

# **Professional Development in Sculpture**

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## 1. Problem Statement

This dissertation discusses the process involved artists becoming professionals and the aspects that characterise a professional artist when compared to art students. For many young artists, the conventional path to becoming a professional is to study at a university or an academy. During the study programme, students attended various courses and/or worked in master classes, which included learning in small groups, mentoring by lecturers, different practice activities, and social interactions. This enabled an intensive exchange with fellow students and lecturers, during which students received a lot of feedback. The literature comprises studies that have been conducted in the field of studio learning and conversation in the sub-disciplines of architecture and design education (Ibrahim & Utaberta, 2012; Sawyer, 2019; Tahsiri, 2020). Course structures and learning formats have also been investigated (James, 1996; Shreeve et al., 2009). However, what has not yet been studied intensively in visual arts are the feedback types and learning formats that students find to be helpful for their artistic development.

When an art student wants to become a professional artist, they must develop different skills. In the past, the myth of the born genius was a widely held notion with regard to excellence in visual arts. However, this has changed in recent decades, with the increase in studies on the skills of trained and untrained persons in visual arts. For instance, in expertise research persons from different expertise levels, such as novices, intermediates, and experts, were studied and compared. The pathway from novice to expert is a central research issue with regard to professionalisation in arts. Research in visual arts has mostly focused on the perception of experts and non-experts (Kozbelt & Seeley, 2007; Nodine et al., 1993; Ostrofsky et al., 2013), the eye-hand coordination (Tchalenko, 2009a, 2009b), and cognition (Chamberlain et al., 2019; Perdreau & Cavanagh, 2015). There has not yet been any in-depth research regarding which practice activities and social interactions are important for aspiring artists and the time that artists spend on them.

The literature review in this dissertation revealed a focus on the following aspects concerning professionalism in visual arts: perception, creation processes, domain-specific practice activities, learning environments, and feedback. Chapters 2 and 3 introduce the various aspects and the state of the

research. Chapter 4 presents the research questions and an overview of the studies in the dissertation. Chapters 5–8 illustrate the studies that have been conducted. Chapter 9 provides an overview of the key findings of the studies and, finally, Chapter 10 discusses the results.

## **2. The Domain of Visual Arts and Sculpture**

Visual arts encompass various sub-disciplines such as drawing, printmaking, film, painting, and sculpture (Esaak, 2019). In drawing, according to the Philadelphia Museum of Art (n.d.), a distinction can be made between dry and wet mediums. Dry materials are usually in the pencil form (e.g. graphite) and for wet materials (e.g. ink) a brush or pen is used. Drawing primarily involves the rendering of objects or other concepts and fantasies through lines (Hutter, n.d.). Contrarily, a painting usually has colour, while coloured pencils and watercolours are used in a drawing only in exceptional cases (Delagrang, 2021). Paintings can be created using a variety of media, such as oil, acrylics, watercolour, and so on. In sculpture, however, the artist needs to deal with three-dimensional depictions. This is a key difference from other sub-disciplines such as paint or photography. Another aspect that must be kept in mind is how the sculpture is positioned in space considering its volume and dimensions. Incident light from the sun throws shadows and gives the artwork a different appearance from that of artificial lighting. According to Rogers (n.d.), for sculptures hard or plastic material are used, which provides various possibilities for media: stone, wood, wax, clay, glass, plaster, and so on. Clay and wax often have an organic effect, while metal appears hard and cold. Making sculptures from soft media such as clay, the material is added as the work progresses. During the creation process, fundamental changes can be made to the artwork (e.g. changing the posture of a figure) and then the sculptures can be cast (e.g. bronze or cement). Sculptures made of hard material are processed differently. With wood or stone, the material is removed, which is a process that cannot be reversed. Literature on sculpture often deals with famous artists or artworks; empirical studies are rare. Therefore, this dissertation focuses on sculpture.

Although the domain of visual arts has many sub-disciplines, each with its own emphasis, some important skills are taught similarly across all sub-disciplines. The central activity of artists is the perception and creation of an

artwork, which can vary greatly depending on the sub-domain. Perception allows a sophisticated composition of an artwork, and inconsistencies in proportion, lack of volume in the sculpture, and so on, can be identified.

## **2.1 Perception**

In general, the perception of an artwork involves artists as well as art critics and non-professionals, who view artworks. In the domain of sculpture, only few empirical studies investigated perceptions, unlike the sub-domains of drawing and painting (Chamberlain et al., 2019; Dijkstra & van Dongen, 2017; Ostrofsky et al., 2014). Therefore, mobile and remote eye-trackers are used to investigate different aspects of perception and eye movements. The issue of differences in perception between experts and non-experts (novices or non-trained people) were investigated in several studies in visual arts (Fudali-Czyż et al., 2018; Kolodziej et al., 2018; Vogt & Magnussen, 2007). Seeley and Kozbelt (2008) concluded that artists developed specialised spatial schemata, which was related to motor plans. This drew attention and improved the perception of stimulus features that are used to diagnose the identity of objects and scenes in normal contexts. Other aspects have been investigated in recent years, for example, flexible attention to local and global levels of visual stimuli (Chamberlain & Wagemans, 2015), eye movement correlating to expertise in visual arts (Francuz et al., 2018), the integration of object information (Perdreau & Cavanagh, 2013), or the gaze-shift strategy in drawing (Tchalenko et al., 2014). However, not all issues concerning perception in visual arts were investigated. How the potential stimuli for one's own sculpture is considered and whether differences exist in this respect due to the expertise level, is still unknown. Another unanswered issue is the stimuli that individuals at different expertise levels prefer for their own artistic work.

## **2.2 Creation Process**

The performance of artists takes place during the creation process of an artwork. One characteristic of the visual arts is that the performance is usually not visible and only becomes evident in the results (artworks), which poses certain challenges for educational research. In order to observe the working methods of artists and prospective artists, researchers must be present in their studios (or seminars) or artificial laboratory situations must be created. Creative aspects (e.g. creativity) are taken into consideration (Lubart, 2001;

Weisberg, 2006) rather than the creation process of an artwork. Nevertheless, general models for creating artworks have been developed. For instance, Botella et al. (2013) investigated in a study which stages are engaged in artistic creativity and described the activities of a creation process. Six activity stages are informed by a materials world and a social world. At the beginning, a general idea or a vision is created, which is shared with friends or family. Then a reflection about the idea takes place in exchange with experts. The next two stages involve first sketches, testing forms or ideas are created by interacting with collaborators. In the final stages, the provisional object is created in exchange with technical experts and the completed work is then presented to experts or the public. In contrast to other models, Botella et al. (2013) considered not only the different phases of activity, but also the social interaction with the environment. Thus, at the beginning of an artistic idea, friends and family are involved, and then collaborators and experts are involved during the realisation (Botella et al., 2013).

Tinio (2013) developed a model with three stages that focus on the creation process. The three process stages are: Initialisation, expansion and adaptation, and finalising. In the initialisation stage, the artist investigates an idea for suitability and then makes several sketches. The sketches help in visualising ideas and in further development of the artwork. For Tinio (2013), an aspect of the first stage is the structural skeleton of the idea. The second stage includes further development of the signature by adding, modifying, and deleting certain elements of the art piece. The third stage includes the completion of the artwork.

The models help to understand the general procedure of a creation process. However, the described models from Botella et al. (2013) and Tinio (2013) do not allow drawing conclusions about the concrete creation of sculptures or general artworks—neither about the working method, nor about the challenges or the artistic signature of an artist. In addition, no conclusions can be drawn about the creation procedures of beginners and professional sculptors, although it is an important aspect for professional development in sculpture.



### 3. Theoretical Constructs of Professional Development and Expertise

Different theoretical constructs have been used to describe when individuals develop professionalism or have already attained a high level of performance in a specific domain. In the vocational context, popular constructs are *professional development* and *expertise*. Semantically, these terms are closely linked, but have their own research paradigm (Mulder et al., 2009).

The theoretical examination of professional development deals with the question of how someone becomes a professional in a domain. According to Mulder et al. (2009), professionalism is the precondition for professional action. Professionalism allows the members of a profession to define demands on the actions and preconditions of their professions. It depends on the context of the action, such as the specific situation, the social context, and the cultural background of a work activity (Mulder et al., 2009). According to Simons and Ruijters (2004), in the process of professionalising, *learning*, *development*, and *change* are relevant aspects. *Learning* on an individual level includes skills, knowledge, attitudes, and learning abilities. During the *development* phase, the focus is, among others, on long-term learning skills, which are often implicit. Besides *learning*, *development* and *change* are relevant for professionalising. During the level *change*, the focus is on work processes or outcomes. Professions are characterised by the possession of an explicit body of knowledge. Professional organisations organise these professions and define standards (Simons & Ruijters, 2004).

The professional development of artists happens over several years and often at universities or academies. Students work in studios and gain experience through their artistic work. They acquire domain-specific skills and knowledge through professional training in different sub-domains (e.g. painting, sculpture). According to Hetland et al. (2013), students must develop techniques through studio practice, which allows them to work in space, to try out different materials, to use tools, and to learn to distinguish between different elements of an artwork (e.g. the surface).

Another paradigm—expertise research—makes a core contribution to the topic of professionalism. Professional development and expertise research can be seen as complementary. Both constructs are suitable for investigating the

learning processes of art students and the path from beginner to a professional artist. According to Boshuizen et al. (2020), expertise is domain specific. The domain of visual arts, which includes sculpture, is ill-structured. Ill-structured domains exhibit less-objective criteria for judging performance. According to Strasser and Gruber (2004), ill-structured domains are characterised by problems that are not clearly specified. In addition, no broad agreement exists on the most appropriate interventions with solutions to problems. The problems that exist in a domain are often highly specific. For the reasons described above, in ill-structured domains, performance cannot be easily measured (such as the speed of a 100-metres runner). Creating an artwork can happen in several different ways. One widespread definition that characterises expertise is that experts repeatedly and permanently perform outstanding work as a result of the longstanding attempt to advance accomplishments in a certain domain (Ericsson et al., 1993). In ill-structured domains, the definition of outstanding performance is not clear.

