 4a). More specifically, a rich language, a better knowledge of professional jargon, self-regulation, knowledge and mastering of presentation techniques will enhance the communication skills. Then, by appearing more confident, stress levels can be reduced.

The caveat here is that students are only halfway through the first year of training thus terminology cannot be mastered in full. Nevertheless, it should be possible to clearly convey the message of the design, applying a logical structure or build-up in the presentation and at the same time draw in all the materials provided during the presentation moment, using jargon.

#### *Phase 3. In-depth inquiry by the jury*

Direct person-centred feedback can lead to declined performance, but observations showcased that the finished product and not the student him/herself was assessed, pointing at **a professional, empathic and ethical attitude** (see Fig. 4a and 4b). Curriculum-focused feedback creates more ability to receive, interpret and actively engage with feedback afterwards (Kluger & DeNisi, 1996). One of the aspects to which we attached great importance during observations was the explication of positive aspects in a design. These positive aspects were -mainly in the Interior Architecture jury - merely briefly, limitedly and very abstractly shared with the student. However, explicitly pointed at what was executed well, can boost a student's pride and self-confidence, and spark ownership. Also, the student gains knowledge of the elements that are handled well, as he/she gets a better image of how to narrow the gap between

the proper achievements and the intended goal that needed to be achieved (Hattie & Timperley, 2007). Expressing appreciation can enhance the atmosphere of the conversation; when gaining insight into positive aspects, one is more open to additional information from the feedback giver. Moreover, it stimulates listening behaviour and adoption of improvement points more concretely (Baumeister, Bratslavsky, Finkenauer & Vohs, 2001). As such this situation can be identified as an area for improvement for the jury members that are also studio tutors: **identifying and pinpointing positive aspects** (see Fig. 4a and 4b) of a draft.

Another aspect that was noticed, is that often the explanation of the student is not sufficient for jury members to understand the design in full, resulting in additional questions. It was noticed that jury members dared to interrupt the student in his/her talk. In the Architectural studio, this occurred in at least 50% of the observed juries. As it was pinpointed as a logical reflex by the jury members, it caused the student to lose concentration and eventually lose grip on the jury moment itself. Ideally, questions should be asked only after the project has been explained. From the jury members' perspective, his/her questions or remarks suddenly feel more pressing than the positive aspects that were noticed earlier on in the presentation. In that case, the jury member will subconsciously prioritise the missing information over positive features that were identified in the design as well. Again, this points to a jury member's soft skills of **ethical attitude, leadership: not interrupting - letting a person finish** (see Fig. 4b). Allowing the student to finish the story, can also help the jury member to rethink his/her initial intuitive reaction and come up with a more nuanced or perhaps more pressing issue to raise on a meta level. It also provides time for a jury member to weigh up negative aspects against positive aspects in the design. Hence, the jury member might ask a more focused question to the student, and can start the inquiry whether or not the student believes in the proper project and understands the consequences of the decisions taken within the design process prior to the jury moment. After all, the skill of 'designing' requires complex, creative and personal (thinking) processes. In any learning process, (personal) evolutions sometimes dare to be forgotten or get stuck. That is why it is important to give the learner insight into personal progress, and to make that process explicit (Van Dooren, 2020).

In case of focused questioning from the jury member, there is obviously also a need for the correct perception of the question by the receiver, in this case the student. Overall, in the observations, jury members were able to get the content of the message across and interesting conversations arose between teacher and student in the upcoming dialogue phase. In most cases, both parties allowed each other to speak and had an open attitude. However, in a few cases we could observe that the tone and body language via which the message was sent out by the tutor, caused a particular emotion within the student. Some students reported that they felt somewhat 'attacked' by certain questions that were posed. As a reaction to that feeling, we could see that some students got defensive in their answers, exemplified by short reactions and refuting comments. The student's body language thereafter changed from open towards more nervous, closed and protective. Crossed arms and hands in front of the face were clear signs. Other students in that position lost the ability to answer, and merely nodded 'yes'. Those students' body language also changes from open to protective, characterized by seeking symbolic cover behind a scale model, fiddling with rings, crossing legs, etc.. The body language in both examples echoes **insecurity and nervousness**. Here, the jury members should stay attentive to a **professional, empathic and open attitude**, which spans many soft skills.

In view of the student's developmental potential, **being able to deal with feedback and criticism** (see Fig 4a and 4b) is one of the most important skills to be mastered applied to the context of a jury moment (Vansteenkiste, 2017).

