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is a book with more than 400 pages. Central ideas are published in English, French and German (Part A). The more detailed articles are written in German with English abstracts (Parts B - D). In the following we present these abstracts as a kind of appetizer and short information about the content.

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## Introduction (p 159)

*Diederik Schönau & Ernst Wagner*

The prototype for a Common European Framework of Reference for Visual Literacy (CEFR-VL) was developed within a project funded by the European Union. In the following part of the book, the context of the framework development is discussed. First a description of the working process is presented (Constanze Kirchner). Then the European context is discussed, from the perspective of European culture (Julia Kittelmann and Franz Billmayer), European cultural policy (Piet Hagenaaars), and developments in European education with regard to competencies (Diederik Schönau) and reference frameworks (Julia Kittelmann). Then the analysis of the data, collected in the European countries to found this framework, is presented (Constanze Kirchner, Folkert Haanstra, Tanya Gotta-Leger, and Marlene Nockmann) and a comparison is made with related developments in Visual Literacy in Anglophone countries (Andrea Kárpáti). The central issue of metacognition and reflection is discussed by Ernst Wagner. Part B closes with an exemplary overview of relevant research in the field of Visual Literacy in German-speaking countries (Claudia Birkner, Gila Kolb, Anja Morawietz, and Katrin Zapp).

## B.1 With reference to the genesis of a competency structure model for art\_VL as a subject - Development, discussion, revision, deconstruction and restructuring. (p 161)

*Constanze Kirchner*

This chapter describes the way the competency model of the CEFR-VL was developed. Based on the results of the analysis of a questionnaire that was completed by experts on visual art curricula in 22 European countries (see B.3.1), intensive discussions took place at the meetings of the project partners between 2014 and 2016. As a first step, eight sub-competencies could be determined that consistently appeared up in the various curricula. The in-depth discussions led to substantive revisions and clarifications, as there are many overlaps and varieties in the concepts used in the curricula. Also the meta-level of reflection and metacognition had to be given more attention. In addition to ‘competencies’, the concept of ‘image’ (‘Bild’ in German) had to be defined more precisely. Where initially the strategy was to integrate all the critical issues in a two-dimensional scheme, it became apparent after some time that it was necessary to abandon this approach and look for a three-dimensional visualisation. In this way we tried to introduce three levels or dimensions. The generic characteristics of any competency from the first level: the combined use of knowledge, skills/abilities, and attitudes, including the willingness to learn and act. At the next level, three generic types of competencies that are applicable to any set of competencies are presented: self-competencies, social competencies, and methodological competencies. At the third level, the specific competencies for the domain of Visual Literacy could be presented. The issue of

metacognition was included in the model as a separate dimension. Finally, the aspects of 'situations' or contexts in which competencies are demonstrated were added to the model.

## B.2 Education Policy

### B.2.1 Why European? Is there a European Identity and a European Interest? (p 167)

*Julia Kittelmann & Franz Billmeyer*

This chapter asks why there is a focus on European aspects. Thoughts on European identity and shared European interests underpin this chapter which deals with the topic of European identity as the basis for ENViL's activities and in the light of Visual Literacy. The focus of this chapter is the construction of identity in general and the problem of European identity in reference to Visual Literacy. In 2003, the philosophers Jürgen Habermas and Jacques Derrida expressed their wish for a common Europe and a common European identity. But what does a European identity consist of?

Identity can be viewed from different aspects. It always moves between self-ascription and ascription by others. Furthermore, identity can be constructed on an individual, social, and collective level. For political identity, the feeling of cohesiveness and acceptance are essential constituents, whereas cultural identity can be constructed on the following three levels: the first level comprises ways of believing, the second ways of life, and the third ways of living together. Thus identities can be very heterogeneous within Europe. However, the acceptance of diversity can be a way of defining a common identity. This acceptance of commonalities and differences in the field of fine arts and visual culture, i.e. the acceptance of plurality, can be seen as one form of European identity.

Ancient Greece and Rome, monotheistic religions, Renaissance humanism, the Enlightenment, and modern avant-gardes movements have shaped Europe's culture and arts: in a continuous dialogue across borders, a diverse repertoire of imagery has emerged from antiquity to contemporary Europe. Awareness for this historically shared cultural heritage and exchange is important and should be passed on in educational contexts. Furthermore, the current pan-European dialogue and exchange are also part of a European identity. In this intercommunication, pictures function as a kind of lingua franca. Thus European citizens need Visual Literacy to be able to participate in this new construction of European identity.

### B.2.2 EU policy on cultural education - big aims with limited weight. (p 171)

*Piet Hagenaars*

European Union member states share many aims for the arts curriculum, such as developing artistic skills, knowledge, and understanding, engaging with a variety of art forms, and increasing cultural understanding. The EU has implemented various policy measures to promote appreciation of the arts and culture by young people in Europe. Consequently, EU member states need to work on the development of the key competence of cultural awareness and expression and its integration into education policies. Development of this key competence has been on the agenda since 2006, when the European Parliament requested that the European Commission define basic skills to be developed in lifelong learning.

