

Innovation and Reflexivity in the Research Process

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By

Alexander Jungmeister

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INTRODUCTION

Excellent research requires clear project management and constant critical reflection on achievements. This book makes a particular contribution in this respect. The individual steps of a research project, dissertation or postdoctoral qualification must be well planned. The planning begins with the financing of the research performance through to the presentation of results at a separate meeting and the finished publication as ‘print’ or ‘E-book’.

Prof. (FH) Dr. Alexander Jungmeister has already presented the reflection methodology in and around research projects at two meetings of doctoral students and habilitation candidates in Lucerne and Naples, the German-language research colloquium in Lucerne and the English-language research colloquium of the Center for Comparative Constitutional Law and Religion in Naples. On both occasions, doctoral students and lecturers alike felt inspired and motivated to improve their research projects using the reflection methodology.

I am pleased that the publishers are generously supporting this project, so that a publication in both German and English, as well as an E-book version, can be available. I particularly appreciate the latter for the distance learning students of our faculty, who follow our lectures from all over the world. Some have already expressed interest in a doctorate. The slides and the book provide project managers (‘doctoral supervisors’) with an additional instrument for quality assurance for the management of their projects. Furthermore, the interdisciplinary and entrepreneurial spirit of the book by Alexander Jungmeister is inspiring for innovation in scientific research.

Prof. Dr. Adrian Loretan
Co-Director of the Center for Comparative
Constitutional Law and Religion
University of Lucerne

FOREWORD

From time to time, as part of university life, research, teaching and management, I encounter “one-dimensional” documents, texts and works which often seem to be based on a rather simple diagram of a series of facts. When called upon to take a critical, reflexive review of these facts and to complement the work with different perspectives or points of view, I often get requests for a useful introduction to the “art and science of reflection”, particularly in a research context. Indeed, there is a myriad of scientific journal articles which analyse or involve reflexivity in one form or another, yet there is no textbook that clearly describes the essence of the “craft of reflection” and its applications and limits in a concise form. Or, to put it in the words of Michael Lynch: “Reflexivity is a central and yet confusing topic” (Lynch, 2000, p. 26).

I have therefore decided to write a textbook myself. This textbook should not replace, but rather will complement, other introductions and textbooks on research methodology (e.g. Raithel, 2006) or specific guidebooks for researchers and doctoral students (e.g. Mentoring Deutschschweiz, 2015). On the one hand, it was important for me to “reflect” on recent literature, but, on the other, not to lose sight of the practical purpose – an easily legible guide for newcomers. When in doubt, I opted for a simpler description to the detriment of specific aspects of reflection methodology.

It has been known since ancient times that the method of reflection is generally suitable for many areas, and that reflexive approaches can be found in many different disciplines – in politics and governance, management, in various fields of science, as well as in professional practice and everyday life. Thus, there are countless articles and books on topics such as learning and reflexivity in school or university life, at hospitals, for managers, architects and psychologists, or also for partnerships. In light of the abundance of material and to keep the introduction from becoming too weighty, I concentrated on articles and publications from (business) economic and legal journals from the past 5 years. In this context, it was important for me to include the core concepts of reflection, which have proven to be leading-edge concepts in recent years.

For this reason, this book focuses on scientific knowledge acquisition in the context of research, discovery and justification, but not in the context of exploitation. As a practical guide, it should offer assistance with the targeted use of reflection processes for specific research projects. From the large number of possible research disciplines, I have selected and focused on examples from business economics and the legal sciences, without wishing to imply that the method can only be meaningfully used for these fields.

The book, which clearly focuses on the reflection methodology, always refers to innovation when reflection can contribute to innovation, or when reflection is a downstream element of the innovation process (e.g. when using creativity techniques). This means that the book highlights the innovation interfaces, but it does not go into detail on the innovation process. That would be a separate book entirely.

For me, it is important that the book can be used in the context of studies and/or research, which is why I have complemented the book with explanatory images, easily understandable outlines/layout overviews and other reading and application aids. The book is also complemented by an extensive bibliography and there are many references to specific aspects of reflective methodology. Furthermore, an Appendix with worksheets should make the actual initiation into the practice of reflection easier. There is also a set of slides in German and English available to lecturers on the following web platform:

<http://www.reflexion.academy> -> go to the download area.

A book project can never be accomplished single-handedly and many hands have contributed and allowed this project to become a reality. In particular, I would like to thank Mrs Diana Millet, M.A. for the scientific literature research, the proofreading and valuable suggestions with regard to presentation, content and layout, and Dr. Nadja Fabrizio for the large amount of information in the area of legal methodology, which were used in the book. Furthermore, I would like to thank Prof. Dr. Adrian Loretan for the valuable information in relation to philosophical terms and concepts.

