innovative interventions for problems from practice. This research approach is thus suitable for taking the real context into account in programme design. Programmes can therefore already be modelled in the process of testing according to the framework conditions (Reinking/Bradley 2008, p. 19). Design-based research is particularly suitable for detecting unforeseen conditions, taking them into account in the programme and thus designing programmes sustainably (Reeves et al. 2005, p. 105).

At this point, the usefulness of design-based research for prospective evaluation is to be described in more detail. Subsequently, the evaluation methods for prospective evaluation will be discussed.

Elements of design-based research for in-depth investigation

Originally, design-based research was used in the field of teaching-learning research to develop learning scenarios (Krü- ger/Marc 2010, p. 25). Due to the open and flexible characteristics of the approach, it was then increasingly used in curriculum development research (Dilger 2014, p. 371). The literature agrees that design-based research can be used in other areas, such as teacher training, school organisation or school collaboration (Edelson 2002, p. 106). Van Aken (2005, p. 22) states that there is no limit to the use of design-based research in educational research. It can be applied wherever a problem of educational practice requires an innovative approach to solving it (Euler 2014a, p. 17). Berglehner (2015), for example, applies design-based research to research an instrument of the process-oriented quality management system at vocational schools.

Design-Based Research pursues two objectives. On the one hand, design-based research aims to improve concrete educational practice through active design and development. On the other hand, its intention is to generate insights for the further development of basic theories beyond insights for practice (Gräsel 2010, p. 16; Cobb et al. 2003, p. 9). It thus has a practice-related and a theory-related goal. The theories generated from design-based research can be described as design principles (Dilger 2014, p. 367). Both goals of design-based research are compatible with the research interest of the present research project. On the one hand, this research project also aims to generate findings on the policy transfer of the specific peer review procedure programme. On the other hand, implications for policy transfer in general are to be derived.

Six basic characteristics of design-based research can be summarised:

Interventionist: Design-based research intends to actively design an intervention (e.g. a school programme) within the real framework conditions (van den Akker et al. 2006, p. 5), i.e. the researcher is not only a companion and advisor, but actively involved in the design;

Iterative: Research involves an integrated cycle of analysis, design and development, evaluation, and revision (van den Akker et al. 2006, p. 5; Edelson 2002, pp. 116-117), which is referred to as a microcycle (cf. Dilger 2014). It already takes into account empirical findings of testing in design;

The dovetailing of practice and theory: Practitioners and their expertise are included in all stages and activities of the research. Through the consideration of practitioners and the practical implementation of the

intervention, for example, theories can be tested in practice and modelled by empirical findings. This prevents theories generated in research from being inapplicable in practice (Bell et al. 2004; van den Akker et al. 2006, p. 5). Due to the complex contextual levels in the education sector, it is not possible to develop theories and reforms in isolation from practice in the laboratory (Barab/Squire 2004, p. 1);

Process-oriented: The focus of research is to discuss how to implement an intervention and how to improve the intervention or the intervention processes (van den Akker et al. 2006, p. 5). Against this background, the implementation process must be systematically documented. Formative evaluation gains weight at this point (Edelson 2002, pp. 116-117; Krüger/Marc 2010, p. 25);

Theory-oriented: The design of the intervention should be based on theory and the evaluation of the intervention should lead to theory building, so that the theoretical insights generated here can be applied to similar problem situations in other areas (van den Akker et al. 2006, p. 5; Edelson 2002, pp. 116-117).

The basic characteristics of Design-Based Research make it clear that it is a research approach that has a reflective and cyclical research process. There is an iterative process of planning, implementation, evaluation, reflection and redesign, whereby the steps of development, implementation and evaluation are each designed on the basis of the reflection results of the previous activities. This means that the design of the intervention is oriented towards the realities of practice. This iterative process leads to the continuous modelling of the plan (Edelson 2002, p. 106). The basic characteristics of design-based research are therefore compatible with the principles of lesson drawing according to Rose (2005) (see Chapter 1). As already described in Chapter 4, the model of Lesson-

Drawings attach great importance to the adaptation of the policies to be transferred to the real conditions in the policy recipient country. At the same time, there is also a strong reference to the programme theory of the policy in lesson drawing.