Teacher expertise is an ill-structured domain where many specialised literatures aim to define an expert. These assumptions might also apply for visual arts. Berliner (2001) stated that those criteria have to be supplemented by social consent or the appointment of experts by other leading persons in the field. According to Schneider (2008), (1) experts can be seen as peak performers or (2) as professionals with special vocational training. Established researchers such as Bromme (2008) follow the second approach in the field of teacher-expertise research. Teaching expertise refers to the professional knowledge and skills of teachers. In pedagogical and sociological research on teaching, professional knowledge and skills and teaching as a profession are used in a similar sense (Bromme, 2008). This approach, which is also followed in the domain of visual arts, is useful.

According to Ericsson and Charness (1994), a general assumption in expertise research is that at least ten years' preparation is needed to win international competitions in the visual arts. Nevertheless, this should not be seen as a 10-year rule, but as a convenient round number (Simonton, 2014). Other investigations showed that the development of one's own artistic vision takes an average of 13 years (Okada et al., 2009).

To examine which knowledge, skills, and performance characterise an expert in a domain, a comparison between experts and non-experts is used in expertise research. Often, an expert–novice comparison takes place. For instance, Arts et al. (2004) used an expert–novice approach to compare expert behaviour with that of novices (students) to better understand student problem-solving behaviour. Boshuizen et al. (2020) posit that experts used more domain-specific concepts than novices did. Additionally, experts have more explanations and justifications for their actions than do novices. However, not only is there the possibility of an expert–novice approach, but the expertise-level group of intermediates can also be compared with experts and on-demand with novices (Harel et al., 2011; Jaarsma et al., 2016). An expertise-level group comparison with intermediates is useful because they have already acquired basic skills but are not yet experts in their domain. This is a good way of comparing which areas (e.g. knowledge or skills) require further improvement. A further approach in expertise research is a comparison between experts and amateurs (Ericsson et al., 1993). Here, group differences become particularly visible, for example, the number of training hours. In addition, the differences between amateurs and experts with regard to domain-specific exercise activities are quite comparable, which provides clarification on the efforts required to become an expert. The learning process for becoming an expert is outlined in the next section.

### **3.1 Practice and Learning in Visual Arts**

Learning and skill acquisition happen through practice, which plays a major role in developing expertise. The concept of deliberate practice is established in the field of expertise research. Over the last decades, many studies were conducted about deliberate practice in domains such as chess, sports, and music (Charness et al., 2005; Liang et al., 2019; Krampe & Ericsson, 1996; Sheridan & Reingold, 2017). According to Ericsson et al. (1993) deliberate practice is a highly structured activity with the particular aim of improving performance. Ideally, learners should get explicit instructions from a teacher for ensuring effective learning. A teacher or trainer monitors the learning process of an individual in order to provide immediate feedback and help identify individual errors and ensure appropriate error correction. The trainer must arrange a sequence of suitable training tasks and control the

improvement to decide when it is time to move on to more complex and demanding tasks (Ericsson et al., 1993).

Visual arts certainly include activities that can be applied to the definition of deliberate practice. For instance, deliberate practice activities can be carried out for techniques (e.g. the learning process of patination or casting). However, this does not apply to many other domain-specific practice activities as not all are deliberate. Often, budding artists experiment with different materials or techniques without the aim of improvement or special monitoring from a teacher. This kind of practice activities is more in line with naïve practice. According to Ericsson and Harwell (2019) naïve practice refers to work and play activities in which factors other than the aim of improving the performance stand in the foreground.

A further practice type is structured practice. According to Ericsson and Harwell (2019), it is characterised as involving structured practice activities which are guided and designed by teachers of student groups or team coaches. These activities are not individualised or adapted to their current skill level or improvement-specific aspects of their current performance, which is especially the case for art students at universities and academies. An example for structured practice in sculpture is project work during studies. The artworks in progress and the problems associated with them are discussed in group meetings, but students must continue to work on them between meetings till the end of the project. The third form of practice besides deliberate practice is purposeful practice. According to Ericsson and Harwell (2019), purposeful practice is a solo practice activity with the aim of improving specific skills without a coach or teacher.

One example of purposeful practice in sculpture is learning how to work with certain materials, for example, wood. At the beginning, the different properties and types of wood might be researched in relevant literature and the suitable processing tools might be studied. In addition, students will be able to observe how sculptures are made of wood. Appropriate materials are then provided and the first attempt at working with wood starts. When wood is removed from a large piece, various problems can occur (e.g. too much wood is removed or the planned proportions of the sculpture cannot be realised). These experiences serve as an exercise to avoid repeating mistakes.

### **3.2 Learning Environments**

In visual arts, practice and learning often happen in different instructional formats during study time. One of the most popular formats of a teaching setting is the studio (Svensson & Edström, 2011), where students create artworks with different motifs and materials. According to Shreeve et al. (2009), a studio is an ideal learning environment where lecturers can provide feedback for each student. Lecturers as well as fellow students play important roles in studio teaching. James (1996) states that they are a community of learners who are engaged in a common activity. The course structure is a complex, interactive sociocultural system.

Besides this classical setting in a studio, several other learning formats such as projects related to exhibitions, excursions, or visiting exhibitions and/or museums are applied. Shreeve et al. (2009) make an even more differentiated classification for learning activities: (1) live projects (projects with industry practitioners), (2) event-based learning (engaging in projects in the community, schools, galleries, and industry), (3) group learning (using role assignments in teams to recreate the conditions of practice), (4) artist talks (practitioners provide insights), (5) consultancy (working with industry partners), (6) simulating industry conditions (students acquire experience), (6) peer learning (student-to-student mentoring), and (7) learning at work (short-term activities or longer-term accredited).

Shreeve et al. (2009) pointed out that students learn by engaging in activities that are either fully authentic examples or imitations of those carried out by practitioners in the field. They can consequently recognise themselves and be recognised by the visual arts community as youth newbies, but legitimacy members. What we do not know in depth is how art students perceive the different learning environments as helpful in their professional development.

### **3.3 Feedback and Support**

A common feature of these learning environments is that social interaction with peers, lecturers, artists, and persons might help in acquiring feedback. According to Gosling (2009), feedback is a core aspect of learning in higher education for students and it is often attained through critique.

Feedback can be seen ‘as a process where the learner makes sense of performance-relevant information to promote their learning’ (Henderson et al., 2019, p. 17). According to Henderson et al. (2019), the aim of feedback is to help improve learning strategies or performance. However, there are some challenges with lecturers providing feedback. A study conducted by Killingback et al. (2020) showed that lecturers (from a higher education institution in the UK) are aware that the marking criteria of feedback can be challenging for students. Lecturers consider it important that students understand the terms used for feedback (e.g. analysis or synthesis), which was often not the case. One further challenge is that students understand that the skills required for one exam do not automatically transfer to the following exam. For instance, good feedback for an essay does not necessarily mean that the student will succeed in practical experience as well. The examples show that lecturers should plan feedback and formulate them clearly. According to McConlogue (2020), feedback can be designed backwards, which will help the lecturer ponder over what students should learn in the course, module, or unit.

Often, the focus is on feedback provided from the teaching staff. In higher education, however, students receive feedback not only from lecturers but also from peers. According to Topping (2009), peer feedback is available on a larger scale and with greater immediacy than feedback from teachers. Another advantage of peer feedback is that the hurdle of demanding it is usually much lower than the feedback from lecturers. One disadvantage though is that peers themselves often have too little knowledge to provide helpful feedback in certain situations. For instance, lecturers can give more substantiated feedback on the drafting and use of materials than peers can. Students benefit most when they receive feedback from both lecturers and peers. This is usually the case in higher education in the domain of visual arts. Students need feedback in several stages of their creation process: Feedback on potential ideas for artworks; feedback during production of the artwork regarding size, form, material, tools, or draft; feedback on the finished artworks; and feedback on the exhibition of the finished artworks.

Just as lecturers or fellow students are supportive during study time, teachers and parents can provide support during childhood. The results of an interview study by Sloane and Sosniak (1985) with 20 sculptors and 15 parents