Alexander Jungmeister, April 2016

CHAPTER ONE

A BRIEF HISTORY OF THE THEORY OF REFLECTION

In recent decades, interest in critical thinking and critical reflection has been rapidly increasing and has brought numerous publications. This is the case for many countries, in disciplines such as design, architecture, philosophy, law, education, adult education and medicine (cf. Ghaye & Lillyman, 2000) and with different contexts (cf. Cunliffe, 2003, 2009; Weick, 2002; Bryman & Cassel, 2006; Alvesson, Hardy & Harley, 2008).

The result was an active discourse and the development of different theories, definitions and methods of reflection and reflexivity (cf. Woolgar, 1988; Pels, 2000; Lynch, 2000; Finlay & Gough, 2003; Alvesson et al., 2008: in Tomkins & Eatough, 2010, p. 162).

However, the diversity of the various concepts and methods also results in a dilution of definitions and terms and a vague and synonymous use of these definitions and terms (cf. Loughran, 2002). This is already evident among other things in the inconsistent or overlapping and partially synonymous use of the terms reflection, reflexivity, critical thinking, and critical reflection (cf. White, Fook & Gardner, 2006, p. 3).¹

A brief, non-comprehensive overview of the most important stages of the reflection concepts and models is given below to show the breadth and depth of reflection theory. In the subsequent chapter (Chapter 2), a definition is given which is used as the basis for the model presented in this book. In principle, reflection can be regarded as critical thinking or a com-

¹ In particular, the concepts of reflexivity and reflection are used synonymously in the literature (also in this book); only Finlay makes a distinction based on an imaginary continuum within the status of a project from extreme “reflection” in the sense of a reflection on an object that is time-distanced to “reflexivity” as a dynamic, more immediate, ongoing, subjective, self-conscious process at the other end (cf. Finlay 2002a, p. 532). Cf. also Hertz: “To be reflexive is to have an ongoing conversation about the experience while simultaneously living in the moment” (Hertz, 1997, p. viii).

ponent of the history of philosophy. In this regard, there are many classification schemes for the division of the history of thought or philosophy.

Degérando (1990) divides the history of philosophy into thought patterns and terms (p. 246):

1. The search for the principles of things (Pre-Socratics)
2. The phase of logic and dialectic (Classicism, Hellenism)
3. The phase of logic and dialectic (Classicism, Hellenism)
4. Axioms and reasoning (Scholasticism)
5. Art of the method, search for laws, study of the mind (modern period).

Tennemann (1929) provides a different, chronological breakdown with the following categorisation (p. 14):

1. First period. The free striving of reason for the knowledge of the ultimate causes and laws of nature and liberty from principles without clear awareness of guiding principles. Philosophy of classical antiquity or Greek and Roman philosophy.
2. Second period. The striving of reason for knowledge under the influence of a principle that is beyond reason and given by revelation [...] Philosophy of the Middle Ages.
3. Third period. Independent striving to research the ultimate principles and complete the systematic linking of knowledge, especially visible in the investigation, justification and limitation of philosophical knowledge. Modern philosophy.

Approaches to reflective thinking already existed in ancient Greece, e.g. Socrates († 399 BC), who pointed out the importance of self-reflection. Socrates developed this methodology and named it maieutics (“midwifery”). It essentially consists of an interplay of questions and answers that is itself structured according to specific principles. These forms of dialogues seek to investigate situations in a targeted manner on the basis of questions and answers. In this regard, the focus is on the technique of questioning:

“Socratic questioning takes precedence in Socratic dialogues. The question contains two moments: It is an expression of the ignorance of the questioner and an appeal to the respondents to answer or admit their own ignorance. The answer provokes the next question, and the dialogical investigation takes place in this way.” (Pleger, 1998, p. 95)

The essential elements of structured reflection can be therefore distinguished as:

- Organisation (two persons)
- Process (dialogue consisting of questions and answers)
- Objective (knowledge acquisition).

In the later modern period, Kant and hermeneutic philosophy also dealt with reflective concepts and thoughts (cf. White, 2006, p. 19). With regard to hermeneutics², the focus is on the interpretation and understanding of texts. Hermeneutics developed into a general theory of the conditions and methods of good interpretation and a philosophy of understanding (cf. Nöth, 2000).

Reflection on the context of interpretations, meaning and understanding, even non-text-bound works (e.g. in music, art, theatre), is also attributed to hermeneutics. In this respect, understanding is a mode of “being”, in which the world interprets itself. This rather intuitive approach regards understanding as being something spontaneous and pre-reflexive that underlies all knowledge and discursive thinking.