In this chapter, international arts and cultural education policy in the period 2006–2015 is explored by considering the instruments which are specifically employed to steer EU policy. The question is to what extent the work of the Comenius project on the CEFR-VL aligns EU policies on cultural education. Firstly, a description of the recommendations for 'key competences for lifelong learning' of the European Parliament of 2006 is given, which is followed by an overview of

priorities, working methods, and targets in the Work Plans for the periods 2008–2010, 2011–2014, and 2015–2018. Using a framework for EU steering instruments – such as legislation with regard to organisation, content, and funding, including decisions, recommendations, and Work Plans; incentives through temporary programmes and subsidy schemes; monitoring and assessment of programmes and the communication of values and aims in the EU Work Plans and Agendas – the priorities, working methods, and targets in Work Plans are analysed.

It turns out that steering instruments in EU policy are largely concerned with communicating values and aims, alongside temporary subsidy schemes to encourage and support cultural cooperation in Europe. However, there is little indication of how the European Commission has evaluated the Work Plans for Culture and the reports of the Working Groups. Furthermore, there is almost no information about whether and how EU member states prepare and implement policies on in-school arts and cultural education. EU policy seems to be focused on formulating and setting activities for the Working Groups, on the assumption that the policy will be implemented by the member states. Consequently, action has to come from the member states and, in the case of the ‘Common European Framework of Reference on Visual Literacy’, from ENViL itself.

### **B.2.3 Visual Literacy and 21st century skills (p 182)**

*Diederik Schönau*

The competency-based approach in art education as presented in this project is part of broader developments in society and education. The concept of competency (or ‘competence’) has its base in the linguistics of the 1960s. At that moment it referred to a mental disposition. The concept was soon taken over in discussions on professional behaviour and personnel assessment, in which competency refers to actual behaviour. In the 1990s a new impetus was given to the definition and use of competency by the agenda of the OECD, when the need was felt to compare educational systems at a worldwide level. Competency then became a concept and a means to redefine educational goals. From here a next step was taken by the European Union when a policy was introduced to compare and renew vocational education at a European level. Competency was used to describe the most central goals and skills of vocational education and practices in Europe. In parallel, due to globalisation and the immense impact of ICT, at a worldwide level, the concept of 21st-century skills was developed, thus offering an all-embracing framework for education in general. It is due to these developments that the challenge of a competency-based Visual Literacy was generated and elaborated in this project.

### **B.2.4 The general concept of a common framework of reference and the Common Framework of Reference for Visual Literacy (CERF\_VL). (p 187)**

*Julia Kittelmann*

This chapter provides gives a brief introduction to the Common Framework of Reference for Languages (CEFR) as a foundation for the Common Framework of Reference for Visual Literacy (CERF-VL). It examines three elements, namely:

- 1) the objectives and purposes of a framework of reference,
- 2) the requirements that need to be fulfilled for a publication with the title ‘framework of reference’,
- 3) the implications of the CERF as a role model for a framework of reference for Visual Literacy (CERF-VL).

The publication of the CEFR in 2001 changed the paradigms for teaching and learning languages throughout Europe. The CERF serves as a mutual orientation for teaching and learning languages

and the assessment of language proficiency. Thus it helps to enable pan-European discussions about the teaching and learning of languages. The CERF also wants to encourage European citizens to learn other European languages by offering a scaffold for language acquisition. The CERF thereby intends to make international exchange and relocation easier for European citizens. Apart from obvious differences between visual and verbal forms of expression, the two frameworks share the following objectives and interests:

- 1) the common European dimension,
- 2) the focus on learning and learners,
- 3) applicability in everyday life,
- 4) the focus on descriptions of competencies.

To serve as a 'framework of reference', the following standards have to be fulfilled according to the CERF: it has to be comprehensive, transparent, coherent, multi-functional, flexible, open, dynamic, user-friendly, and undogmatic. Hence a framework of reference should not be prescriptive. In this, the CERF serves as a kind of role model and template for the CERF-VL.

Also, the motivational character of the CERF on a person-based level is exemplary: with its comprehensible language, various self-assessment tools, and the focus on applicability in everyday life, the CERF is aimed at learners and not only at teachers. Since competencies are expressed in terms of what one can do instead of what one cannot do, it focuses on what the learner has achieved instead of discouraging the learner by pointing out the deficits. Finally, the release of the CERF has boosted widespread discipline-based discussions and exchange on a European scale. Further, it puts language learning and teaching on the map in education policy – an impact that the CERF-VL also hopes for.