With the latter, we touch upon another important issue connected to a jury moment: how can students take received feedback to new assignments if only a small part of what was said is understood? In the Architecture jury, we noticed that fellow students were required to take notes of the dialogues. That way, the presenting student had concrete, written information afterwards from which to learn. At the same time, this way of working also encourages **learning from each other** (awareness of others' progress) and focuses on the soft skills **teamwork** (effective communication, anticipation and accommodating each other's demands), **flexibility** (ability to see thoughts from different perspectives), **openness** (ability to be open to new possibilities, share ideas and consider different perspectives) and **participation** (ability to take part in or be involved in something) (de Freitas & Almedra, 2021).

#### Phase 4. Dialogue

In the Architecture jury, it was noticed that many students did not dare to engage in dialogue or did not know how to go about it. Half of the observed students felt articulate and secure to engage in dialogue, ask for clarification of complex questions or refute certain comments. Other students usually did not rebut; they became very quiet, were not able to ask for clarification and in most cases simply agreed with the suggestions made by the jury members. Even when members of the jury clearly indicated the desire to engage in dialogue, for instance by asking, "What do you think yourself?" or "You can also say it if you disagree", the student kept quiet. Being able to engage in dialogue needs mastering the soft skill **communication**. After all, one needs to understand what the other person is saying in order to then make oneself understood by exchanging messages. According to de Freitas and Almedra (2021), in order to master the soft skill of communication, the skills **participation and cooperation** (see Fig. 4a and 4b) should be trained

first. That way, students will participate in a conversation and dare to deliver response. In addition - in order to refute or question comments - students will have to possess the soft skill *critical thinking* (see Fig. 4a and 4b). This skill can also be taught, but prior to this, students will first have to have an elementary mastery of the skills: *exploration, assessment, curiosity, decision-making, open-mindedness, creativity, systematic thinking and flexibility* which is almost of the full package of crucial soft skill according to de Freitas and Almedra (2021). So it is not entirely inexplicable why many students seem to engage little in dialogue as they are only in their first year of training, they do not yet have enough necessary (soft) skills. Here, we touch upon the critical question at which point in their education, children or youngsters should get made acquainted with particular soft skills?

As we mentioned, in the Architecture studio it was clear that - using the method of *questioning to give the student insight* (see Fig. 4b) - a dialogue was desired. This however did not seem to be the case in the Interior Architecture studio. Our observations here showcased another routine by the members of the jury, namely that of posing a few in-depth questions to allow the student to gain insight (see Fig. 4a). However, from the student perspective, it was unclear whether a conversation was desired by the jury member, and whether the student was allowed to express his/her opinion in that moment. We could notice that often the members of the jury expressed opinions, exchanged views and raised questions to each other, instead of towards the student. Hence, they gave little space to the student. As a result of this rather ambiguous atmosphere, the students' answers were short and limited; they often merely nodded in agreement and said little in return, so their proper opinions were hardly shared.

While the context and the jury members' actions leading up to the dialogue (whether this arose or not) are different in the Architecture and Interior Architecture studio, the reactions of the students are alike: in too many cases they got defensive releasing short answers, or resigned and while nodding or falling silent. Linking back to Van Dooren's (2020) conclusions, it can be seen that the information communicated is often based on personal, professional and cultural values developed by experienced designers over time. However, it is crucial that this instinctive expertise remains understandable for both parties. Information that seems self-evident to professionals is sometimes too complex for students. In both programmes, there is a need, for both students and jury members/tutors, to improve the soft skills of *communication and critical thinking*. When it is desired to have a dialogue on design, that expectation will have to be made clear and the input of one party should be clear to the other. When several soft skills are interrelated, improving one can ensure that skills will also improve (de Freitas and Almedra, 2021). In the case of the students, the soft skill of *learning to learn*, is applicable here as well. Once the message is well received, they should start to work with the actual tips and tricks.