Kant examines the topic of reflection in an appendix to ‘Transcendental Analytic of the Critique of Pure Reason’ (1998b). His view was that reflection is ambiguous, as it “[must] abstract from all subjective conditions of intuition (...), thus we have nothing but the inner sense of the concept itself“ (Kant, 1998b, B 339). This results in the demand for transcendental reflection, i.e. it “finds the subjective conditions under which we can reach concepts“, and it has “nothing to do with the objects themselves“, from which the concepts should be obtained (Kant, 1998b, B 316). In his concept of reflection, Kant distinguishes between the perception of the real world and the world of the derived mental construct.

These elements of reflection are also found in the concepts of earlier authors of those works which form the recent literature concerning reflection.

Dewey (1916, 1933, 1986a, b, 1997) defines reflection as a process whereby an individual is confronted with a problem, which leads to deep and thoughtful reflection/consideration. This process can lead to the questioning of underlying assumptions and thus to a new understanding of a situation/problem. Dewey’s theory deals with problem-oriented reflection on an individual level. Dewey develops his reflection model on the basis of the well-known umbrella example (a person leaves the house and sees

² ‘hermēneúein’ – Ancient Greek for ‘explain’, ‘interpret’, ‘translate’.

clouds, he reflects on it, anticipates rain and takes an umbrella as a result/action). This model includes the process (reflection, asking targeted questions about causes/consequence), a result (taking umbrella), organisational aspects (here: self-reflection), a purpose (protection against wetness), and context (intention to go for a walk).

Pingry (1951) later refers to the following as elements of a model of critical thinking (p. 468):

- the collection of data
- the organisation of data and the formulation of hypotheses from the data
- the application of correct principles of logic and reasoning
- critical thinking as a critique of thinking, and
- critical thinking as problem-solving.

He proclaimed reflection as a structured process with results and the objective of problem-solving on the basis of individual reflection (= Organisation).

The methodology of reflection can also be regarded as a special form or branch of the development of critical thinking. As a result of the continued use of the term ‘critical thinking’ with reference to the importance of the ability to solve problems, this ability has over time also been referred to as ‘reflective thinking’ or ‘reflective practice’. These concepts go back to Schön (1983).

In the 1980s, the term ‘reflection’ became well known because of the book by MIT Professor Donald Schön “The reflective practitioner” (Schön, 1983). His model contains a dialogue between a teacher and a student (‘organisational aspect’), a rather unstructured dialogue (‘process’) with the objective of knowledge acquisition for taking action or solving a problem in professional practice (‘result’), i.e. it implies an orientation towards action. Thus, he brought reflection down from the ivory tower of pure thought to knowledge acquisition for professional practice. He also identified the skills required by a ‘reflective practitioner’, e.g. they must see a problematic situation from new perspectives and be able to analyse the reasons for the problems encountered (Schön, 1983, p. 132). In the process, reflective “practitioners” draw on implicit experience from their practice, not just explicitly available “tacit” knowledge.

Furthermore, his model offered a temporal and conditional reflection in relation to action (=Action, cf. Schön, 1983, p. 79ff):

- Reflection before action (only implicit, not explicitly mentioned)
- Reflection in action
- Reflection on action.

Boud, Keogh and Walker (1985) regard the result of the reflection process as a new way of doing something to develop an ability or to solve a problem (p. 34). In addition, Boud et al. formulated seven elements of the reflection process in the sense of self-directed learning (p. 21):

- Return to or integration of direct experience,
- Attention to emotions,
- Association,
- Integration of association,
- Validation of findings,
- Evaluation of findings, and
- Definitions of decisions and actions (“Actions”).

Boud et al. thereby formally complement, structure and expand the (largely unstructured) reflection process in comparison to Schön (1983).

Mezirow and Associates (1990), who agree with Dewey that an improved action or knowledge should be the objective of reflection, were the first to make the distinction between reflection and critical reflection. In this regard, they understood critical reflection as the involvement of the examination of the underlying assumptions, whereby both concepts are very similar. Mezirow stresses overcoming the force of habit as the objective and basis for reflection in the sense of a learning process:

“Perhaps even more central to adult learning than elaborating established meaning schemes is the process of reflecting back on prior learning to determine whether what we have learned is justified under present circumstances. This is a crucial learning process egregiously ignored by learning theorists” (Mezirow and Associates, 1990, p. 5).

In this context, Mezirow and Associates (1990) differentiate and expand the intellectual model of content, process and result (cf. image 1) with an action perspective that is expanded in comparison to Schön (1983), i.e. “action”, whereby the results and actions are also divided and classified in his model. These are either “non-reflective” or “reflective” (in the sense of learning) in relation to process and content (cf. also image 1 and 2).