## **B.3 Traditions and Didactics of Art Education**

### **B.3.1 Expert consultation respective the curricula in subject art\_ Visual Literacy (VL) in Europe. Methods and first results of country comparison respective curricular structures. (p 191)**

*Constanze Kirchner & Folkert Haanstra*

As a starting point of the project which was to develop a Framework of Reference for Visual Literacy, a consultation of European experts was carried out. Its aim was to arrive at an overview of national curricula and competency models used in school subjects related to the domain of Visual Literacy. A total of 37 subject specialists from more than 20 EU member states as well as from Switzerland and Turkey participated in the survey by filling out a questionnaire. The questionnaire asked for factual and quantifiable data on the respective curricula, such as year of publication, authors, educational level, subject fields, the number of compulsory lessons, terminology, standards, competency levels, and competency dimensions. A qualitative content analysis of the open questions was carried out in order to categorise the given answers systematically. The results of this analysis provide information about the educational contexts of the curricula in Visual Literacy, the understanding of competency, the areas of learning, the educational goals, such as promoting creativity and critical thinking, as well as the aspect of participatory processes in the development of curricula.

### **B.3.2 Curricula for Visual Literacy compared in Europe. Results of the qualitative empirical evaluation of an expert consultation. (p 203)**

*Constanze Kirchner, Tanya Gotta-Leger & Marlene Nockmann*

Information about current curricula in Europe in the domain of Visual Literacy (see chapter B.3.1)

is systematically analysed. This information relates to the understanding of 'competency' as a concept, to the way competencies are achieved in education as well as to the aims and intentions of the related school subjects. The expert consultation shows that the orientation towards competency is present in all European curricula. Almost every European curriculum emphasises problem solving and creative activities as important skills in art classes. In the curricula, specific emphasis can be placed on the choice of media and ways of working. In this context the development of self-competency is significant. This occurs when self-reliant and self-acting creativity is possible and when the discovery of ideas is structurally developed in the classroom. Also, the experts point to the presentation of artistic products as well as the reflection on these products as fundamental components of learning in Visual Literacy. At higher school levels more emphasis is placed on theoretical issues and art history. Although curricula might differ in the emphases given to examples from the visual domain outside school, they all refer to the universe of fine arts, everyday life aesthetics, visual media, design, and architecture.

However, the specifications of the dimensions of the competencies mentioned are not always addressed in the same way. The analysis of the subject specific syllabi and curricula reveals diverse systems and different emphases, but in the end the contents of learning, the educational goals, and the efforts with regard to competencies are comparable. All in all, there are two significant aspects which can be found in every curriculum: the personal development of students (individual development, linked with the competency to solve problems) as well as the development of social competencies as a (European) citizen and as a member of a particular community.

### **B.3.3 Lehrpläne in englischsprachigen Ländern – Formate, Strukturen und ihre Verbindung zum CEFR-VL. (p 211)**

*Andrea Kárpáti*

In this chapter, curricula and documents of national significance that serve as catalysts for innovation in arts and design education in Australia, Canada, the United Kingdom, and the United States of America will be discussed in reference to the CEFR-VL. First, a typology of documents guiding educational planning in anglophone countries is outlined. Current curricula, frameworks, and standards are presented in terms of their differing perceptions of Visual Literacy and ways leading to its enhancement. Then, conflicts of putting visions about art and results of research in education into teaching practice are summarised. Curricular objectives are presented as clashes between ambitious goals and minimal teaching time. As arts educators make continuous efforts to prove that their discipline is fundamental for the development of skills, cognition, and personality in general, output requirements and their formulation as assessment targets are also considered. The value of any curriculum or framework lies mainly in its acceptance, so the chapter concludes with an overview of how curricula in anglophone countries are perceived by teachers whose work they intend to scaffold.

There seems to be a growing trend towards more pronounced central regulations issued as statutory or non-statutory curricula, guidelines or standards. As for contents, an important aspect for 21st-century curriculum design is its multicultural, pluralistic stance. There is a growing tendency towards an interdisciplinary, integrated approach to arts education, formulated in attainment targets, content descriptions, and cognitive as well as affective attainment targets for all art forms. While the respective disciplines remain separate, a synergy based on theoretical considerations of the genesis and co-evolution of art forms is observable. The common core among the arts as school disciplines seems to be a focus on creativity, the communicative and expressive use of the languages of the arts, cultural awareness, and the development of both the cognitive and affective domains.

The extension of 'high art' to include the much wider territory of visual culture led curricular documents away from vague aesthetic concepts to Visual Literacy and creativity in well-defined domains. While attainment targets may still be formulated through professional consultations,

output requirements are now based on empirical research evidence. Assessment has become research based and process oriented. Learning outcomes are knowledge structures, skills, and understandings taught through 'learning progressions'. Skills are often described in socio-cultural contexts as domain-specific clusters and presented through varied teaching and learning settings (or, to use CEFR-VL terminology, situations), to demonstrate the growth of visual competency over time. These tendencies also seem to be shared by the ENViL Network.

