EDeR

Educational Design Research

Volume 2 | Issue 1 | 2018 | Article 01-01

Contribution Type: Discussion Article

Title: **Resonating with reflexive design: On participatory design, narrative research and crystallization**

Authors: **Bregje de Vries**
VU University Amsterdam
Netherland

Text-Mentor: **Gabi Reinmann**
University of Hamburg
Germany

For details on the EDeR Text-Mentoring concept: uhh.de/EDeR

In Reply to: Volume 1 | Issue 1 | 2017 | Article 01

Richter, C. & Allert, H. (2017). Design as critical engagement in and for education. *EDeR - Educational Design Research, 1*(1), 1-20. http://dx.doi.org/10.15460/eder.1.1.1023

Abstract: In this article, we further explore the idea that educational design, and subsequently educational design research, are in essence dialogical processes in which problem statements, strategies and interventions, and their implementations are realized in co-creation between different stakeholders. We elaborate on the idea of reflexive design as stated in the article of Richter and Allert (2017) by exploring three deepening thoughts on the characteristics of such dialogical design processes. First, we further relate reflexive design to the concept of participatory design to see if we can use insights from this approach on when and how co-creation can take place. Second, we explore the merits of narrative research as a way to include multiple voices in the process of reflexive design. And third, from a methodological point of view we explore the idea of crystallization as a way to collect data and validate findings within reflexive design research processes.

Keywords: critical reflexive design
crystallization
dialogue
narrative research
participatory design

DOI dx.doi.org/10.15460/eder.2.1.1184

Citation De Vries, B. (2018). Resonating with reflexive design: On participatory design, narrative research and crystallization. *EDeR - Educational Design Research, 2*(3), 1-11. http://dx.doi.org/10.15460/eder.2.1.1184

Resonating with reflexive design: On participatory design, narrative research and crystallization

Bregje de Vries

1.0 Introduction

As stated by Richter and Allert (2017) essentially education is an artificial activity in the sense that it springs from the human mind. As such it is located in times and places and resides under the influence of cultural norms and values. Subsequently, this entails that educational design should not so much look for solutions that work always and everywhere. Instead, it should works with and within contextual settings. And it is only in the midst of these educational contexts that relevant, practical and effective solutions to problems can be designed. Richter and Allert (2017), therefore, bring on an alternative definition of the design process and explain:

> "The concepts of reflexive and critical design, we sketched here, provide an alternative to the still dominant engineering model of design, in which analysis and synthesis are seen as distinct steps in a problem-solving process. Reflexive design instead assumes that neither the problem nor the possible solutions are given but are actually created in the process of design. Design in this perspective does not start from clear objectives, categories, and normative commitments but aims to figure out what is desirable and how we can make this come about" (p. 15).

They further conclude: "Design-based research, from this perspective, is not primarily a form of applied science, aimed to deepen our understanding of learning and to devise respective means, but *an effort to deliberate about the kind of education (Bildung) we deem valuable and worthwhile"* (p.15, italics added).

The article of Richter and Allert (2017) aims at helping the audience move away from a conceptualization of design and design research as merely positivistic engineering processes that start with clear problem descriptions and goals and move to almost straight forward solutions resulting in improved practices:

> "[…] we believe it is important to challenge the frequently adopted notion of design as an engineering process and broaden the perspective towards more recent models of reflexive design and design research. In doing so it becomes possible to move beyond merely instrumental accounts of (educational) technology and raise awareness for the political dimension inherent to any design effort in the field of education" (p.1).

They explain the political dimension by saying that neither design problems nor their solutions in terms of design principles, mechanisms, and the adoption and implementation of new materials are unequivocal and value-free. In what follows they pro-

pose a reflexive design model that raises additional (research) questions to the engineering approach and essentially is concerned with putting forward an intrinsically dialogical nature of designing education. The authors illustrate their beliefs by presenting three reflexive design practices that could work as archetypes of how to go about reflexive design.