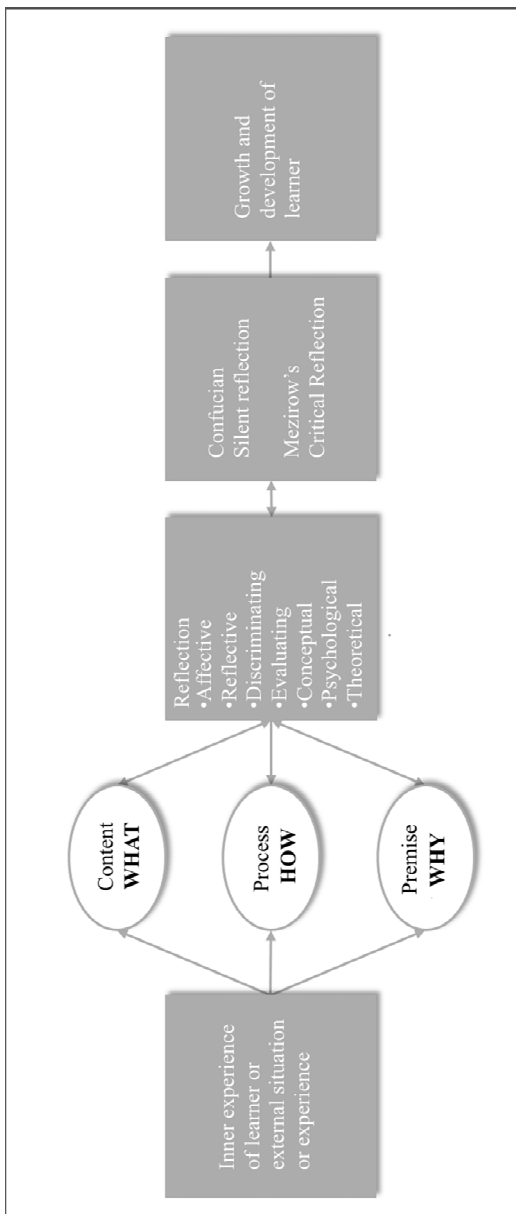


Image 1. Model of Reflection according to Mezirow and Associates (1990).

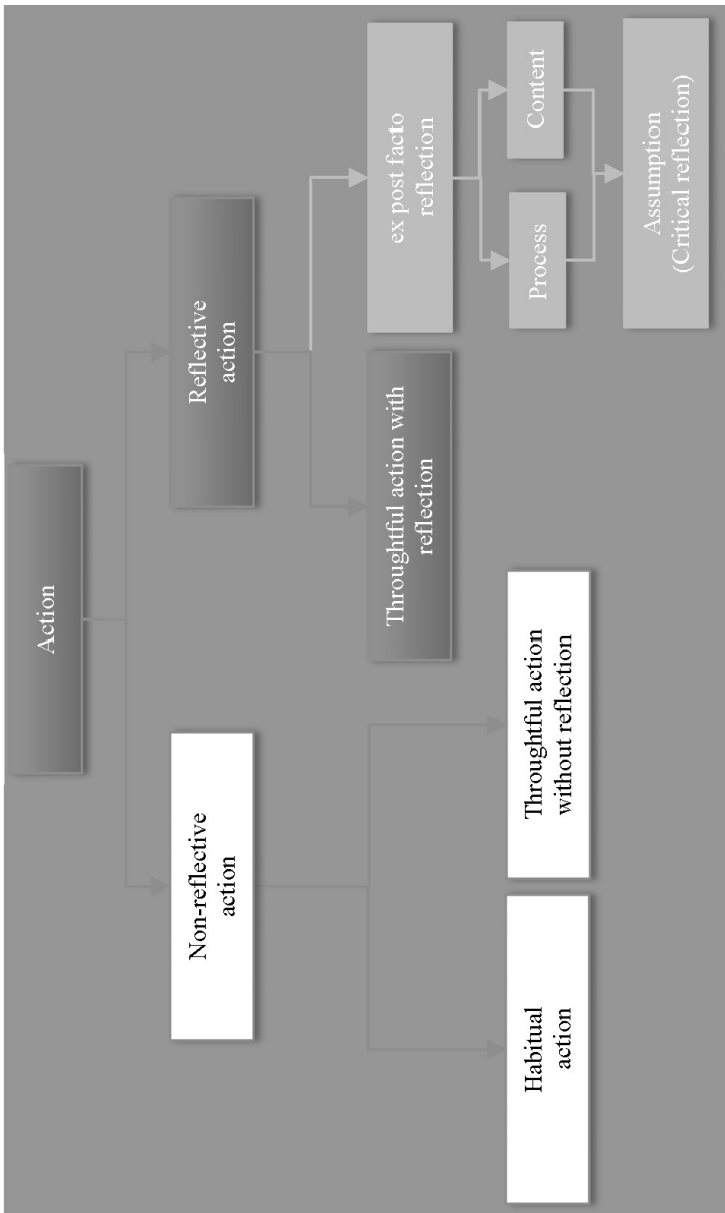


Image 2. Classification of action according to Mezirow and Associates (1990).