Process model of Design-Based Research

In the literature on design-based research, there are process models with a different number of phases. According to Dilger (2014), these process models have a common basic structure, which is presented below. The first phase of design-based research begins with the analysis of a problem from the practice of the education sector (Dilger 2014, p. 366). In the second phase, existing scientific knowledge, such as concepts, theories and empirical findings, are discussed in relation to the problem defined in the previous phase in order to gain a preliminary understanding of the issue (Dilger 2014, pp. 366-367). In the third phase, the design is then developed as an intervention to solve the problem and refined in further cycles. This stage is the first phase of the iterative micro-cycle, which includes development, testing, evaluation and further development (Dilger 2014, p. 367). The testing and formative evaluation of the design developed in the third step takes place in the fourth phase. Through early testing and its formative evaluation, empirical findings and experiences can already be used for the further development of the design (Dilger 2014, p. 367). Plomp (2007, p. 26) emphasises that formative evaluation is an important element for the quality of design-based research. Formative evaluation is to be carried out systematically, it uses evaluation research instruments in the process of the iterative micro-cycle. Systematic formative evaluation in the iterative micro-cycle collects information and assesses it for possible change. A special

The main feature of evaluation in the context of design-based research is the participatory approach. The evaluation carried out here takes into account the different perspectives of the participants. Due to the evaluative elements of the design-based research conducted here, the formative evaluation is based on the programme evaluation approach. The findings of the formative evaluation are then used in the fifth phase to formulate generally valid design principles. In order to raise the findings of the specific case to a generally valid level, the results from the second phase of the theoretical foundation are also applied (Dilger 2014, p. 367). The design principles combine the tension between practical relevance and theoretical knowledge generation (Brahm/Jenert 2014, p. 50). However, the design principles only represent generalisations of medium scope (Euler 2014a, p. 99). Every social situation is unique and is dealt with according to its particularities. Thus, the design principles are seen as guidelines for action that are to be adapted to different situations (Plomp 2007, p. 22). The iterative microcycle consists of phases three to five. In multiple runs, the concrete design and the general design principles can be further developed on the basis of testing and evaluation. The sixth phase is the summative evaluation. It serves as a comprehensive analysis of the intervention. However, the necessity of this phase is disputed in the literature (Dilger 2014, p. 367). Dilger (2014, p. 366) clarifies the interplay between theoretical-conceptual (phases 1, 2 and 5) as well as analytical and empirical phases (phases 3, 4 and 6) (see Figure 17).

Figure 17: Design-Based Cycles
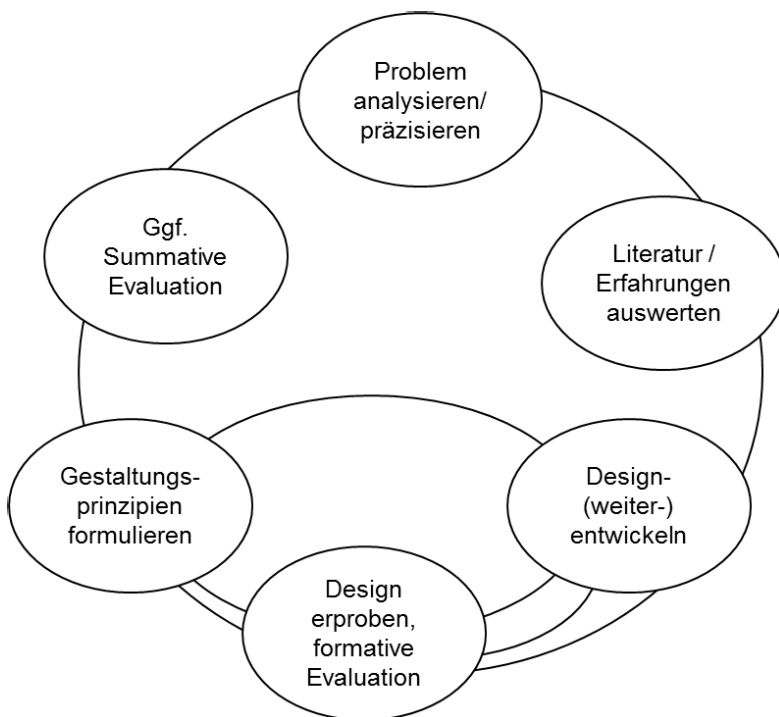
Source: Dilger 2014, p. 366