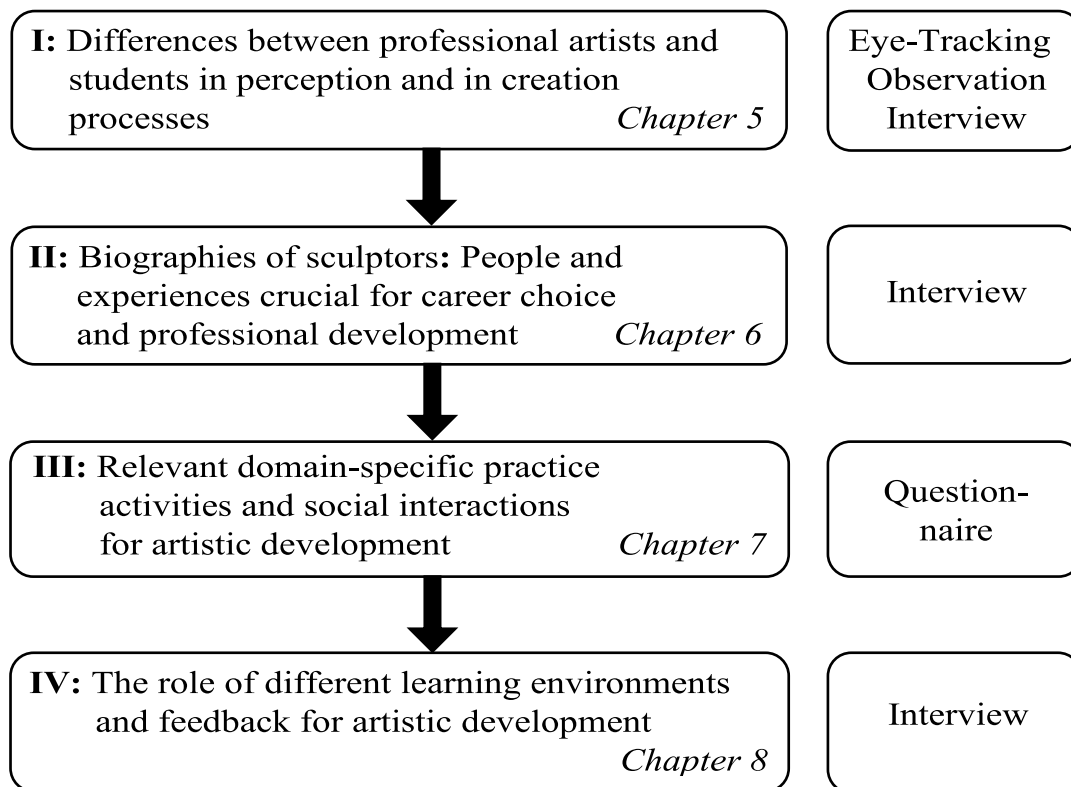
showed that the sculptors had different life circumstances (social and economic status). One of the interviewed fathers was a commercial artist. In a little more than half of the families, at least one parent was very well informed about art or appreciated it. A quarter of the parents were not strongly interested or did not know much about art, and in 20 per cent of the families, parents were much less supportive. Here, the parents did not appreciate art or were not aware. The central message from the parents was that their children should work on something they are really interested in and they should pursue this activity to the best of their ability. Sloane and Sosniak (1985) asked the sculptors about their experiences during school time. The sculptors stated that their experience with art in elementary school was not instructive. In high school, only six of the 20 sculptors had art instruction and the experiences were not positive throughout. The sculptors' perceptions were that art education is not informative or challenging. One possible problem was that the teacher saw the art as a craft, they were not artists. Based on the literature of this chapter, aspects that require further consideration are: factors that play a role in feedback for students in the sub-domain of sculpture, and who the feedback is from.

#### **4. Research Questions and Overview of the Dissertation**

The main purpose of this dissertation was to examine the process of professional development in visual arts, especially in sculpture. Therefore, the following research questions were examined:

1. How does perception and the creation process differ between experts, intermediates, and novices?
2. What factors and experiences influence individuals to become sculptors?
3. What domain-specific practice activities and social interactions are relevant for professional development in sculpture?
4. What learning environments are conducive to art students for improving their skills?

To answer these research questions, four studies were conducted, which are presented in Chapters 5–8. The studies in Chapters 5, 7, and 8 have been published in international peer-reviewed journals with an impact factor. The study in Chapter 6 is unpublished. Figure 1 provides an overview of the studies.

**Figure 1***Topics of Studies I–IV*



## **5. Study I – Creation Processes of Professional Artists and Art Students in Sculpting**

Full text available at

<https://journals.sagepub.com/doi/abs/10.1177/0276237420942716>

The first step in this dissertation was to analyse the perception and creation processes of professional sculptors and art students. For this purpose, the participants were presented with a stimulus. The eye movement of looking at the stimulus was analysed. The as perceived relevant aspects were identified, which constituted an impulse and used for their own sculptures. A comparison of the different expertise levels allows a detailed analysis of how sculptors as experts, contrary to novices and intermediates, proceed in the creation process. Additionally, the characteristics of the artistic work were identified.

Puppe, L., Jossberger, H., & Gruber, H. (2021). Creation processes of professional artists and art students in sculpting. *Empirical Studies of the Arts*, 39(2), 171–193. <https://doi.org/10.1177/0276237420942716>

## **6. Study II – Biographies of Sculptors**

Study II analyses the biographies of professional sculptors. The purpose of this study was to investigate which experiences were crucial for individuals to become a sculptor and what decisions were made concerning artistic education. Therefore, sculptors of different ages were interviewed. The approach made it possible to consider the different life circumstances sculptors can grow up in. This illustrates the different possibilities and funding for sculptors, which have changed substantially over the past decades. The interview study provides the basis for a more profound investigation of the singular aspects of professional development. These aspects were investigated in Studies III and IV.

### Introduction

Chapter 3 outlines the different relevant aspects for professional development in visual arts. The biographies of artists were examined to understand their experiences on the path to becoming a professional sculptor. This is important for identifying the crucial factors for professional development in sculpture as they might function as a valid basis for developing supporting tools in the future.

A biography can be divided into different phases: childhood and adolescence, university/vocational training, working and living as a sculptor, and family life. An example is the biography of a famous sculptor, Alberto Giacometti (born in 1901).

*Childhood and adolescence* are usually the periods during which a person first comes into contact with artistic activities such as painting or handicrafts work. This can happen at home or at school. The first contact is crucial because it can both encourage or inhibit interest, depending on the experience. In Giacometti's case, his father was a painter (Lord, 2009), which helped him gain intensive experiences with art as a child. He used his father's studio and got advice from him. The parents spoke a lot about art and taught him how to draw and model. At the age of 13, Giacometti created his first sculpture. The family encouraged his artistic activities: 'On his way to art, the young Giacometti never had to fight to be allowed to do what he wanted' (Lord, 2009, p. 30).

In the *university/vocational training* phase, decisions have to be made, that is, to start an apprenticeship or to study at an academy. This choice can be influenced by advice from parents, friends, or even teachers. According to Lord (2009), Giacometti's parents agreed with his career aspiration to become a painter or sculptor. His father advised him to go to Geneva and study at the Ecole des Beaux Arts. Giacometti followed this recommendation in 1919. However, he was very dissatisfied at the art academy and left for the Ecole des Arts et Métiers. In December 1920, he went on a study trip through Italy. In 1922 he travelled to Paris for further training. He spent around five years at the Académie de la Grande-Chaumière. There, he received feedback on his works, both from fellow students and from his teacher, Bourdelle. However, according

to Lord (2009), he was not influenced by them. He was always very self-critical and never satisfied with his work.

After the training or study, in the next phase, that is, *working and living as a sculptor*, the artist has to establish themselves in the market. This can happen through various ways: finding a gallery owner, public commissions and purchases, private commissions, or free sales. According to Lord (2009), Giacometti had his first exhibition in 1925 and started his commercial career in 1929. For a while, he was a member of the Surrealist group, but he fell out with them and finally left the group in 1934. In Paris, he had many contacts with other artists such as Pablo Picasso and Balthus.

In terms of *family life*, Lord (2009) states that Giacometti had several love affairs and relationships. Only in his 40s did Giacometti meet his future wife Annette Arm and married her in 1949. Using her as a model, he produced many drawings, etchings, paintings, and sculptures. He always had a close bond with his parents. His brother Diego even worked with him in Paris for a time. Diego constantly changed jobs and lived a frivolous lifestyle and Giacometti kept an eye on him.

This small excerpt from Alberto Giacometti's biography shows that his family influence had a strong impact on his artistic interest and activities. Furthermore, he was well acquainted with other artists. In general, life circumstances play a decisive role. Living and working in the early 20th century was different, often with much poverty and two world wars. However, living conditions in Europe have changed significantly during the 21st century.

The following study provides insights into what these life circumstances are like for today's practising artists and what differences exist between younger and older professional sculptors. In order to obtain the most accurate first-hand information possible, interviews were conducted with three sculptors. The interview data enables identifying the factors concerning learning processes, support, and difficulties in professional development. These findings serve as a basis for understanding which factors play a role in professional development, which forms the basis for better support for future sculptors in their professional development.

### **Aims and Research Questions**

The purpose of this study is to investigate the experiences that were crucial for individuals in their path to becoming sculptors, and the decisions that were made concerning artistic education. The following research questions have been addressed:

1. In what way did the sculptors encounter art in their childhood?
2. What factors played a role in their professional development during vocational training or studies?
3. What factors were relevant for working as a sculptor?
4. What support did the sculptors receive from their families?

### **Method**

#### **Sample**

All three sculptors were freelance sculptors who already had more than ten years of experience ( $M = 34.33$ ;  $SD = 20.88$ ) in the domain of sculpture, and they exhibit their artworks regularly. They graduated from an academy or technical school for wood sculptures. Pseudonyms are used to anonymise the name of each sculptor.

The first sculptor interviewed was Mr. Miller. At the time of the interview, he was 81 years old. He had completed two apprenticeships: one as a carpenter and the other as a stonemason. After working for a few years, he studied at an academy in the sub-discipline of sculpture. The second sculptor interviewed was Mr. Smith. He was 51 years old at the time of the interview. He completed an apprenticeship as a stonemason. Thereafter, he studied at an academy in the sub-discipline of sculpture. The third sculptor interviewed was Ms. Williams. She was 33 years old at the time of the interview and had completed training at a woodcarving school.

#### **Instrument**

A guideline was developed for the interview and was tested in advance by using sample interviews, and then was revised accordingly. The interview was divided into two parts:

- a. Questions about the artistic development.* In the first part, information about childhood, education, university/apprenticeship, family, and the first steps after graduation was gathered.

- b. Questions about the creation process.* The second part enquired about which input is important for artistic work. In addition, there were questions about the procedure and the planning of an artwork. Current and older sculptures were discussed in terms of how the artistic creation has changed over time.