Gray (2007) expands the range of methods in the sense that he considers the process of reflection to be active, iterative and integrative (feeling and reason) on the one hand, yet on the other hand he highlights the result definition of learning, which aims to disregard views which are perceived as burdensome:

“Reflection is an active and purposeful process of exploration and discovery, often leading to unexpected outcomes. It is the bridge between experience and learning, involving both cognition and feelings, aiding managers in achieving emancipation from ‘perspective-limiting assumptions’” (Gray, 2007, p. 496).

According to his model, the desired results are discovery and exploration, learning and emancipation (cf. also overview in image 3).

In contrast to critical thinking in the logically positivist variant according to Pingry (Pingry, 1951; or for further details Ennis (1962)³; Bloom, 1956 and Reinstein & Bayou, 1997⁴), subjective feelings and attitudes also have a place in modern reflection processes (cf. Clarà, 2014; White et al., 2006; Foster & Stines, 2001), which can be recorded as causes and/or consequences in the sense of data and can also contribute to actions and solutions. With regard to unstructured reflection (Foster & Stines, 2001), in contrast to the critical thinking approach according to Pingry (1951), hypotheses are not formulated and tested, but only thoughts, feelings, attitudes, etc. are recorded and conclusions are drawn from these. Thus, with regard to reflection, truth and consistency can be (but do not have to be) the result of the conclusion in the same way as for critical thinking. Reflection can also have other objectives, e.g. learning, “awareness”, emancipation, attitude changes, etc. (Foster & Stines, 2001, p. 11ff).

From a broader perspective, spiritual or existential aspects can also be considered (Ghayé, 2004). This results from the fact that the flexibility of the reflective practice can be adapted to the different needs of various stakeholders (Issitt, 2003).

³ Ennis (1962) proposes six stages of critical thinking: 1) Assigning a meaning to an observed statement, 2) Need for a conclusion, 3) Decision on the reliability of the statement, 4) Decision on the adequacy of the statement in the context offered, 5) 6) Decision on the acceptance of the statements by the designated authority. (p. 86ff, omission by author).

⁴ According to Bloom (1956) and Reinstein and Bayou (1997, p. 337), critical thinking contains the levels of recall of data (data collection), process (classification and sorting, synthesization of data) and apply (i.e. application, prediction and envisioning).

Furthermore, there are a number of literature reviews which provide an overview of the state of reflection research and summarise a large number of different research perspectives and reflection approaches (cf. Maxey, 1999; Finlay, 2002a, b; White et al., 2006; Foster & Stines, 2001; Thorsen & DeVore, 2012 or Tsingos, Bosnic-Anticevich & Smith, 2014).

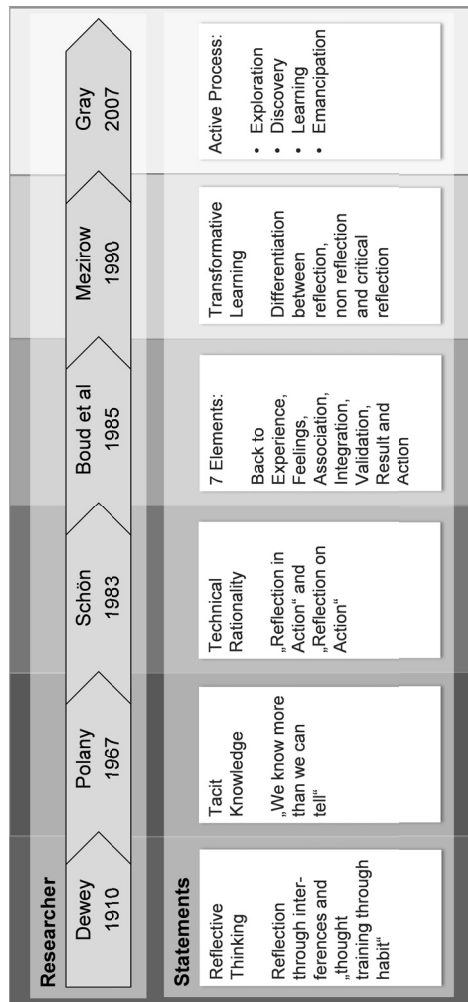


Image 3. Overview of the Contributions of Important Researchers in the Area of Reflection according to Tsingos (2014, p. 3).

CHAPTER TWO

REFLECTION: DEFINITION AND CONCEPT

In the broadest sense, reflection means asking questions and receiving answers to these questions. Our small excursion into the variety of approaches and terms has shown us that the application of reflection in the research process requires a clear concept and methodology.