The perspectives of the acceptance of a common European framework of reference that does not intend to be prescriptive, but offers the results of a consensus on goals and objectives, major content areas and assessment endeavours of art education seem to be promising. CEFR-VL fits well into the group of documents embodying professional consensus about how and why the arts should be taught, which appear with growing frequency in contemporary art education, and may therefore serve as a promising example for catalysing international and cross-cultural agreement about major issues of content, methodology, and assessment.

### **B.3.4 Metacognition und Reflection. (p 225)**

*Ernst Wagner*

The concept of 'metacognition' deserves special attention in the structural model of CEFR-VL. First of all, this concept turned out to be a most important aspect in the model, which is not included in most European curricula. The concept is given great importance in current debates on education, in which the need for life-long learning is seen as an essential prerequisite for continuous and successful participation in contemporary society. Metacognition is seen as instrumental to support this need, as it relates to the monitoring of one's own cognitive activities and processes as part of the learning process, for instance, in the way an exhibition in a museum can be visited in the most effective way or in classroom discussions on work made by students. The related concept of 'reflection' is seen as a more generic competency. It does not relate to the actual working and thinking process, but to the analysis and understanding of the larger context of one's activities with regard to the domain of Visual Literacy, like the role of images in society, but also in one's own life and work, including issues of aesthetic judgements.

### **B.3.5 The competency model for visual literacy – exemplary and domainspecific German research. (p 230)**

*Claudia Birkner, Gila Kolb, Anja Morawietz & Katrin Zapp*

The meaning of empirical research for competency orientated curricula is stressed by Klieme (Klieme et al., 2007, p. 19). As art education does not have a long tradition of research in all competency areas, this chapter shows a small body of research that can in one way or another be related to the CEFR-VL. The selection is based on four dissertations that are currently written by members of ENViL. Further, a list of existing research by members of ENViL gives a broader insight into this field.

Empirical research in the field of production: research concerning children's art can be found from the beginning of the last century in different study fields, such as art education, psychoanalysis, Gestalt psychology, and developmental psychology. These studies allow a first systematic access to children's drawings and paintings. Subsequent studies organise the development of drawing and painting in stages that are often understood as universally applicable. As we now know that development in drawing depends on a wider range of influences, such as individual interests or social aspects, a strict correlation between age and development of drawing can no longer be claimed. According to this understanding, a competence model and its levels need to be structured independent of age.

Anja Morawietz writes about 'Studies of children's ability to draw (in early childhood)': recent

studies concerning the development of young children's drawing use video to some extent as a method of collecting data. This makes it possible to view the complex process of drawing and to stress individual tendencies in development. Nevertheless, especially the study of Maurer and Riboni (2010, p. 223–232) confirms a certain inter-individual character of development in drawing, without conclusively and systematically linking stages of development to a certain age. Katrin Zapp writes about 'The use of colour in children's art': empirical research of children's art is often restricted to graphic and linear aspects of drawings, whereas the aspect of colour is often neglected. Therefore, models describing the development of use of colour in hierarchical stages are still prevalent in many areas. More recent studies like that of Dietl (2004) show that this mindset has to be reassessed. Introducing two more recent studies in the field of colour, the chapter gives insight into more recent findings of how children and young adults perceive colour and deal with colour in paintings. Moreover, the research results are assessed in respect to the consequences for a competency model for *Visual Literacy*.

Gila Kolb writes about 'Drawing abilities in transition: childhood and adolescence drawing'. Several inquiries into the drawing abilities of children and youths from different perspectives, such as psychology, art education, and pedagogy are analysed concerning the questions and topics raised in the CEFR-VL. The selection of the research presented is based on how relevant the research projects were to the CEFR-VL. The text discusses the research approaches, findings, and proposals made for an understanding of drawing abilities. Furthermore, it points out connecting points as well as missing links, which a future version of the CEFR-VL should consider. The response to images, i.e. how to experience and process images mentally, is an essential area of art education. Within that area, the contribution by Claudia Birkner introduces and juxtaposes a number of empirical studies that focus on five topics: 1) aesthetic development, 2) art appreciation in primary school, 3) art appreciation in secondary school, 4) aesthetic experience and speech in the situation of art appreciation, and 5) art perception and speech in art appreciation. In view of the competency model introduced in this book, the findings of this analysis will revisit the findings of the empirical studies and thus empirically enhance the abstract dimensions of these findings. The analysis shows that the results of these studies can be applied to the sub-competencies (which are perceive, describe, empathise, experience aesthetically, envision, interpret, value, judge, and analyse) of the competency model of the CEFR-VL.

## **C.0 The implementation of the CEFR-VL in educational policy and schools. (p 249)**

*Diederik Schönau & Ernst Wagner*

The prototype for a Common European Framework for Visual Literacy (CEFR-VL) has to be understood as an instrument which addresses issues regarding the improvement of Visual Literacy in education. Part C of the book discusses the way the CEFR-VL can be implemented in curriculum development, the development of meaningful assignments for students, and the way the learning of students can be assessed. Another consequence of the CEFR-VL is discussed regarding the role of teacher training institutes for the further development of this domain. Finally, attention is given to learning outside school and to possibilities for using the CEFR-VL in future research in this field.