### **Procedure**

An internet search was conducted to find qualified participants by looking through the homepage of the Professional Association of Visual Artists and artists' homepages. The homepages of the potential participants were reviewed and newspaper articles about the sculptors were searched. As inclusion criteria for the study, the artists needed to be commercial sculptors (e.g. art teachers who create sculptures as a part-time job were excluded). The interview questions were adapted to the biography. The interviews were conducted in the artists' studios. In this way, direct references to their works could be made and as yet incomplete works could also be discussed. The interviews were recorded with a voice recorder and transcribed verbatim.

### **Analysis**

At the beginning, the interviews were read several times and relevant content related to the research questions was identified. For categories, the deductive and inductive approaches of Mayring's content analysis was used (Mayring, 2014). The following categories had been developed deductively: (1) family, (2) school education, (3) study time, and (4) feedback. Category (2) had two sub-categories: (2.1) type of school and (2.2) support from teachers. Category (4), feedback, had five sub-categories: (4.1) family, (4.2) teachers and lecturers, (4.3) fellow students, (4.4) friends, and (4.5) other persons. The smallest unit of analysis was a sentence and the longest was a paragraph.

The first round of analysis of the interviews showed some overlap between the categories. For instance, there was an overlap in Categories 1–3 and Category 4, feedback. For this reason, it was not possible to classify the statements into one clear category. In order to achieve a category system that allowed an analysis without double coding, the categories were modified. The modified categories were: (1) childhood and adolescence with the sub-categories (1.1) parents, (1.2) friends, and (1.3) other persons; (2) higher and vocational education with the sub-categories (2.1) apprenticeship and (2.2)

academy; (3) working and living as a sculptor; and (4) family with the sub-categories (4.1) partner and (4.2) children. Table 1 depicts the description and anchor examples of the category system.

**Table 1**

*System of Categories*

Category	Sub-category	Description	Anchor examples
Childhood and adolescence	Parents Friends Other persons	Contact with art through parents, friends or others; contact includes artistic activities as well as visits to museums etc.	Sure, my parents thought it was great that I was artistically active. They always supported that.
Higher and vocational education	Apprenticeship Academy	Artistic development as well as artistic and social experiences during vocational training or studies.	I've already noticed with the modelling that I'm more comfortable with removal. I just like to draw a line on the material and then remove it.
Working and living as a sculptor	/	Vocational and artistic experiences after training or studies.	I have lots of symposia. You get to know colleagues with whom you haven't had any contact for maybe two or three years, and then all of sudden things start happening again.
Family life	Partner Children	Support or rejection of artistic career by partner or children.	When you are working completely free on an artwork, you have doubts, and then my wife comes over and says 'That's great!' And then, I'm already saved.

## Results

The results are listed chronologically according to the sculptors' biographies. The sections are divided into childhood and adolescence, apprenticeship/academic training, working and living as a sculptor, and family life (marriage/children).

**Childhood and Adolescence*****Mr. Miller***

Mr. Miller grew up poorly in a rural area in a big family. He was a pupil during the Second World War. The school was often cancelled, and the children had to help in the harvest. Even as a child, he wanted to become a painter or sculptor. However, due to his life circumstances, there was hardly any opportunity to explore this passion.

I left school in 1945 and there was a war going on the whole time. So, I never saw a drawing pad, let alone plasticine or something to model with, not at all. The drawing paper was so scarce that I know—I still have the picture—my father tore up newspapers into pieces for the toilet.

Mr. Miller's father collected bills so that he could draw something on small scraps of paper on the backside. Moulding was not possible at all. Due to their financial situation, his parents urged him to learn a craft after school. He showed understanding for his parents' position: 'Our parents have been through two world wars and in between this terrible time [...] I have to say that we had 11 children. Eleven children, and yes, individual support was not possible'.

***Mr. Smith***

Mr Smith grew up in a large family in a small town. His father was a church painter. Thus, as a child, he was already aware that the art business could be financially difficult. That did not deter him from becoming an artist. He stated that he was a bad student at school. When he was 13 or 14 years old, he and his siblings painted with crayons, which was a kind of family ritual. While painting a landscape, he realised that he could create things himself and that he is the one who decides the direction for the picture. That gave him a feeling of force. This was a key experience in his life.

That became clear to me when I was young, and it gave me an incredible feeling of power, or that you simply have a real virility. [...] Yes, that probably also has to do with puberty, that you have such a maturing process. And then it was clear to me that I would do it.



He made the decision during puberty that he wanted to pursue a professional career in the field of arts and crafts. Therefore, he started an apprenticeship as a stonemason after school. His father did not think it was the right decision and rejected it. They quarrelled about this decision for a long time, and Mr. Smith stated that he might have gone through with it as an adolescent reaction to his father.

### ***Ms. Williams***

Ms. Williams grew up in a big city and was supported by her parents: 'My parents thought that [working artistically] was totally great. So, they always encouraged that, but there are no role models in the family'. She was always encouraged by her parents, who had more trust in her than Ms. Williams had in herself. For some time, her father had pursued the hobby of drawing, but he had no ambitions for exhibitions or sales. At school, art was a core subject, and the focus was particularly on drawing. Ms. Williams made it through the university entrance qualification.

**Comparison.** During the interviews, the contrasting living conditions of the generations the artists grew up in became visible. Mr. Miller grew up during the Second World War and was often unable to attend school. Private artistic work was also hardly possible due to a lack of materials. In contrast, Mr. Smith and Ms. Williams could attend school and had access to art materials. Ms. Williams had a very positive childhood, in which her parents supported her. She was even able to attend a school with a focus on art. The other two artists did not receive this kind of support.

### **Apprenticeship and Academic Training**

#### ***Mr. Miller***

Mr. Miller followed his parents' wish and learned carpentry. This was in the early 1950s and the fact that he could not work artistically affected him. After successfully completing his education, he began working in a factory, which involved very heavy physical work. He left home at 4:00 am and did not return home until 8:00 pm. This made him sick and he was hospitalised. In the hospitals at that time (in the mid-1950s), there were large halls in which up to 40 patients were accommodated. Mr. Miller met a young man who drew hiding under the bed covers because he wanted to join an art academy. Mr. Miller's

fervour for art got rejuvenated watching this young man. The man lent him his drawing pad, and he started drawing again. At this moment, he said to himself:

Okay, I'm a cabinetmaker now, I'm earning money, and now I'm making my own way. I will now stay in the factory for three or four years. I earn more, I am now a journeyman and I save the money. I'm saving all the money. And that was the start. That was my start.

After a few years, Mr. Miller told his parents that he wanted to become a sculptor and that this would not be a financial burden for them. Mr. Miller found employment with a wood carver. However, the wood carver had no idea about the education of a sculptor. During this work experience, he never once freely created a sculpture except for the journeyman piece. He only saw the sculptures of the senior wood carver during that time. The motifs were rather rural as from hunting or foresters. Immediately after the journeyman's examination, Mr. Miller decided to look for another job. He found an advertisement from a sculptor who wanted to hire a journeyman. This was about 160 kilometres away, in another country. Mr. Miller decided to travel there. After a while, his new employer asked Mr. Miller what he would like to do in the future and he replied that he would like to study. The employer then recommended that he take evening classes at the academy which was located in the same place. Mr. Miller did so and attended all the courses in sculpture. After a year, Mr. Miller was visited by an acquaintance from home. His friend wanted to join an academy in his home country and asked Mr. Miller to apply to this academy as well. Mr. Miller succeeded in the admission test and quit his current job. Although his employer regretted this, he wished him well. This was in the early 1960s.

Mr. Miller attended the academy till 1964. During his time there, he was close with four or five fellow students. He went to museums and visited exhibitions of various artists with them. There was already competition, but Mr. Miller had not found that disruptive. Later, during his studies, he also had sculptor friends.

It has been there [competition]. However, on me, no one has ever had a feeling of competition, because I have had such a desire. The others could not even imagine it. To ab-

sorb that and myself there now, that was for me the redemption. And after this long dry period. So that when we went there, a round, and they had a conversation, then I just always listened. In addition, I actually had more painter friends.

***Mr. Smith***

Mr. Smith did not think it was worth describing his training as a stone sculptor. For him, it turned out to be a purely manual activity and not an artistic one. Therefore, he created small artworks in his leisure time. However, it was important for him that he met another artist during this time (in the mid-1980s). The artist had a big tent and worked on sculptures in the public which allowed interested passers-by to join in. Mr. Smith met the artist regularly and he urged him to study at an academy. Mr. Smith, however, had an aversion to art theory and was therefore hesitant. In the end, he opted for an academy in a big city which worked figuratively most of the time. Mr Smith did not want to attend an academy in which the focus was on abstract art. The most important skill for him was to learn differentiated perception during his studies. The issue of abstract versus realism was also a topic during his time at the academy.

It was simply a question of the same being true for an abstract sculpture as for a figure. It's about the composition, and in spite of the model and in spite of the fact that one looks and struggles forever at some fold. [...] Nevertheless, it is actually the design and the composition that is in the foreground and the figure is merely a catch. I have actually remained with this attitude until today.

During his studies, he discovered his interest in working with wood as a material, not only with stone like during his apprenticeship. This was partly influenced by fellow students. Wood allows other possibilities of expression. Breaking through the sculpture is more possible and figures can be made with improved dynamic expressions. This was the starting point for changing the work material to wood. Mr. Smith received positive feedback for his wooden sculptures at the academy which motivated him to continue working on them. In general, he perceived the exchange with fellow students as very important and students from higher semesters played the role of tutors.

***Ms. Williams***

Ms. Williams wanted to study restoration after school. She searched for a preliminary internship for a long time but did not find one. Instead, Ms. Williams landed an internship with a church painter. Churches usually have a large number of wooden sculptures. In this way, she found her passion for wood sculpture and decided to go to a technical school to learn more.