How does one meaningfully define reflection and what should a practical reflection process look like? Clarà (2014) attempted to define reflection from a large number of texts, with a particular focus on the fundamental texts of Dewey (1986a, 1986b, 1997) and Schön (1983).

According to Clarà (2014, p. 2ff):

- reflection provides a framework and meaning for a situation, which would otherwise remain unclear;
- the reflection process consists of continuous interaction between questions and observations;
- the reflection process is a conversation between the subject and the situation to be clarified, with the aim of introducing improved interventions by the subject into the situation;
- distinctions are made in the reflection process between an unclear initial situation, the problem, an idea/intervention, the observation of concordance between the idea and observed event and the known previous knowledge, and the response to the introduction of the idea; and
- some reflections can achieve a conclusion or result that creates a clarified situation that leads to an action taken; other reflections in turn consist of conclusions which do not lead to action(s).

The reflection concept posed by Clarà is used as follows in this book:

Reflection is a conscious investigation of a situation by means of targeted (questioning) techniques, with the aim of receiving answers (=Results) in order to better understand a situation or solve a problem (=Benefits of reflection). In this regard, the reflection (or reflection) is carried out by one or more persons and in targeted application steps (=Processes). The results of reflection processes can (but do not have to) lead to actions which change or improve the situation, which can (but do not have to) be recorded in result logs.

CHAPTER THREE

THE REFLECTION MODEL – AN OVERVIEW (A METAMODEL)

The definitions/ findings of Foster and Stines (2011) and Clarà (2014) are used for the introduced reflection model and previously defined concept of reflection itself, in order to make them applicable to reflective practice, with the help of the method engineering or business engineering approach postulated by Blessing and Österle (1999).

After a detailed review of the relevant literature, Foster and Stines (2011) regard reflection as a framework with the aim or benefit of serving as orientation for thinking, learning and action. In this regard, the framework contains the following elements of the reflection process: the level of reflection (or the authorship or organisation), i.e. individual and group reflection, reflection results and learning modes (single/double-loop learning¹), as well as forms of reflection (structured vs. unstructured reflection) and the time aspect with regard to reflection before, during or after an action (p. 15, see also Schön, 1983). With regard to the reflection process, Foster and Stines (2011) also emphasise the importance of a purpose or a perspective for the reflection that controls the reflection process (p. 16).

Furthermore, structure or levels (Foster & Stines, 2001, p. 15), perspectives (cf. Alvesson et al., 2008, p. 488ff; Foster & Stines, 2001, p. 15), and the result of the reflection process (see Alvesson et al., 2008, p. 489f; Foster & Stines, 2001, p. 13) are frequently mentioned in the literature. However, there are hardly any descriptions of how the process or phases of reflection should proceed in detail (cf. Mezirow & Associates, 1990; Foster & Stines, 2001, p.15; Clarà 2014, p. 9; Gelfuso & Dennis, 2014). Only a few authors give indications (normally loosely structured, or

¹ Single-loop reflection means learning or a reflection with the aim of achieving results and measures, while double-loop reflection is understood as a reflection on the underlying premises or assumptions and control variables (cf. also Ashby, 1952 and Argyris and Schön, 1974).

hardly specific or detailed) of the steps or elements which comprise this process (cf. Pingry, 1951, p. 467f; Reinstein & Bayou, 1997, p. 338; Foster & Stines, 2011, p. 15; Clarà, 2014, p. 9). However, in order to run through or meaningfully apply reflection, it is essential to have a precise knowledge of the process of reflection and its individual elements so that they can be specifically applied.

To do this, we use an ideal-type model that can easily be understood and applied in the specific case, i.e. reflection. In the sense of “method engineering“ (cf. Blessing & Österle, 1999, p. 12; Gutzwiller, 1994, p. 11f, cf. Image 4) a method should:

- have procedural steps or activities with a result;
- these steps should be carried out by a person or machine (role/organisation);
- there is also a stakeholder value or benefit element;
- there are techniques for developing the individual steps and the entire method has a metamodel² (which variables and data are stored where, and how).

Applied to reflection or the process of reflection, the following model can be derived with the method engineering approach (cf. Image 5). The method engineering model is also expanded to include the elements of the reflection object, test, context, objectives and scenarios in order to be applicable to reflection. This provides us with an ideal-type meta-reflection process that can be used and adapted to the respective reflection situation.

² This can be seen in the sense of an abstract metamodel, i.e. a model of ideal-type reflection components which can then be individualised in the individual reflection process, (cf. also Tomkins and Eatough, 2010, p. 163).