#### *Phase 5. Jury feedback*

In general, the feedback given during the Architectural and Interior Architecture juries was very clear and structured, yet positive points were hardly addressed as we mentioned before, or quickly touched upon in an enigmatic manner (see Fig. 4a and 4b). In both the Architectural and Interior Architectural studio, the emphasis was on conveying the points of improvement; this information was always presented to the student in a concrete, straightforward manner. The same observation was made in 2002, by Van Dooren who also noticed that the feedback was mainly product-oriented in a design studio. However, in the Interior Architecture jury, it was noticeable that a jury member (who is also a tutor in the design studio) *referred back to the student's process several times* (see Fig. 4a). It is arguable that students interpret feedback as a starting point rather than an end point, nevertheless, a jury moment should be interpreted as a *learning-to-learn* moment. In that respect feedback should make a connection between the points of improvement and the design process and progress of a student. The jury should be asking targeted questions about the finished product and its realisation, and thereby link feedback to feedforward, etc. (Hattie, 2009), only then, possibilities arise to alternate between an evaluation and a learning conversation. Possibly, problem-based approaches (see Shute, 2008), in which the tutor takes a guiding, motivating role and actively helps a student develop proper insights and take ownership in his/her learning (Zimmerman, 1990). In that respect, Surma, et al (2019) point out that learning content, or in this case learning insights, are better remembered when students produce some or all of the content themselves rather than just passively absorbing insights. The latter was observed with a few students during the Architecture jury, but it could not be detected in the Interior Architecture jury. These authentic situations can promote social interaction and foster soft skills needed as a designer, such as *learning to learn, ownership and problem-solving ability*. By pursuing active involvement as a tutor, one sets an example to their students that input is important and it contributes to a positive climate (Expertisecentrum Hoger Onderwijs, 2020). That positive atmosphere could be a great contribution during a jury moment, which in itself evokes a lot of tension in students. Yet, too often, opportunities are missed to turn jury moments into learning moments due to the prominent focus on points of improvement, which gives the learning process a rather negative quip, currently.

#### *Phase 6. Completion*

When concluding the jury moment, both in the Architecture and Interior Architecture studio, a brief summary of the main comments was given in most cases (see Fig.4b), which can be seen as an act of **leadership, and a learning-to-learn action**. As a result, students left their jury with a clear picture of the performance they had delivered and again, with the points of improvement summed up. It is notable that this rather negative feedback received the most attention, whereas concluding by a positive note could help students to digest the overall feedback more deeply (Baumeister et al., 2001). In each situation, clearly listing strengths first, will help students to lower their defences and nudge them to take other feedback more to heart. Again, the likelihood of diligently working and the soft skills of **ownership, problem-solving abilities** can be trained.

In most cases by a final question from the jury for the design student such as an empathic “were you able to tell everything you wished to share?” or a bit more compelling “can we conclude the jury here?”. The question was in most cases followed by either a compliment on product or process, or by a strong encouragement for future design tasks. Here, we could see that the jury members aimed for a formal end point of the jury moment, and to send the student home with a clear-cut message. The soft skill of **communication** is applied, however the **ethic and empathic skills** should be given (more) attention as well. It was noticed that the more the jury day progressed lesser attention was paid to this informal, humane concluding moment of the jury. It can be argued that a lack of time and increasing fatigue is -at least partially- responsible. Juries that took place towards the end of the day thus seemed to be completed in a less friendly manner.

After the jury, the students decompressed, and the feedback file that they filled in notably showcased that the students themselves do not seem to do much with the summary provided by the jury. They **hardly operationalize the feedback by for instance setting new work goals and take leadership, ownership of their proper learning** (see Fig 3b). As a result, they miss the opportunity to build a deep understanding of the feedback to improve future work.

#### *Additional information from the feedback file*

Most of the students expressed satisfaction with the way the judges provided feedback on their performance and the manner in which this was done. They felt they were treated in a correct and fair manner. Some students were dissatisfied with their proper performance. In a few cases, some students felt they were "not good enough" which could be linked to the jury moments in which the feedback on points of improvement made up the better part of the overall feedback. Hence, the type of feedback provided and especially the poor **balance between positive and negative feedback** can foster insecurity within the student. Already in 1999, Losada described positive feedback as something that can be used to show support, encouragement or appreciation, while negative feedback can be understood as expressions of disapproval or even sarcasm. Herein lies an opportunity for tutors to equally place focus on positive aspects, while giving honest negative feedback. That way, insecurities could be significantly reduced, infusing students with a more concrete and self-confident view towards their proper performance.

In addition, stress appeared to be an important recurring factor. Nervousness caused some students to have less grip and control over the jury presentation. Accumulated stress, according to Wouter Havinga (2022), is a consequence of the enormous performance pressure that seems to arise because of the summative evaluation culture. Despite the formative feedback students receive during their guidance in the design studio, they are increasingly working towards a major (summative) evaluation moment. Indeed, the latter evokes pressure and stress. As stated earlier, **stress management** is an important focal point for moving towards the future, better, more confident and confident presentations (Fig. 4a & 4b).