Ms. Williams wanted to learn the technique for working on wood from scratch. However, other possibilities were also considered.

I was considering for a while if I should rather study communication design, graphic design, things like that. [...] I wanted to get as far away as possible from the economy somehow. I didn't want to end up in front of a computer selling people things they didn't really need. I always found that really bad, so I wanted to do something handicraft or restoration.

Ms. Williams decided to attend a vocational school for woodcarving. The main focus of the training was on the craft aspect, but free artistic work was also a part of the curriculum. Many of the lecturers studied at an academy themselves. The trainees had very heterogeneous objectives. While some trainees wanted to work as freelance artists, others saw themselves as craftsmen. The intensity of the exchange among the trainees varied accordingly. There was no competition amongst trainees during this time. Some came to the academy after vocational school, which Ms. Williams had also considered after apprenticeship. However, she was put off by the fact that handicrafts are frowned upon there. She did not want to be restricted in her craft-based way of working and decided against it.

**Comparison.** As a similarity, all three artists have a craft and a professional background. In addition to that, Mr. Miller and Mr. Smith studied at an academy for sculpture after apprenticeship. All three sculptors interacted with fellow students regularly and had support in their social environment. However, there were differences with regard to who supported them. The circle of private contacts such as friends or acquaintances was influential for Mr. Miller and Mr. Smith. Mr Miller met a man in hospital who was interested in drawing, which led him to take up his aim to work as a sculptor. This was a

very drastic experience because he did not really want to be artistically active anymore. Later, one of his employers encouraged him to take courses at an academy to prepare for his studies. Mr. Smith met an artist who encouraged him to attend academic training. This confirmation and/or the intensive support from others seem to have been important for the sculptors to seriously follow a career in sculpting. This is especially so when an inner desire to become an artist exists, but the external circumstances make it difficult to realise.

### **Working and Living as a Sculptor**

#### ***Mr. Miller***

After graduation, Mr. Miller moved with his family to a small town where he earned his money through private commissions, worked as a freelancer, and received some commissions for artworks in public spaces. He received eight awards at the national and international level and had 14 solo and 62 group exhibitions. He said that not being actively involved in the regional artistic community was a problem. Mr. Miller was a member, but did not regularly participate in meetings, regulars' table, and so on. This was one of the reasons why he rarely received commissions through it (according to the chairperson of the artist community). Mr. Miller explained that he had a lot of catching up to do with regard to his art and this hindered him networking. He was only able to fulfil his dream late in life and therefore always wanted to work. He described his artistic work as a very long process. Every work was preceded by a key experience. Mr. Miller described his approach using the example of a commission from a hospital. The first question is where the sculpture should stay. In this case, the patient garden is the locality. However, this is not enough information for the artist. 'Not only do I go down and look at the space, but then I want to know who lives behind all these windows? [...] What could actually be something constructive, something positive there? After all, the patients live upstairs'. Mr. Miller considered his artistic work as an escape from reality.

There are very many times in life, sometimes short sometimes long, where you're either torn apart by the outside—by what's on the world outside—or you're also unhappy in your private life. And there are times when you can't go on at all. And then I work on something. And that makes

me so happy! That is the only work. So that means you don't hear anything anymore, you don't see anything anymore and you don't really care. You don't care. You can sink into it so much that you can recover again.

Overall, it took him a very long time to complete his sculptures. He spent a lot of time thinking about the motif and expression of his artworks during the planning phase. For him, it is important that he worked alone during the creation process, he does not want any feedback on his artwork. His wife and children should only give feedback—at best confirming—after completion.

***Mr. Smith***

Mr. Smith wanted to get away from the city and from the haze of academy after graduation. While some former students were still in the refectory of the academy five years after graduation, he did not want something like that for himself. Originally, Mr. Smith wanted to move back to his birthplace after studies, but his ex-wife did not agree. Therefore, they moved to a completely different small town. Mr. Smith was a member of a professional association, but he was not a very active member. He has a few friends who are artists themselves. He said that, in principle, artists usually get along with each other anyway. He described an artist friend as a walking encyclopaedia, with whom he went on excursions. The friend told him about relevant art history, which Mr. Smith did not always understand completely.

With regard to creativity, it is important for Mr. Smith not to become stuck in a schematic way of working. Therefore, he always tried to find new stimuli for himself. He enjoyed collaborating with other artists at symposia. In total, he has been involved in over 20 symposia at national and international levels, which helped him meet new people. This sometimes also gave rise to new, joint projects. For him, the question of artistic work is, among others, a generation issue.

A friend of mine is also over seventy years old. She does something completely different artistically. But, she is very strong there. We are different generations. We [the younger generation] were no longer so afraid. Of course, they were afraid of this figuratively by the Nazis, who practically banned everything else—even Lehmbruck.

Mr. Smith said that his artistic work is primarily focused on sensual perception: the setting of volume in space, which makes the artwork spatially perceptible and tangible. The motif is not important, and he does not like too much content in art. He doubted that too much content works, for instance, in politic issues: ‘You should rather write a text or make a caricature. So, political statements, that’s where it gets really difficult for me.’

Mr. Smith worked with sketchbooks in which he notes down his ideas. He mostly creates small sculptures out of wood. However, he also created life-size works of art, for instance, for art in public spaces. Besides wood, he experimented with other materials such as papier-mâché. With regard to design problems, Mr. Smith left the sculptures standing for a few days and regarding technical questions, he courageously tried to solve them himself. Most of the time, he did not involve anyone in the problem-solving process. When asked to explain why he works artistically, he replied:

Well, it just tears me apart, somehow. Then I have this sketch, even if afterwards it doesn’t come out the same [...], so if I don’t work for a few days, it’s become such a habit for me that I just [...] yes, almost need it.

***Ms. Williams***

After her training at the technical school for woodcarving, Ms. Williams first tried to gain a foothold in a city with over a million inhabitants. But this did not work well because it was not possible to find a studio and to make contacts. Therefore, Ms. Williams moved with her partner to a smaller town. There, she received a scholarship for a studio. Nevertheless, her hope of contacting other artists was not fulfilled: ‘Hey, we’re [she and her partner thought] doing great projects with a lot of people now, and somehow we quickly realised that everyone defends their place there very well. And that people are not really open,’ Over time, she met other artists, especially painters and photographers, who have studios in the same building. However, the exchange was limited to private conversations and exchanges about exhibition opportunities. Joint artistic projects did not take place and she did artistic projects only with her partner.

After her training, her artistic style changed. At first, she wanted to leave the classical craft behind and try out different things. Over time, she studied

classical works and realised how fascinating they were. She wanted to continue working with elements of classical works. For instance, Ms. Williams took up the subject of votives, which is particularly widespread in the Catholic church. She went to churches with her partner to look at the art there.

Well, we are now in a generation that hardly faith anymore, where that support has broken away. We go to churches and are totally fascinated by it and almost long for that support of faith again. [...] Longing for tradition, or also in art, for the really handcrafted again.

Ms. Williams spoke about consolation in her artworks. Her motivation to work was an escape from reality and she seen no value or fulfilment in other activities.

The working methods of artists were described as time-consuming. First, sketches were drawn, and then small models were made before the actual wood sculpture is created. Ms. William's motivation changed during the creation process and she experienced ups and downs. Sometimes pieces were even destroyed. Her partner was the calming influence in these times. The first draft of the sculpture was considered a particularly exhausting phase. Ms. Williams said conclusively: 'When you are actually at an exhibition [...] and people understand what you are doing and are amazed that you can do it that way, and because you can go a different way, that also makes you incredibly proud'.

**Comparison.** All three sculptors tend to work rather slowly and need a lot of time from the planning to the completion of a sculpture. Exchange and networking with other artists was described differently. For instance, Mr. Miller was not actively involved in the regional artistic community. This was disadvantageous when it came to commissions. Mr. Smith, on the contrary, reported that he already had contacts with artists and participated in many symposia. Contrarily, Ms. Williams' attempts at establishing contacts with other artists met with cautious reactions.

## **Family Life**

### ***Mr. Miller***

Mr. Miller's wife constituted an important support system during his studies and afterwards. They lived in poor conditions during his studies. However, they experienced a wonderful time together. His wife came from a



family of sculptors and learned a lot about art from her father. However, she was not artistically inclined herself. Mr. Miller's wife said of living with a sculptor:

However, I still looked at a lot [artworks of Mr. Miller], and I have to understand it, otherwise you cannot stand it anyway, for the rest of your life. You must have a lot of love for art and an understanding. You have to like being alone. It all takes a lot of time.

Mr. Miller stated how important it was that his wife was enthusiastic. He often had doubts about his artworks, and when his wife gave positive feedback, it helped him a lot. He said his wife also taught him facts about art history by exploring various works of art during bicycle tours. For instance, they viewed various altars and, in general, sacred artworks. Overall, his wife supported him and she and the children were an inspiration for various sculptures.

***Mr. Smith***

Mr. Smith has two children, who live with his ex-wife. However, he had regular contact with the children. He believed that one reason for his break-up was probably his stubbornness and the view that his opinion is absolutely right. The family sphere played no role in his artistic activity, because his independence was very important to him. Moreover, he did not want his art to be misunderstood and be commented on.

I don't want to justify myself. I want to be able to work here the way I want and I don't have to answer to anyone. I believe that this autonomy is very important for me. [...] That leads us back to married life. Well, of course that's not so compatible.

***Ms. Williams***

Ms. Williams has been in a relationship for many years and has no children. Her partner is also active in the artistic field professionally. As a result of their relationship, both have had intensive exchanges regarding their artworks. This applies both for the planning and the execution phases of a sculpture. Furthermore, her partner plays an important role when Ms. Williams faces disruption in her artistic work: 'Disastrous for me. I'm really, really bad.

I always break apart and my partner is my calming influence and he always has to catch it’.