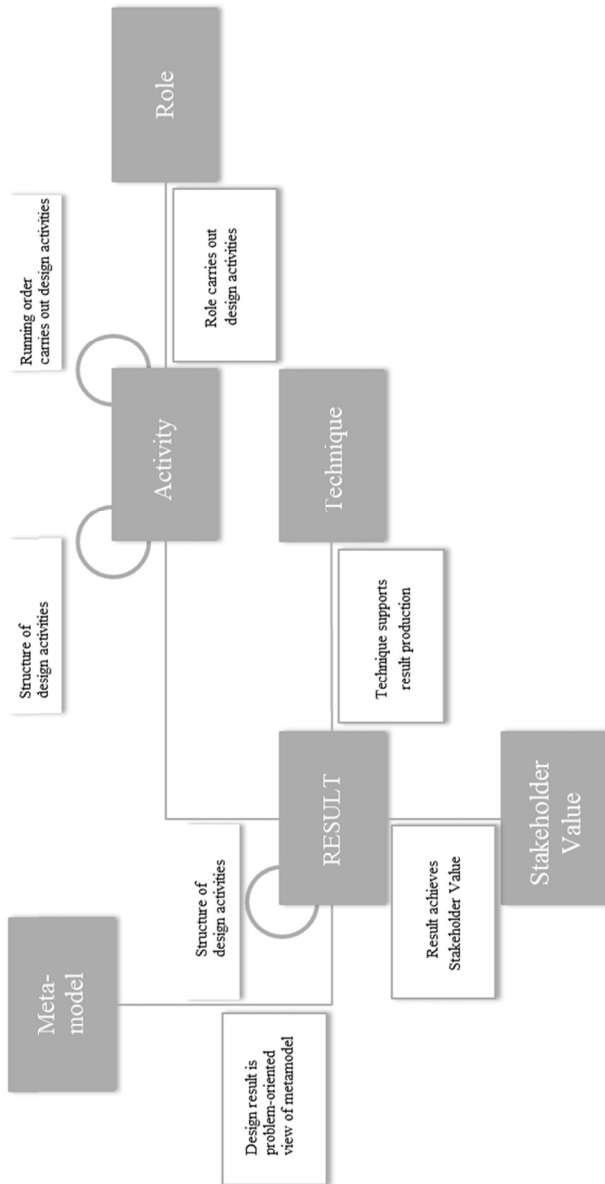


Image 4. A Model of Method Engineering according to Blessing & Österle (1999, p. 12).

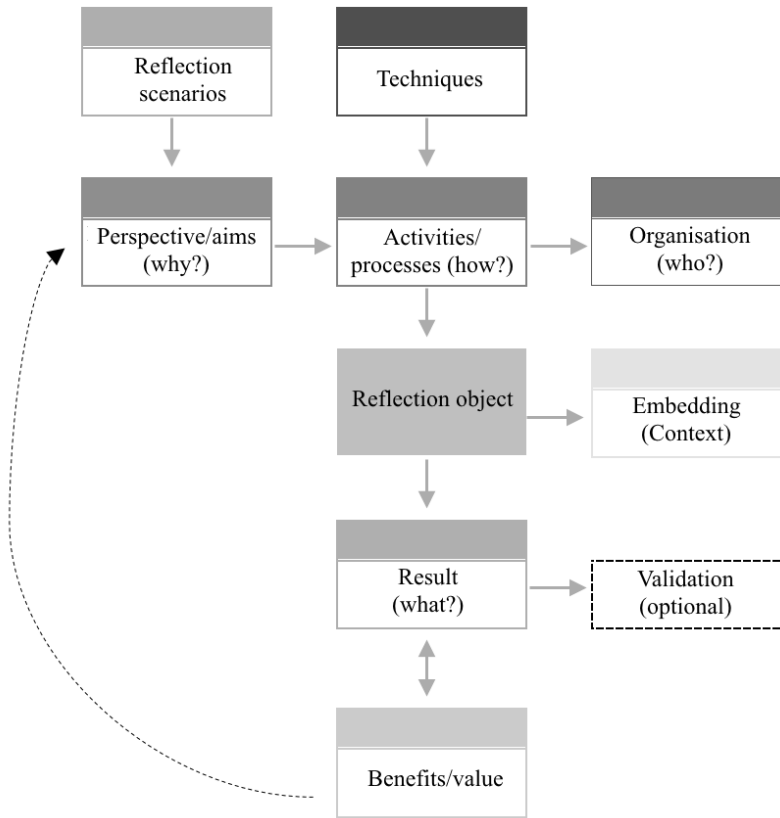


Image 5. A Meta-Model of Reflection.