## **Discussion: defining co-experiential states hinting at soft skills to train**

As we have now discussed the presence or absence of design-relevant soft skills during the jury phases, we can start extrapolating these insights on interactions towards understanding the actual co-experiences in the critical moments made visible in Figures 4a & 4b. Bij viewing the situation as a co-experience, we will incorporate the emotions and line of thinking resulting to certain behavior of both students and tutors.

Hence, below we answer our second research question: what are interesting co-experiential moments during the jury in which the soft skills of the student and the teacher coincide, inflict or cause complex interactions that could cause the jury moment to get off track.

Below, we will explain the crucial co-experiential moments we could identify, and will hint at what action could be taken. Or put in other words: we hint at what type of soft skill a student or tutor could benefit from being trained in.

*Inquiry of the jury – professional, learning-to-learn versus underdeveloped ownership, open attitude*

During the inquiry of the jury, in most cases, the professional attitude and extensive knowledge based combined with mastered communication skills such as jargon and rich language often inflict the underdeveloped self-confidence, communication skills, and ownership abilities of a bachelor student. In this co-experiential moment, the jury member/tutor should be trained to rely a bit more on the empathic, ethical skills, and the student should be trained to rely on creativity and growing communication skills to keep the open attitude open.

*Dialogue phase – focus on points of improvements versus little developed ownership and problem-solving abilities*

In the dialogue phase, often, we noticed that the jury member/tutor has certain communication skills to get a feedback message across: his/her jargon is in place, the language is rich, and the content is clear and structured. However, he/she should redirect focus towards a more empathic approach by also addressing positive aspects in the process or product, and especially link the rather negative feedback to positive aspects in the students’ process. Meanwhile, the student should be trained to receive feedback with an open attitude. Communication skills can help the student to remain ‘open’ and critically reflect upon the proper design process, and ask clarification or get into dialogue regarding design decisions. Also, the student should be trained to apply his/her creativity skills in this particular situation as the key to view feedback as a starting point rather than as an endpoint.

To process the line of thinking we presented in this discussion, we have simulated the ‘ideal’ scenario of a jury moment in which both jury members/tutors and students are able to apply and rely on the specific soft skills to strengthen each other, see Figure 5 below:

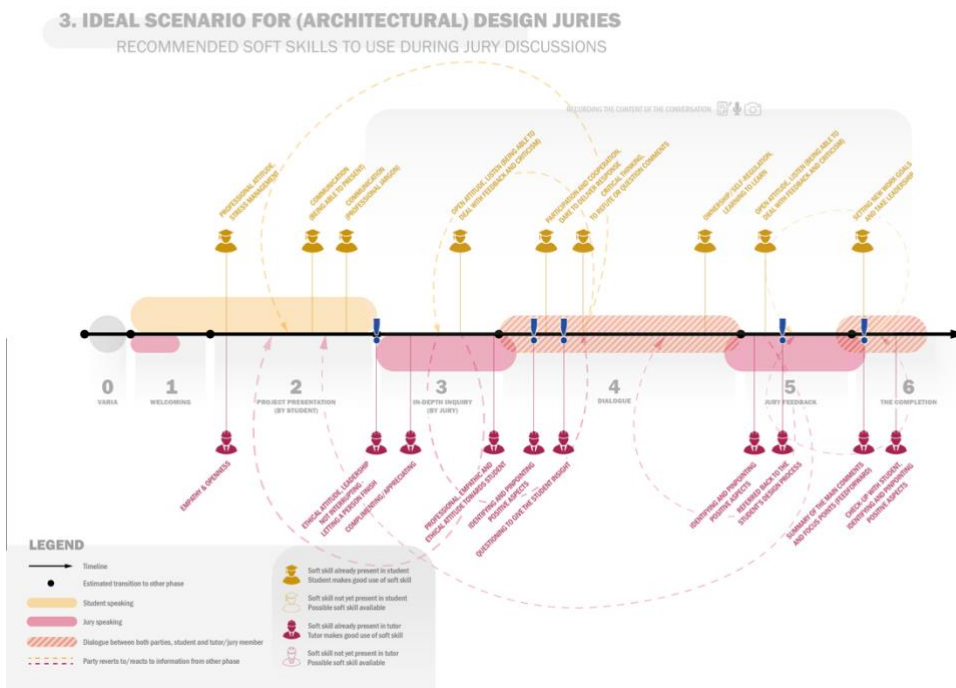


Figure 5. Ideal scenario in a jury setting: soft skills to be developed by students and tutors