**Comparison.** The artists’ received support from their respective partners and/or children were varied. Mr. Miller perceived the confirmation concerning his finished artworks as very important. Mr. Smith had no exchange about his artistic work with his ex-wife. Ms. Williams worked very close with her partner.

### **Discussion and Future Research**

This study investigated the experiences that played a crucial role for individuals on their journey to becoming professional sculptors. The biographies of the interviewed sculptors showed that the participants had unique and diverse experiences on their paths to becoming professional sculptors. The first research question delved into the way sculptors encountered art in their childhood and adolescence. The results revealed that the life circumstances in this phase were very different, which is in line with the findings of Sloane and Sosniak (1985). In the current study, one sculptor was supported by their parents, while the other two did not receive this kind of support. This means that family background and parental support is helpful but not a crucial factor in the decision to become a sculptor. A more recent study in another creative domain, music, found similar results. Längler et al. (2018) investigated popular musicians with different expertise levels. They stated that the support from parents was less important for expert musicians. In general, one aspect of (non) support is that parents are not necessarily artistically active themselves or knowledgeable in the subject of visual arts. This means that monetary or motivational support can be provided, but not content-related support. People choosing this profession despite a lack of support or even conflict with parents can be attributed to their inner drive, which the sculptors reported to be artistically active. Further reasons were the counter-design to consumer society and escape from reality. It is important for them to disengage from consumerism and not contribute to it. This is more possible through self-employment than being employed, which is not possible in other professions, especially in professions such as sales, production of cars or toys, distribution, and so on. Steiner and Schneider’s (2013) study showed similar results, which suggest that artists have more autonomy because of their self-employment. The

results also indicate that artists enjoy a higher utility from their working activities as non-artists. This utility can be an important aspect for lots of artists. They see a sense in their artistic work.

The second research question focussed on what factors played a role in professional development during vocational training or studies. In the process of professionalisation, the exchange about artistic content is of great importance to art students for their own development. Sculptors received feedback and support from fellow students. These peers helped them to reflect on their own artistic work. Furthermore, positive feedback motivated them to put forward their own ideas and pursue them. Peers enabled an informal exchange as they desire to become artists as well and dealt with similar problems. An advantage of the exchange with peers is the immediate feedback. Lecturers cannot always provide immediate feedback during classes with several participants. According to Kulkarni et al. (2015), getting fast feedback improves outcomes. The role of peers can go beyond the structured form of studies at universities and academies. Friendships are often formed, which enables involvement in art-related activities such as visiting exhibitions and museums. The relationship with peers influences how feedback is perceived and accepted. The institution and the lecturer influence the teaching structure and the basic way of working. For instance, compared to vocational schools, academies more often focus on abstract work than hand craft techniques.

The third research question dealt with relevant factors for working as a sculptor. One factor in this aspect of a sculptor's life is the support from their social network. The importance of professional networks was a common theme in the interviews. One artist did not interact with the local artistic community, which resulted in them rarely receiving any commission from the public sector. This aspect is consistent with Fraiberger et al.'s (2018) study. They reconstructed the exhibitions of half a million artists and then they mapped the co-exhibition network that tracks the movement of art between institutions. The results showed that artists with good connections to reputable institutions were more commercially successful than artists with connections to less reputable institutions. Therefore, not only artistic skills play a decisive role here, but good networking in the art market is important as well. This means that art students and aspiring artists should take this into account during their

training or studies. Those who study at a renowned academy in a class of a well-known artist might already have a better start in their career and a greater chance of success than other art students. There is another interesting aspect to working as a sculptor: the living and working location. All participants in the study moved to another city after graduation. The reasons for this are manifold, one of which might be finding a studio at a significant distance from the university, which brings about the challenge that in most cases new networks have to be established. It seems to make sense to focus on this to increase the possibility of exhibiting one's own artworks in local galleries or museums. Sometimes commissions are also distributed via local associations, where the artists then have to be correspondingly active in order to get these commissions.

The results of the fourth research question, that is, support from family, showed that this aspect also varies across individuals, which is understandable for several reasons. For one thing, relationships are personal. For instance, for some couples the job also plays a role in their private life and is discussed at home. For others, other things take centre stage, such as their children or hobbies. However, the partner must show interest in art. If this is not the case, an exchange or feedback about artistic work would be difficult. At best, there can be support in the form of acceptance of the work, which should not be underestimated. For instance, for sculptors and artists in general, their work may not be financially lucrative. This situation must be borne by both partners in a relationship. Having said that, being able to exchange ideas about art with their partners seems to provide significant mental support for sculptors.

In the current study, although only three sculptors were interviewed, it allowed gaining deep insights into their biographies. This is not possible in large-scale, quantitative studies. In addition, sculptors of different ages and experiences participated in this study, which allowed the consideration of different life circumstances. All three sculptors had people in their lives who played a crucial role in encouraging them to become artists or to pursue the goal further. However, these were not necessarily their parents. For instance, one possibility is to join an association or a collective while still studying and another option is to become a member of a professional association later. This increases the opportunities for participating in group exhibitions. Other

supportive people included life partners, children, or friends. A larger data collection from a larger sample size could help confirm these statements. The study did not delve into what type of feedback was received and how the learning process takes place during studies (e.g. the activities that the art students were involved in). These aspects should be investigated in more detail in further studies.

## 7. Study III – Professional Development in Visual Arts

Full text available at <https://doi.org/10.1007/s12186-020-09246-0>

Study III focuses on the relevance of domain-specific activities that contribute to skill acquisition. In addition, the role of social interactions was investigated. This provides a better understanding of the development of artistic skills. These factors have a similar relevance not only for sculptors but also for other artists such as painters or sketchers. For this reason, the sample was expanded to include other sub-disciplines of the visual arts, allowing for a larger sample size. Preliminary to the analysis of this study, a Kruskal-Wallis test proved that there were no significant domain-specific differences between the sub-domains.

Puppe, L., Jossberger, H., Stein, I., & Gruber, H. (2020). Professional development in visual arts. *Vocations and Learning*, 13(3), 389–417. <https://doi.org/10.1007/s12186-020-09246-0>

## **8. Study IV – Learning Environments and the Role of Feedback in Sculpting Lessons**

Full text available at

<https://www.ingentaconnect.com/contentone/intellect/adche/2022/00000021/0000001/art00006>

Study IV dealt with how art students perceive the role of their learning environment in achieving their learning goals, and what kind of feedback they consider important for their artistic development. Concerning that many artists study at academies or universities, this should be considered as a factor for artistic development. The learning environment can foster or prevent learning processes. Therefore, different learning formats were assessed by the art students. Furthermore, different kinds of feedback, provided during the different learning formats, were identified.

Puppe, L., Jossberger, H., & Gruber, H. (2022). Learning environments and the role of feedback in sculpting lessons. *Art, Design & Communication in Higher Education*, 21(1), 85–98. [https://doi.org/10.1386/adch\\_00048\\_1](https://doi.org/10.1386/adch_00048_1)

## 9. Key Findings

The main purpose of this dissertation was to examine the process of professional development in visual arts, especially in sculpture. To achieve this aim, the following research questions were examined:

1. How does perception and the creation process differ between experts, intermediates, and novices?
2. What factors and experiences influence individuals to become sculptors?
3. What domain-specific practice activities and social interactions are relevant for professional development in sculpture?
4. What learning environments are conducive to art students for improving their skills?

This chapter discusses the main findings of the paper, which contribute to the topic of professional development in the visual arts.

### *1.) How does perception and the creation process differ between experts, intermediates, and novices?*

The first study analysed how professional artists and students differ in their perceptions and creation processes as well as how these two factors are related to each other. Ten experts, intermediates, and novices participated. In the first step, the eye movements of the participants were recorded via eye-trackers while they looked at a stimulus. The participants then explained which parts of the stimulus were interesting for creating their own sculpture. In the third step, they created a sculpture. At the end, the participants were asked about their creation processes.

The results showed differences as well as similarities between the three expertise groups. In visual processing, no significant differences between experts, intermediates, and novices regarding fixation count, revisits, and fixation time existed. The estimation, which area of the stimulus were perceived as a relevant input for an own artwork, showed differences between the groups. Experts and intermediates preferred elements with curvatures and direction contrast while novices preferred branch elements of the stimulus. Inorganic structures were rarely mentioned in all three expertise groups.

During the creation process, differences were analysed in the start-up period, in the use of the stimulus, in the use of the trestle, in the use of the



tools, and in the working process. In the beginning, none of the experts kneaded the clay and looked at the stimulus, but some of the intermediates and novices did. This technique is not necessary for using the clay. Differences in using tools were observed, that this, the experts selected their tools and worked with them. In contrast, intermediates changed the tools several times while novices mostly worked with their hands and avoided complications with the tools. As regards the working process, the rough form was designed first. In the next step, details were worked out and finally, the sculpture was completed.

2.) *What factors and experiences influence individuals to become sculptors?*

The second study investigated what support professional sculptors received from their parents concerning artistic activities. Furthermore, the study investigated how the interviewees made their career choice, who were perceived as important for the exchange, and steps after graduation as well as the artists' work. Therefore, an interview study with three professional sculptors was conducted.