## **C.1 Curricula. (p 253)**

*Diederik Schönau & Ernst Wagner*

Curricula determine the selection of competencies a student should acquire. The concept of Visual Literacy offers a broad range of possible options for decisions in the process of developing curricula. The CEFR-VL delivers a descriptive grid and thus an instrument to relate respective decisions to a European framework.

## C.2 Situations

### C.2.1 Suggestions for Using the Situation Wheel for Constructing Assignments. (p 255)

*Franz Billmayer*

The 'situation wheel' is a tool for creating assignments based on the requirements and preconditions of specific situations. It organises such situations into eight categories. The 'situation wheel' can be used for developing a broad variety of assignments, thereby making teaching more individualised.

### C.2.2 Competencies and Situations. (p 259)

*Franz Billmayer & Ernst Wagner*

In this chapter, two examples of situations are presented to demonstrate the relevance and usefulness of the 'situation approach' as the starting point for the construction of student assignments. The first example relates to the visit to a museum, the second example to the designing of a card to congratulate a friend on the occasion of his/her wedding. Both situations are analysed from the perspective of the specific sub-competencies that need to be addressed for students to master the situation in an appropriate way.

## C.3 Assignments

### C.3.1 Competency-based Assignments – Introduction. (p 265)

*Ernst Wagner & Petra Sigrist*

The construction of tasks and assignments has a central position in Visual Literacy. There are three types of assignments: for practising specific skills, for competency development, and for assessment. Tasks will vary in complexity, length, and character, depending on the level of students. But from the perspective of Visual Literacy tasks should always be related to a situation. This means that tasks for training, which are fundamental for the development of technical skills, cannot be seen as competency-based assignments, as they only relate to one aspect of competency development: the training or refinement of one skill. Tasks can be executed by individual students or groups of students. Within the context of the CEFR-VL, tasks should also relate to the competencies as described in the framework and thus be part of a learning process over time, taking into account what has been learned so far and what could be the next step. At the same time, personal, social, and methodical competencies should also be taken into account. The consequences of this approach are discussed with the help of an example taken from practice.

### C.3.2 Drawing Dragons in a Second Primary School Class – Stings, Scales and Breathing Fire. An Example for an Assignment. (p 272)

*Anja Morawietz & Natascha Zeltner*

This example is an assignment given to students aged 7–8 in a primary school in Switzerland. The teacher tells a story about a dragon. Students have to think and discuss about the characteristics of dragons. They are then given examples of reptile skins and books with images of dragons. They are asked to make drawings of these skins and of details of the dragons, like tails, wings, claws, etc. The next step is to make sketches of dragons. After this, students make a clay model of a

dragon. Finally, the students listen to the end of the story and make a drawing of the dragon. The assessment focuses on extending the competencies of students to observe and to imagine, so that they are able to produce the representation of a dragon. The assessment can be done using the level descriptions as given in the CEFR-VL structural model, concentrating on improvement, not on absolute levels.

### **C.3.3 Head with Story - Assignments in an Artistic Project. (p 277)**

*Carl-Peter Buschkühle*

This example relates to a series of assignments on 'A head with a history', covering a period of 40 hours. The assignment was presented to students aged 13–14 at a school in Germany. The students could draw the head by using their imagination. The history was introduced by means of examples from fantasy figures in art of the past and in contemporary film. Also, the front of a car had to be analysed and elaborated in such way that it could be included in the work in a visually convincing way. The assignment consists of eleven steps, presented one at a time with instructions, but students were given freedom – and even challenged – to generate their own stories and interpretations. Students had to work in two- and three-dimensional formats. Each step is analysed from the perspective of the competencies addressed, thus demonstrating the helpfulness of this concept to make sure that studio work assignments are addressing all types of skills, knowledge, and attitudes in a consistent, integrated, and productive way.

### **C.3.4 Central practical exams in the visual arts in lower vocational education in the Netherlands - an example from 2015. (p 282)**

*Diederik Schönau*

In this chapter an example of a nationwide final examination of a central and practical nature is presented in which studio work is assessed. This examination relates to lower secondary vocational education and is taken by students around age 16 who can take this examination on a voluntary basis as part of their final examinations. The assignment is presented at national level, with strict descriptions related to the content or theme of the assignment, the working process, and the characteristics of the work to be done. On the other hand students have a lot of freedom to decide on the interpretation of the theme, the content which is to be represented, the overall approach and design of the work, the materials and techniques to be used, and the way the work is presented. The examination addresses the combined use of knowledge, skills, and attitudes, as intended by the competency-based approach in Visual Literacy. In this way this examination exemplifies the possibilities of competency-based studio work, also in examination situations. The work is assessed by the students' own teacher, who uses prescribed types of criteria. Half of these criteria relate to the working process, the other half to the product itself. The work also includes self-assessment by the students and the skill of students to assess the work of their peers.