**Limitations and future research**

First and foremost, this paper presented an explorative study into the presence or absence of soft skills within design students from the first bachelor year, and their tutors in the design studio. As this research was executed in the framework of a master thesis to earn the degree of educative master in design sciences, a time constraint was palpable. Hereto, we were only able to observe 50% of the entire population of first-year design students in the architecture and interior architecture design program. We are aware that results are subject to the strength of this particular generation of students, the atmosphere within that group of people, and other variables such as mood, energy, personal stories of the people involved, etc. Therefore, this research does not pretend to lead to general conclusions, but rather to set out directions for further research in a way that this topic can be studied in a more broad and in-depth manner.



Secondly, not all the collected data were incorporated in this paper due to size restrictions. The observations took place in the architectural and the interior architectural jury, but the researchers also performed observations in the design studio leading up to the jury moment. Looking at the conclusions in this paper through the lens of those observations can render more in-depth insights.

Thirdly, clearly, the different set-up of the two jury situations (see Figure 2) rendered a different atmosphere, which might have impacted, whether encouraged or blocked the feelings of the participating students and/or tutors. This effect needs to be addressed in future research as well.

As discussed in the discussion and shown in the timelines, the situation at both studios is not yet optimal; especially at the Interior Architecture studio, the situation felt more pressing. We were able to identify co-experiential moments in which the application of particular well-trained soft skills could render a more positive outcome in the co-experience, as well as to the personal psychological or emotional wellbeing of the persons involved.

As avenues for future research, we are keen on furthering the observations and feedback session. We have a particular interest in studying which soft skills should have the priority to train, based on how many times they occur within the co-experiential moments, and based on the feedback that is given by students on how it is inflicted with their emotional and psychological wellbeing at that moment. In a next stage, we tend to explore how the development of such skills could be enhanced in the current curricula in secondary education, or outside regular class hours. Additionally, we tend to focus on the physical set up as a variable in our research as well, and research in what way this affects the behaviour and feelings of students in their jury moments, and the role this plays within the co-experiential states.

Concretely, we will concretize the co-experiential moments that are detected in this study via ethnographic methods and action research in the actual design studio.

Another question that can be asked is whether the design faculties at the Universities should take more responsibilities in this learning process, via courses of other ways, as the Flemish Council for higher education does value soft skills in higher education (Vlaamse Hogescholenraad, z.d.; Expertisecentrum Hoger Onderwijs, 2020). All in all, soft skills are receiving more attention within design education today, which is a first crucial step in training the next generation of designers, tutors and design educators.

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#### About the Authors

**Ruth Stevens** holds a PhD in architecture and is a postdoctoral researcher at the Faculty of Architecture and Arts and the School for Educational Studies, Hasselt University, Belgium. She is a member of ArcK research group and U-RISE research group. Her research interests pertain in particular to developing and teaching design methodology in human centred-design, and in design didactics.

**Sanne Balendonck** is an interior designer from the Netherlands. In 2022, she graduated magna cum laude from Hasselt University, Belgium, and started her own business; Studio Balendonck. During her studies in the year of 2021 she took part in an Erasmus program in exchange with the Hochschule Trier in Germany. She completed an educational master's degree in design sciences in 2023. Currently, she is working as a researcher in a funded research by Hasselt University in the ArcK research group and works as an interior designer.

**Milan Nullens** is a Belgian interior designer. He graduated magna cum laude from Hasselt University in 2022 and was selected to present his graduation project at We Are The Next Generation 2022 in Kortrijk, Belgium. In 2023, he completed an educational master's degree in design sciences with distinction. Currently, Milan is active as a scenographer and art/design teacher, combining his passion, vision, and insatiable eagerness for design and education to guide and inspire other creatives.

**Nette Hilven** is a Belgian master in the field of architecture. In 2022 she completed her architectural studies with distinction from Hasselt University. During her studies in the year of 2020 she took part in an Erasmus program in exchange with the Polytechnic University of Valencia. In 2023, she completed an educational master's degree in design sciences. At this time Nette is completing her architectural internship at a Belgian firm where she continues to learn about the field of architecture and design.