The results showed that parental support varied widely. It ranged from strong support to rejection. Two of the artists were supported by their partner or spouse, while one artist was divorced. All three sculptors found the exchange with their fellow students and lecturers helpful. The decision to become a sculptor was made very early on for two participants. The third sculptor first completed two apprenticeships before taking up formal art education at an academy. This was primarily for financial and family reasons. The three sculptors moved from a big city to more rural areas after graduating, which was partly for financial reasons (apartment rent, finding a studio). However, one sculptor wanted some distance from the academy. Parallels can be seen in the way they work. It takes a long time from planning to the completion of a sculpture. First, models or sketches are made. Two of the sculptors did not want to talk to anyone about the sculpture during the creation process. One sculptor, in contrast, has intensive exchanges with her partner. Networking with other artists or an association tended to be poor. One sculptor said that his lack of involvement in the regional artists' association was one reason why he did not receive as many commissions as the other colleagues did. One sculptor said that she tried to contact other artists after she moved to a new city, but for the most part they reacted dismissively. She regretted this

very much. The third artist had a lot of contact with other artists, especially at international symposia. In addition, there are a few friendships in the private sector.

3.) *What domain-specific practice activities and social interactions are relevant for professional development in sculpture?*

The third study examined what kind of domain-specific practice activities and social interactions the participants perceived as relevant to their artistic development in visual arts and the differences that exist between experts, intermediates, and amateurs. To examine the issues, a questionnaire study was developed in which 81 experts, 58 intermediates, and 31 amateurs participated.

According to the results, for all three groups, reflection on own artworks and working on own artworks were rated as the most relevant domain-specific practice activities. This was significantly more so for experts and intermediates than for amateurs. Reading specialist literature was more important for students than for experts and amateurs. As regards feedback, experts preferred lecturers and other artists, intermediates preferred lecturers and classmates, and amateurs found family to be most helpful. Friends were perceived more important for amateurs than for experts and intermediates. One possible reason is that there is an overlap of friends and fellow students in the intermediates group. The interview study also showed that the understanding of art changes among intermediates during the course of studies (it was mentioned that abstract art becomes more important for many students). Some parents found it challenging to deal with abstract art. They do not have the artistic understanding for this kind of art. Experts, on the contrary, have the advantage of exchanging views with colleagues on various art-related topics (e.g. within the professional association or in cooperation projects).

Working together was relevant for intermediates and amateurs, while for experts this was not the case. For experts and intermediates, it was the most strenuous activity in terms of social interactions. Establishing contacts was for experts more important than for intermediates and amateurs. Additionally, the differences between the expertise groups revealed the time spent in domain-specific practice activities. Experts worked 20 hours and intermediates worked 15 hours per week on an artwork, and amateurs worked two hours per week. Intermediates reflected on their work longer than experts. The results of the

time spent in social interactions showed that experts spent four hours per week in social interactions, intermediates spent eight and a half hours, and amateurs spent two hours.

*4.) What learning environments are conducive to art students for improving their skills?*

The fourth study examined students' perception of their learning environments with regard to achieving goals of artistic learning and the kind of feedback that students believe will enhance their artistic development. Ten art students were interviewed to gain insight into the topic.

The results showed that the students had several different learning environments: (1) projects, (2) courses, (3) excursions, and (4) free work in the studio. In projects, the lecturer specified the topic, while the materials and forms (sculpture, painting, graphics, installation) were chosen by the students themselves. Courses addressed theoretical and practical aspects of specific topics and the sub-disciplines (e.g. painting or sculpture is specified by the lecturer). Excursions enable intensive work over a manageable period of time. The art students mentioned different types of feedback they get during artistic work in the different learning environments: (1) constructive feedback that motivated them to continue working, (2) feedback on work-in-progress of students' sculptures, (3) feedback on technique, and (4) general feedback.

Problem solving was a crucial aspect for the students. Feedback helped during the creation process because the students did not realise all the issues while working on an artwork (e.g. overlooking wrong proportions of a sculpture). Another method for problem solving was to examine artworks of other artists; therefore, the students were engaged with art history as well as visiting exhibitions. The participants reported that there were changes in their artistic work during their studies. For instance, four students started to work on abstract art. Other students switched from painting to sculpture. In addition, some students stated that they can now solve technical problems easier than in the beginning of the studies.

## **10. General Discussion and Conclusion**

For general discussion, the research questions of the dissertation were used as the basic structure. At the end of the chapter, practical implications and future research are discussed.

### **10.1 Perception and Creation Processes**

Perception and creation processes are central aspects for sculptors to become professionals. The three-dimensionality of sculptures need to be considered during the creation process. Experts in sculpture have a better understanding of three-dimensionality than intermediates and novices do. For instance, experts choose other stimulus such as a voluminous form for their own artwork. This is an indicator for a better knowledge and understanding of three-dimensionality. Experts knew how they can suitably use the stimulus for creating a sculpture. This knowledge is considered as occupational knowledge in general. Billett et al. (2018, p. 109) describe canonical occupational knowledge as ‘the conceptual, procedural, and dispositional capacities required to practice an occupation’. This enables experts to solve problematic tasks where beginners have difficulties. According to Silvia (2013), experts share knowledge and constructs based on their formal training.

In sculpture, besides knowledge, aesthetic perception and assessment are important as well. These are central aspects of the perception of sculpture and during the creation process. Making an assessment is crucial when looking at possible suggestions for their own work, to evaluate whether it corresponds to their own aesthetic ideas. Similarly, making assessments during the creation process is important when reflecting on their own sculpture and to what extent it comes close to the desired ideas. Chamberlain (2018) explained that in aesthetic valuation, the processing of knowledge is arguably crucial. This suggests that their own expertise level has an influence on how art is perceived and estimated.

When observing the creation processes of experts, intermediates, and novices, several differences become apparent. Experts handle tools differently than intermediates and novices do. In sculpture, experts are able to use their tools in a more goal-oriented manner to achieve the desired effects on a sculpture, resulting in a more nuanced sculpture. In addition, experts can select the tools they need more precisely than can intermediates and novices.

According to Cianciolo and Sternberg (2018), tacit knowledge is the basis for applying tools or other complex skills. The authors described that the tool can be seen as an extension of the person. However, it is not only tacit knowledge that plays a role in tool use, but also motor expertise. Bril et al. (2010) examined the role of expertise in using hammers with different weights. The participants had to produce different flakes from stones. The results showed that experts, intermediates, and novices can adapt their actions to changing tasks. However, only experts can fine tune functional parameters (e.g. regulation of kinetic energy). These regulation skills are important for using tools in sculpture. Sculptors work with stone, wood, or iron which forces them to adjust their tool use to remove the right amount of material and to achieve the desired shape. Here, experts can work more precisely than novices or intermediates.

Another aspect that stood out was that the experts—in contrast to intermediates and novices—included their own artistic signature in their artworks. This aspect seems to be particularly important in a professional career. Conscious characteristics in artworks help in the recognition of artworks by a particular artist. The artist has a certain artistic vision which he wants to express. This search for their own artistic vision often goes beyond their studies. A study by Wohl (2019) showed that emerging artists aimed to create connected works for iconicity, which indicates the breadth and core elements of their artistic visions. Established artists seek to create associations with the iconic which connects new artworks to elements of their creative visions. In contrast, uninitiated artists present strong statements of their artistic vision. This means that in the process of their professional development, artists change the way they represent their visions artistically.

Own artistic visions and a characteristic signature of a sculptor are results of a development process. At the beginning of this process stands the choice to become a sculptor. The factors contributing to this are discussed in the next section.

## **10.2 Factors and Experiences that Influence the Career Choice of Sculptors**

A crucial factor behind the choice to become a sculptor seems to be the inner drive to be artistically active. This urge can be seen as motivation to

create artworks. This is consistent with the results of Daniel's (2018) study. In the study, art students were asked what motivated them to become artists; the inner drive was mentioned the most. Another aspect mentioned was intrinsic reward, which—often referred to as intrinsic motivation—seemed to play a relevant role for professional development in sculpture. Parents were partially supportive of interviewees' career aspirations, but this was not the case for all. The artists decided to pursue a career in art even if their parents did not support them in their decision, which indicates a strong motivation. In their study, Daniel and Johnstone (2017) asked artists what their primary motivation was for choosing an art study programme. The two most common answers were that they could utilise their creativity. The majority of the students saw themselves as artists in the long term.

For many artists, this means an uncertain financial future. Nevertheless, they have a great deal of autonomy in their work. Most artists are self-employed or work in a hybrid form (Lohmann & Peter, 2020; Norz, 2016). The artistic profession is more unstructured and creative than many professions under regular employment. Artists create artworks with their own ideas, hands, and related skills, and in their own time. Thus, autonomy is experienced not only at the structural level of the artistic activities, but also in relation to the outcome—the artwork. There is no denying that sculptors are also subject to some market pressures; after all, they have to earn their living. Nevertheless, they have more room for flexibility than other professions. In summary, the factors of the artistic activity itself, that is, autonomy and one's own experience of competence, play a role in the choice of profession. These factors play a central role in Deci and Ryan's (1993) highly regarded self-determination theory.

As a result of their inner urge to be actively artistic, sculptors work intensively and thus establish a routine. At this point, the question arises as to what influence this engagement with the artistic process has on skill acquisition. This aspect is related to the next section—the domain-specific practice activities and social interactions.

### **10.3 Role of Domain-Specific Practice Activities and Social Interactions**

One question in professional development in sculpture is how skills are acquired. As in other domains, there are many indicators that the concept of

deliberate practice is applied in sculpture. For instance, several domain-specific practice activities such as working on an artwork or reflection are effortful and quite important. In addition, the lecturer plays an important role in the artistic activity during studies. In other domains, such as sport, this is comparable to a coach. Ericsson et al. (1993) conducted research on deliberate practice in the domain of music. Music and visual arts are both creative, ill-defined domains. Nevertheless, these results cannot be transferred from one to the other. Existing studies in the field of visual arts draw similar conclusions. A more recent study by Chamberlain et al. (2015) showed that drawing ability is related to using more techniques and spending time drawing. People who spent more time in drawing use more techniques. Chamberlain et al. (2015, p. 457) concluded that ‘... actual drawing ability is primarily caused by having learned more drawing techniques, and having more drawing techniques is largely caused by more time spent drawing’. Chamberlain et al. (2015) suggested that time spent in practice is not enough for developing expertise. In sculpture, reflection is a crucial factor for artistic development. Reflection refers to an active examination of the artwork—even during the creation process. This includes formal aspects such as proportions as well as technical aspects, which underlines the importance of deliberate practice in the domain of sculpture.