From the description of Design-Based Research, one can see that this research approach pursues a similar goal as Lesson Drawing. Both approaches deal with programme design and take into account its specific context. Thus, both research approaches have partly similar phases, such as problem analysis, development and adaptation of a programme design, and evaluation. Due to the iterative approach, Design-Based Research is able to deal intensively with the following aspects

to deal with the concrete practice. This strength of design-based research can benefit lesson-drawing, namely in the phase where it is necessary to look at the extent to which a policy in the context of the policy-recipient country functions in concrete practice. These phases of design-based research can be assigned to phase 3 "adaptation of the programme design" and phase 4 "prospective evaluation" of lesson drawing according to Rose (2005) and complement Rose's explanations.

Design-based research deals with the question of prospective evaluation. In particular, the iterative microcycle allows the modelling to be tested during the prospective evaluation. Against this background, the present research project uses the element of the iterative microcycle from sign-based research for prospective evaluation within lesson drawing. However, lesson drawing here still takes the perspective of transfer between two national contexts and has a comparative element. Design-based research focuses exclusively on a concrete practice context. Therefore, the rest of the study is oriented towards the phases of lesson drawing. Thus, the study can be secured from an international comparative perspective.

In concrete terms, this means for the research project that each tested peer review process in the Chinese pilot study concludes with a formative evaluation and reflection on the evaluation findings. These evaluation findings can be incorporated into the modelling of the peer review process and will be tested and evaluated again in the next run. Therefore, the peer review process in the pilot study will be adapted a little more to the real conditions of the Chinese schools after each run. At the same time, general guidelines for the transfer of a policy from Germany to China can be derived from the findings. These guidelines represent the

Lessons from Lesson Drawing (Rose 1991; 2005) and design principles from Design-Based Research (Euler 2014a).

However, the peer review process cannot be changed at will. It has to be reviewed which modelling interventions are necessary. For this purpose, the prerequisites for the modelling interventions must be identified. The central condition is that the peer review process does not lose its special characteristics through the modelling or that the change does not violate the principles of the peer review process. Furthermore, every change or modelling must be soundly justified and reflected. The change must result in an advantage over the original design. It must also be checked whether the evaluation findings are only specific to individual schools or whether they are relevant to all Chinese vocational schools. Only the latter is allowed for modelling (see chapter 8.2). Formative evaluation makes use of different survey instruments. In the course of this, attention must be paid to the fact that the survey instruments fulfil the basic characteristics of design-based research.

One of them is to integrate the stakeholders of the research subject into the research process. Their opinions and experiences should be incorporated into the change process (Wang/Hannafin 2005, p. 17). For the necessity of a change as well as the design of the change, the participants of the pilot study and, if necessary, other experts are therefore consulted. The views and experiences of the participating actors are systematically collected through qualitative interviews and taken into account for the further development of the process. In this way, a peer review process can be developed that takes into account the needs and context of the participants. This in turn leads to a better acceptance of the policy.

Another basic feature is that the trial process is documented. Therefore, the entire pilot study is accompanied and it is

The implementation is documented with the help of participant observation. All disturbances and problems that occur during the realisation are recorded and evaluated using various survey methods according to the principle of triangulation. These are to be reflected on in view of the framework conditions as well as the theoretical foundation (Wang/Hannafin 2005, p. 17).

In summary, prospective evaluation uses the analysis of existing data, participant observation and qualitative individual interviews. These data collection instruments are considered common and suitable for data collection within the iterative micro-cycle in the literature (cf. e.g. Cobb et al. 2003, p. 12) and are presented in the next section.

6.3 Research methods and data evaluation

The prospective evaluation of the pilot study is carried out through participant observation and the qualitative, problem-centred interview. During the implementation of the pilot study, participant observation is used to document the peer review process. Participant observation thus has a formative focus (Lamnek 1993, p. 244). However, with this method it is only possible to a limited extent to explore the world of thought of the persons observed, because this is not observable. For this purpose, the participants are interviewed after each peer review run with regard to their perceptions. Since the success of the peer review process is largely reflected in the subjective views, attitudes and opinions of the participants, the qualitative problem-centred interview has a summative evaluation focus. However, there is an intersection that is covered by both participant observation and qualitative interviews.