3.1 Organisation

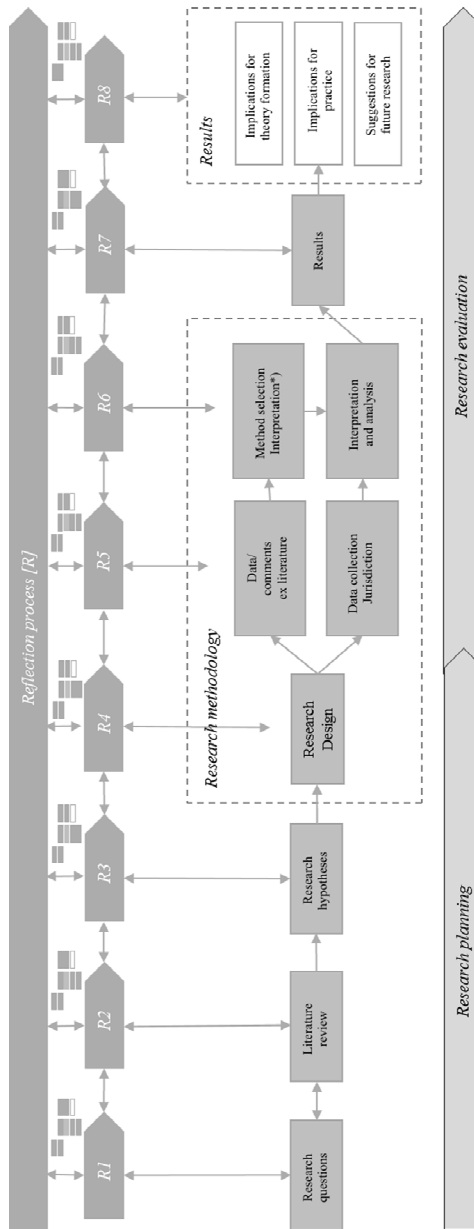
Reflection processes are carried out by (reflecting) people (i.e. an organisation) which can be an individual person or a group that then carries out intrapersonal or interpersonal reflection processes on the reflection object (cf. Chapter 4).

3.2 Reflection Object

A reflection object can be anything that is reflected upon; it is the focus of reflection and is often referred to as the ‘situation’ in the literature. The granularity, the level of abstraction or the complexity of the object play no role in the first instance. With regard to the research context, the reflection may refer to a line in a journal article, a paragraph, a page, a concept, a chapter, the entire text, the context of the text, etc. The reflection process can be applied to all of these objects (cf. Chapter 5).

If the metamodel of reflection and the research process are brought together (for details cf. Chapter 9), then reflection in and around the research process can be represented as follows (cf. Image 6). The image shows the individual elements of reflection in context and thus provides a form of “bird's-eye view” and guiding image for this book. In this regard, a distinction can be made between the partial reflections for the individual activities in the research process and the overall reflection on the entire research process.

Ideally, the entire research process is reflected upon. However, it is sometimes desirable to only reflect on one step of the research process that is specifically selected and/or other parts of the process are reflected upon at a later stage.



[R] ... comprehensive reflection process with the elements from image 2
 R1..x ... specific reflection process for the individual elements of the research process

Image 6. Model of Reflection in and around the Research Process (own image).

3.3 Context and Objectives

Logical conclusions and reflections are not made in objective vacuums, but they relate to an environment and context that is vital to consider and understand³. An equal statement that is reflected upon at a different time, in a different environment and by another researcher, may have a different meaning and thus provide a different result of reflection.

With regard to reflection, the conclusions drawn from the reflection and the resulting measures to be developed must always take into account the relevant context. Weber (2003) notes that the reflecting researcher will always be aware of the theoretical assumptions upon which their research is based and they will evaluate or reflect on the appropriateness of these assumptions in the context of the phenomena to be examined (p. vii).

3.4 Perspectives

Perspectives are targeted, selected points of view under which reflections can take place. For example, if the perspective of objectivity is selected, questions will be asked of the situation or the reflection object as to whether the requirements of objectivity are met (backward-sequence) or what the consequences could be of violations of objectivity (forward-sequence) (cf. details in Chapter 5).

3.5 Scenarios

Scenarios are bundled perspectives, e.g. the improvement of the scientific character of a research project would be a scenario that could include the specific perspectives of objectivity, reliability, validity and ethics (cf. Chapter 6).

3.6 Process

Reflection can be organised in steps or activities which, as a whole, form a process (cf. Chapter 5 and Foster & Stines, 2011, p. 16). The reflection process, as it is understood here, means the targeted questioning of the reflection object (cf. also Clarà, 2014, p. 10) under a certain selected question perspective, or indeed several question perspectives, which are bundled into a scenario to obtain the results of reflection (Foster & Stines,

³ This corresponds to a dialogue between the reflecting person and the situation/environment.