A special feature of visual arts, in contrast to other domains, is that other forms of practice, other than deliberate practice, are also strongly relevant in professional development. Problems were solved, for instance, by looking at the works of other artists (reading specialist literature and visiting exhibitions). Similar results were found in the interview study with sculptors by Sloane and Sosniak (1985). They asked participants if they read specialist literature for knowledge acquisition. These aspects suggested that purposeful practice is more prevalent than deliberate practice. According to Ericsson and Harwell (2019), purposeful practice meant that practice sessions are done with the aim of improving skills but without a coach or teacher. Considering that art students spend a lot of time working in the studio without any structuring from lecturers, more attention needs to be paid to this kind of practice in sculpture than in other domains.

Another type of training that is often used by art students as well as sculptors is trying out different materials, forms, sizes, or motifs. This is equivalent to naïve practice, which was described by Ericsson and Harwell (2019). Naïve practice happens when art students work independently from the classes, for instance in their studio space. This kind of exercise seems particularly relevant because free work in the studio is practised not only by art students but also, and especially, by postgraduate artists. Professionalisation does not automatically end with graduation but has a significant role afterwards. Some artists change their way of working or change materials during their professional career. It can be assumed that different forms of practice are used in the professional development of sculptors. What is more focused in the domain of sculpture than in other domains, especially well-structured ones, is trying out (e.g. different media or tools). This is especially so as these activities are done both in structured learning environments and when working alone in a studio.

With increasing professionalisation, many artists develop their own artistic signature and artistic skills are improved. Thus, a technical routine is achieved and feedback on one's own work no longer seems as important as it was during studies. Joint projects such as exhibitions or symposia are gaining in importance. Overall, the topic of networking seems central to becoming successful in the art market. Artists and art students perceive establishing contacts as important as well as effortful. Many artists apply for public tenders, search for a gallerist, or look to establish contacts with art associations. This means that gatekeepers play an important role in the artists' network during their studies and afterwards. Gatekeepers assess the work of persons and decide whether to give a chance (Kozbelt, 2019). In sculpture, there are a different gatekeeper such as gallerists who decide to sign artists or foundations that give grants. Ideally, initial contacts are already made with art associations, companies, or public institutions during studies. Here, some academies seem to have advantages over universities, as they often have classes with well-known artists who have already established themselves in the market. How learning environments support art students to improve their skills is discussed in the next section.



#### **10.4 Learning Environments Supporting Art Students to Improve Their Skills**

Problem-solving and trying are crucial aspects for artistic development, regardless of the type of learning environment such as courses, projects, or excursions. Problem-solving can refer to technical aspects (materials, tools) as well as to pictorial aspects (the shapes or sizes of sculptures). There are two central activities for problem solving: (1) exchanges with others or (2) trying. During exchanges, students receive feedback on one or more aspects of their artwork. The feedback can be formative or summative. According to Winstone and Boud (2021), summative assessment is provided when learning has already taken place. Formative assessment takes place during learning and influences it. Both are important for the professional development of sculptors. Students directly benefit from formative feedback during the creation process and can thus solve certain problems better, particularly if these cannot be eliminated by trying. This concerns technical problems as well as content-related or formal aspects. In this way, art students can make rapid progress in learning.

However, since the focus is on sculpture as a product, summative assessment is also necessary. The finished sculpture with its shape, size, material, and so on has an effect on the space and on the people who look at it. Here, the students benefit from feedback and external assessment from key persons such as lecturers and fellow students. This is an understandable factual situation due to several reasons. Lecturers and fellow students are present at the workplace as art students usually work at the university or in the studio, which is often located at the university or academy. Moreover, people who are artistically active themselves are suitable persons to talk to for advice if technical or compositional problems occur. This is less often the case with family or friends. If we look at other creative domains such as music, we see that the family support is particularly important before the university phase. According to McPherson (2009), parents can help their children acquire a positive approach to achievement, enabling children to be motivated to act accordingly.

Another aspect promoted by the learning environments is the establishment of routines and the confidence with the material, for instance, working with clay. This speaks for a progressive professional development. According to Paletz et al. (2013), the process of transferring what has been

learned is a crucial element for professional knowledge and performance. Expert sculptors must have technical skills, creativity, and adaptive expertise, which needs to be acquired through practice. For art students, study time is an important phase for building these skills. Carbonell et al. (2014) described adaptive expertise as an expertise that enables persons to perform at a high level in the face of changing tasks and working methods, which distinguishes them from routine expertise. This adaptive expertise seems particularly important because artworks are usually not created automatically but have different motifs or sizes or are created with different techniques and materials. The section on practical implications will discuss the opportunities for fostering the development of these skills.

Outside of structured learning environments, visiting exhibitions or museums is important for the professional development and inspiration for one's own work. This appears to be an important aspect of artistic and professional development not only from the perspective of inspiration, but also because it offers the opportunity to engage with art outside the academic context. Lecturers have their own idea of art and follow their own style. Exhibitions, with different kinds of art, offer different impressions of artistic depiction. Besides exhibitions, studio space makes it easier for art students to work independently of classes. This is another component for the development of an individual artistic style. A shared studio with other students can be beneficial as well. This enables exchange with fellow students and formative peer feedback can be gathered. Peer feedback has some advantages compared to feedback provided by lecturers. The exchange with peers is more informal and students are less inhibited about communicating their thoughts. They are not in a relationship of dependency (for instance, grade or passing the course). A study of Ghahari and Sedaghat (2018) showed that feedback from peers over time encouraged competition rather than feelings of jealousy and retribution. In addition, the students preferred to be assessed by several different people than by the same set of people all the time.

A further advantage of working in the studio is the possibility to try out new things. In general, art students change the way they work during professional development. For instance, they could move to a more abstract

form. This means that students undergo an artistic transformation during their studies.

### **10.5 Practical Implications and Future Research**

This dissertation provides an overview of the professional development of sculptors. The studies revealed approaches for further research in the field of professional development in sculpture. Additionally, there are practical implications for universities regarding the study of sculpture.

Through the differently methodologically designed studies, several aspects regarding the professional development of sculptors could be examined more closely, such as the relevance of domain-specific practice activities, social interactions, and learning environments. The studies were conducted with a small sample size and used an explorative approach. Therefore, a generalisability might be impacted. For future research, a hypothesis-based approach with more participants might be beneficial to gain more explanatory power.

Some aspects should be examined in more detail in the future. The sculptors were observed in a laboratory setting, not in their studios. It can be assumed that their way of working in their own studio differs compared to art students. In the studio, familiar tools and materials are available with which the artists work routinely. This provides an even closer picture of artistic works. However, observation in the studio enables is less comparable than in a laboratory setting. This is not appropriate with regard to the expert-novice comparison in this dissertation. The setting in the studio is particularly suitable for further studies of domain-specific activities as well as for a closer examination of the creation process, which is not an expert–novice comparison. Another interesting aspect is networking with regard to career development in sculpture. For this purpose, a longitudinal study that follows art students beyond their graduation in their first career steps would be interesting. Students from universities as well as academies should be examined. Academies have a reputation for being better connected to the art market than universities.

For practical implications, networking is crucial. Aspiring sculptors need exhibitions in public institutions, commissions, a contract with a gallery owner, a scholarship, or the like to be able to live economically from their artistic

work. For this, networking in the art community is important. If students are already given their first contacts in the art world during their studies, it would be helpful for a successful start in their art career. For instance, universities can conduct projects that exhibit the students' best artworks. However, beyond this, art students themselves should become active and join art associations. One way of looking at the issue of professional development is the report by Daniel (2010). In Australia, higher education focuses on work-integrated learning (WIL). WIL is a national collaborative education network. The following objectives were embedded in the curriculum for art students: (1) imparting knowledge about career theories, career types, and career development strategies, and (2) integrating strategies that require students to be engaged in reflection on their experiences as individuals as well as a community of reflective practitioners. Integrating these aspects into the curriculum was seen as positive by a clear majority of art students, and the research showed that students' knowledge of the various career options improved considerably (Daniel, 2010). However, Komarova (2018) provides an example of the need to consider national circumstances. A comparison was drawn between India and Russia. Art dealers have more influence in India. In contrast, non-commercial art institutions are regarded for artistic recognition in Russia. Irrespective of these differences, universities can pay more attention to the extent to which contacts can be established or be strengthened by gallery owners, museums, art associations, public institutions, or companies. Most universities or academies already have activities in this context, such as publicly exhibiting the best artworks or an art prize for the best graduate. Nevertheless, these activities can be intensified. For instance, scholarships for studio spaces are very helpful. This is especially so during or directly after their studies when the question of having their own studio is a financial and organisational problem for many budding sculptors. Often, these places are rare or hardly affordable, especially in big cities. One advantage of sharing studio space with other artists or art students is the exchange and interaction, which can include shared information or feedback on one's own works.

During the observations, differences were observed between novices and intermediates. A didactic differentiation should therefore be made here. Kalyuga and Sweller (2018) stated aspects, which considered the cognitive

load and expertise reversal. For instance, novices benefit from explicit instructions and step-by-step processes. Intermediates need less explicitly. In sculpture, for novices, this means primarily concrete tasks and the imparting of knowledge regarding different material characteristics, using tools, and technical issues. For advanced art students, compositional questions are more important. Here, however, reflective feedback and advice regarding art questions are more crucial than concrete guidance. In summary, support for art students should be adapted to the current skill level.

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