## **C.4 Assessment**

### **C.4.1 Assessment in Visual Literacy. Visual Literacy. (p 285)**

*Diederik Schönau*

In education, assessment is the counterpart of instruction and learning: it answers the question of the extent to which the intended results of educational efforts have been met. Assessment can serve different goals. It can help determine the progress of learning and thus support teachers to optimise instruction. It can also help to determine the final results of the learning process.

Assessment can also be used to diagnose the actual state of affairs, in relation to earlier learning or to more structural cognitive characteristics like intelligence, dyslexia, etc. Finally, assessment can be used to monitor the level of education at class or system level. In practice, in Visual Literacy, most assignments are both learning and assessment tools. Therefore, it is vital for teachers to determine the goal of each assignment and make sure that students have a correct understanding of what is expected of them and on what aspects their work will be assessed, both at product and at process level. When using the competency-based approach teachers must be clear what knowledge, skills, and attitudes are addressed in an assignment. These goals should be formulated as criteria that are unequivocal, realistic, and relevant. It is essential that students know these criteria beforehand. Individual student assessment can be related to (external) standards, be based on comparisons between students in the same class or group or be based on the results of an earlier assignment by the same student. Finally, grading is sometimes needed. This should be done at a level of specification or detail that is realistic and transparent for the student. Sometimes the quantification of qualitative judgements is inevitable. In that case each quantitative level should be related to identifiable qualitative aspects of the work or the working process.

#### **C.4.2 The construction of an assessment instrument based on the competence model. (p 292)**

*Folkert Haanstra & Talita Groenendijk*

Literature on assessment and assessment instruments in art education in primary and secondary schools is reviewed and experts are consulted in order to construct an instrument for formative self-assessment based on the competency model of the CEFR-VL. The instrument consists of a visual and a text rubric for the production and reception of artistic products.

#### **C.4.3 Evaluation of the visual rubrics based on the CEFR\_VL competency model by art teachers and students. (p 300)**

*Talita Groenendijk & Folkert Haanstra*

To what extent is the visual rubric (and accompanying text rubric) based on CEFR-VL competencies a feasible and valid instrument for assessing production and reception activities in secondary art education in different national contexts? As the visual rubric is an operationalisation of the CEFR-VL model, we also evaluate the applicability of the CEFR-VL model itself. The instrument was implemented in four countries: the Netherlands, Hungary, Germany, and Austria. Participating teachers and 23 Dutch students were interviewed about the implementation of the assessment and their evaluation of the instrument.

We conclude that the assessment instrument is feasible, but teachers need to explain the criteria before students start working, coach them in using the assessment form during the productive/receptive work, discuss the assessment afterwards, and use the instrument repeatedly. The current instrument seems valid with regard to the competencies or competency dimensions it describes, but these have to be clarified for students. A follow-up to this research is envisioned to improve the instrument.

#### **C.4.4 Online tests for the assessment of spatial perception (spatial imaging). (p 319)**

*Andrea Kárpáti, Bernadett Babály & László Budai*

This chapter discusses a case study in technology-based assessment, a form of developmental evaluation that is currently introduced in art education in many countries as it becomes dominant

in international assessment projects like PISA and IEA. The task development of the Hungarian project described here follows the tripartite division of the structural model of CEFR-VL – knowing, ability to act (skills), and attitudes. Spatial ability is evaluated as a system of sub-competencies, for example, spatial perception, orientation in space, identifying spatial qualities, interpretation of spatial structures, representation of changing experiences of space through time, reconstruction, and modelling. Cognitive skills involved in perception, design, and creation are targeted simultaneously, just as in real life. Visual skills are in focus, but other competencies are also targeted, revealing the interdisciplinary significance of art education.

We provide students with a personalised, flexible, online practising and testing environment with the integration of GeoGebra, an innovative, dynamic visualisation software, which enhances spatial skill components through real-life imaging and construction as well as creation and design in virtual space. Tasks resemble the kinds of tasks students will encounter not only in engineering, architecture, medicine or information technology but also in medium-level technological jobs.

GeoGebra makes it possible to visualise any spatial problem and move the image so that different angles can be observed in virtual space. The tasks are embedded in the national online assessment system, eDIA, where results of 'Art and Visual Culture' may be compared with core disciplines (mathematics, mother tongue, science, and foreign languages) as well as eleven other areas of studies (including music and media arts) to reveal correlations and cognitive, affective, and psychomotor gains resulting from education through art. Art teachers may thus design individualised, game-like teaching-learning processes that support talent development and cater for special needs (like mental or psychomotor deficits) at the same time.

Gamification of assessment proved to be a beneficial strategy in the area of spatial ability testing if reliable tasks were developed, resembling computer game environments, with the use of 3D applications. The 3D virtual reality environment proved an equally authentic tool for testing spatial skills as traditional paper-and-pencil 2D tests and much more motivating for skills enhancement through individual practice. Large-scale studies revealed that mental manipulations requiring imaging (such as reconstruction, completion or movement using cognitive capacities) should be developed more intensively in arts and design education, as their level does not improve significantly in students aged 10–16 and as they are highly relevant for a wide range of professions. Tasks contextualised as stories and represented in real-life spaces proved inspirational for longer solution processes and elicited more sophisticated and correct responses than abstract spatial tasks resembling those used in psychological tests and traditional art instruction.

The testing processes used directly involve creative and design practices as confronted in real life, interlinking evaluation, education, and (self)improvement in a problem-solving situation. The testing environment promotes the identification of spatial manipulation strategies and supports art teachers in the development and diagnosis of visual abilities and deficits. We are currently designing teaching programmes for 11–16-year-olds that interlink work in real and virtual space through problem-centred tasks, to support the description of levels of cognitive development using CEFR-VL through imaging, modelling, and construction in arts and design education.

#### **C.4.5 Assessing the Competence of Children Aged 4-8 Years in Art Education. (p 328)**

*Anja Morawietz*

This chapter discusses the possibilities and limitations of assessing the work of students aged 4–8. Students in this age range start from a kind of 'zero level', based on generic ways of visual representation. Therefore, assessment should have a formative character, whereby the drawings can be compared to what can be expected at a particular age level. To get a correct insight into the competencies of a student, teachers should discuss the work and the working process with the students. They should also play an active role with regard to the use of materials and the ways students can represent, draw or model a figure or scene. This approach is illustrated by an

example of children dressing up and then drawing themselves using a mirror. The assessment focuses on the competencies to perceive and create. The reporting is done by descriptions that are formulated in a positive and stimulating way and that are helpful to the teacher and informative for parents.

## C.5 Teachers Competencies

### C.5.1 Competency measurement as a means to improve pedagogical action. (p 335)

*Gabriella Pataky*

This chapter is concerned with competency measurement as a means to improve pedagogical action. In teaching, the promotion of Visual Literacy competencies is predominantly induced and realised by means of tasks, especially tasks that promote artistic creativity. Such tasks often take a complex and interdisciplinary approach. Their closeness to life is not only inspiring but also represents reality.

Such tasks must be developed, yet the question arises how learning processes can purposefully be accompanied by formative evaluation and a summative assessment of learning results (Bodóczy, 2000). Assessment – in the sense of testing the success of learning through examination tasks – plays a highly important role for diagnostic purposes: what stage does the learner reach during or after the learning process? What are her or his strengths? Which problems and deficits become apparent? Which (sub-)competencies can be discerned?

Yet, this is not only important for the diagnosis of the learner's progress and thus for the improvement of learning, but also for the improvement of teaching. The purpose of assessment in the context of teaching is also the optimisation of pedagogic action. Reulecke and Rollett (1976, p. 177) write that "diagnostics in decisive situations in school serves to gain information for the optimisation of pedagogic action". "The term pedagogic diagnostics refers to measures which shed light on specific problems, to assess the success of teaching and learning, and to assess the individual's educational potential in the pedagogic field, especially such measures that help to choose a school career, a training course, a vocational training or further education." This definition by the Bund-Länder-Kommission (The Commission of National and Regional Representatives) from 1974 contains all the essential aspects a teacher needs for appropriate pedagogic action. The PISA Consortium also links assessment/diagnostics – learning – teaching in this way: "A central precondition for an ideal promotion [of learners] is the teachers' adequate diagnostic competence, i.e. the ability to correctly assess the learners' level of knowledge as well as their processing and understanding of input. Diagnostics in decisive situations in school serves to gather information for the optimisation of pedagogic action." (Deutsches PISA Konsortium, 2001, p. 132). In this sense, pedagogic diagnostics comprises all measures that contribute to the improvement of learning and teaching through observation, here especially the assessment of the teaching-learning success. Thus, teachers must also be diagnosticians – with the capacity to conceive of the preconditions, processes, results, and environments of learning. Using the example of a design task, the following chapter shows how this can be put into practice.

### C.5.2 Transfer of visual literacy competences to teacher training: an analysis. (p 341)

*Piet Hagenaars*

The introduction of the Visual Literacy competencies as developed in the Comenius project calls for the support of teachers who are currently active in schools as well as for a critical review of the

programmes of teacher training curricula and the development of new content and approaches. In this chapter the competencies and corresponding key qualifications of newly qualified teachers in visual arts and design for primary and secondary education in three European Member States – England, Germany, and the Netherlands – are reviewed. The three countries are selected because of their size and the significant differences in their teacher training systems. Subsequently, the outcomes are compared with the competencies as developed in the CEFR-VL. The comparison is based on main themes rather than detailed analysis, as the aim is to present an impression of the similarities and differences. In the conclusion, the prospects for realising a Common European Framework of Reference for Visual Literacy are explored. Although in a number of cases competencies are described on a meta-level, while others are stated in more concrete terms, there seems to be hardly any difference between the teacher competencies in the three countries. Likewise, the key competencies teachers are required to achieve in training programmes in the Netherlands, England, and Germany are not dissimilar to the CEFR-VL framework of competencies. The concluding argument envisions a strategic plan with clear defined policies and goals for implementation, together with a timeframe for completion. As a formal national policy approach is not always desirable when it comes to introducing reforms, it is suggested that the EU Member States cooperate with institutions at national level, i.e. institutions that review the national curriculum and intermediary partners like national associations of teachers in visual art and design and teacher training.

### **C.5.3 Teacher Competencies in the Field of the School Subject Art Education in the Czech Republic. Transfer of the Framework in Teacher Training. (p 354)**

*Věra Uhl Skřivanová*

Based on empirical research, this study aims to identify, evaluate, and define the qualities of teachers' competencies in teaching Visual Literacy with regard to the newly defined 'expected outcomes' of the Czech curriculum as well as to the students' competencies of the CEFR-VL. Qualification works at the University of West Bohemia (Západočeská univerzita v Plzni) and the Charles University in Prague (Univerzita Karlova) were analysed with regard to the required professional competencies of art educators. The most used typology of professional competencies of an art teacher (Slavík, 1993) in the Czech Republic has been updated by the author of this research and has served as an instrument for the diagnosis of art teachers' competencies in terms of the research presented.

In 2014/2015, students of the University of West Bohemia and the Charles University in Prague collected empirical research data at ten Czech grammar schools. Competencies of grammar school teachers were specified and analysed in relation to the newly defined pupils' subject-specific competencies. The qualitative content analysis according to Mayring (2007) was used to describe the educational results as recorded in observation protocols. The study gives rise to questions with regard to new requirements in the field of teachers' qualifications in an international context. The results will be used in pre-service and in-service teacher training or as input for the further development of concepts.

## C.6. Application in further context

### C.6.1 The relevance of location for gaining competences – non school based places of learning. (p 364)

*Werner Fütterer*

This chapter addresses the relevance of location for acquiring competences – places outside the school context: Places of learning outside school are important factors to consider with regard to developing pupils' perceptions and for educational and cultural reasons. This also applies to students who want to work in schools later on. Learning and teaching experiences in the field of art education acquired outside the school environment are usually connected with places like museums, studios, workshops, archives, and interactive learning centres. In this chapter, these places of learning are described as part of the wider living environment that can be associated with educational and aesthetic functions.

Learning in places and facilities outside school environments involves acquiring information firsthand, discovering new perspectives, gaining new experiences, and developing emotions towards certain situations. This usually involves leaving the school environment, which, in the context of school and university, is an effective method to motivate and inspire learners. The topic of this chapter is how to shape the perception that a change of place is a means to leaving school behind and to give examples of how this can be included in planning lessons. For students this approach means getting involved in unfamiliar practises and methodologies. For teachers it means leaving the usual constrictions of school routines and curricula – in many instances this means having to overcome regulations, guidelines, and reservations. In addition, the classification of the place of learning which is not school based as part of the curriculum will be looked at. This chapter presents a method for changing place and location, for leaving the school environment behind to explore the urban space as well as hands-on projects led by students which promotes competency-oriented work with students. The basic principle here is the CEFR-VL competence structural model.

### C.6.2 Use of competence structure model in the research - documentation of a project in Hungary. (p 372)

*Gabriella Pataky*

Possible applications of the competency structure model in research: Design, in the sense of product design, as developed from craftwork. It is crucial for the economic success of companies in that it is related to how well employees will do in their jobs, thus contributing to the prosperity of societies. The competencies at work in the development of design are competencies of *Visual Literacy*. This is one of the main reasons why most European countries concern themselves with design education. Yet, design education, which has its roots in creation classes in Great Britain (Hill, 1998), is rarely promoted and demanded to the extent that would be appropriate for its actual importance. The attitudes toward design education differ significantly within Europe, as a survey within this project has shown (cf. B. 3.2.). The survey carried out among experts revealed that in certain countries design is considered to be a sub-section of arts education (in Germany, the Netherlands, the Czech Republic and Hungary), while in others design is a separate subject (in Switzerland: Technical and Textile Design, Handicrafts; in Austria: Technical Handicrafts, Textile Handicrafts/Design; in Denmark: Woodwork and Textile; in England: Design and Technology, Design and Art; and partially also in some types of schools in Germany: Handicrafts, Textile Design).

In my project, presented here, various possibilities for the assessment of competencies against the backdrop of the competency structure model were developed. The visual capacities of my focus included perceiving (of space), creating objects, and communicating through visual signs. These were always related to design and to manifestations of everyday visual culture (the latter being the Hungarian term for design in education). My investigation concentrated on the sub-competencies of creating, drafting and realizing; the students involved were children aged six to twelve. They were confronted with craftwork and design tasks, which were primarily those of constructing, building and tinkering.