A large part of the article is concerned with opposing the reflexive design approach to the engineering approach. However, it is also emphasized in several places that it is not so much to call out for a totally different way of working in the field of educational design and design research. It is more of an attitude change that the authors would like to promote. In general, Richter and Allert (2017) are not the first and won't be the last persons to point out the difficulty of looking at designing evidence-based education as a way of producing simple recipes for learning and learning success. For instance, in response to the positivistic view on educational research promoted in the United States following from the No child left behind act, world-wide discussions on the appropriateness of educational research methods have started. In those discussions, 'hard science' in terms of (quasi-)experimental quantitative research is opposed to 'soft science methodologies' such as qualitative case studies, design research, and action research. And many educational researchers have stated or defended that, as Berliner (2002) put it, 'education is the hardest science of all' and therefore needs multiple approaches to do right to an ever-changing and multivariate educational practice (e.g., Erickson & Gutierrez , 2002). Likewise, Richter and Allert (2017) state that the engineering approach is too optimistic and positivistic and needs the added value of embedding design processes and outcomes in new local practices, needs, and teacher and pupil populations. They propose to do this by enriching the design process with reflexivity and a critical stance.

This article builds on the inspiring article of Richter and Allert (2017) by trying to further saturate their concept of critical reflexive design. Three methodological approaches stemming from the domain of behavioural science are explored for their contribution to reflexive design: participatory design, narrative research and crystallization. By introducing these approaches we hope to take reflexive design even further than being a dialogical attitude, and strengthen it with outcomes of important (methodological) discussions on the value, necessity and quality of qualitative educational (design) research held elsewhere.

2.0 Participatory design

The first perspective from which reflexive design could be further explored and enriched is participatory design. Participatory design can be defined as a design process in which intermediate and/or end users are represented in the design team during the whole design process. Although Richter and Allert (2017) state that the difficulty with participatory design is that not all stakeholders/users are known at the start of a design process (cf. Ehn, 2008), in general one could say that at least teachers and students should be represented, in all their diversity. Of

course, other stakeholders could also be considered such as school leaders, and parents. Ideally, the most important users are present in iterative cycles of designing and as early as possible. Teachers and students are invited to help think through the design problem in all its aspects, help define the problem space, opt for some solutions and reject others, decide how adoption and implementation should take place and so on. Participatory design is omnipresent in health intervention programs (e.g., Bartholomew et al, 2001). For instance, intermediate users and members of the population at risk are invited into the design team to increase chances of effective implementation. Based on their feedback and ways of usage, the intervention can be tailored to their needs, wishes, and habits, or can be tested for its relevance. Moreover, target groups are extensively analyzed to discern important and influencing opinions, attitudes, behaviour or characteristics (Bartholomew et al., 2001). Another domain in which participation of (end) users has been widely accepted and deemed crucial is computer interface and system design. Having committees that represent different groups of users is a standard procedure. Moreover, computer system designers plea for letting users become owners and animators of the design process by giving them leading positions supported by expertise from others (e.g., Kautz, 2009; Kensing & Blomberg, 1998; Preece, Sharp & Rogers, 2015).

The philosophy behind participatory design is an interactive view on what determines human behaviour: not only is the subject determined by the higher-order system, but vice versa the system is influenced by input of subjects. This two way interaction between individuals and larger systems reflects a view on reality that can be described as 'a complex web of causation', breaking with the dominant view on human behaviour as being determined by larger systems. Furthermore, participatory design reflects an ecological view on designing solutions for complex problems: including as many views on as many aspects of the design problem is expected to increase the effectivity of the intervention. A third key aspect of participatory design follows from this ecological view and could be called multivoicedness: the presence of many voices within ourselves and within contexts should somehow be represented in any problem description or analysis. The awareness of multiple voices in a problem space implicitly supports exploration and consideration of more than one solution. In addition, it could raise the awareness of a general need to design solutions that are locally adaptable by their end users (vgl. Barab & Luehmann, 2003). Participatory design supports the idea that acknowledging multiple voices is a prerequisite for successful local adoption, re-design and implementation of any intervention.

Is participatory design new to the educational field? Many instructional designers and researchers have addressed the topic to include stakeholders in the design process (e.g., Reigeluth & Nelson, 1997; Valcke, 2010). And many educational researchers organize some sort of participation of (end) users in their design process. Often, however, this is limited in two ways. First, it concerns teachers more than students. For instance, in an in-

ventory of student participation in Dutch vocational education, they found that although teachers and students are in favor of student participation, daily practice shows it is hardly organized (Voncken & Breemer, 2008; cf. Könings et al, 2007). Students do act as critical friends and take part in quality control processes by being formal members of advisory boards, but student participation is only organized for a few students not being representative for the whole school population, and does not involve giving students active roles in curriculum design. Second, participatory design is realized in some phases of the design process but not in all. Often, teachers and students are used to test early prototypes of new pedagogical approaches and materials. To a far lesser extent, do they participate in helping to explore the design problem, brainstorm about solutions, and develop them from scratch. Although teachers nowadays do participate in so-called teacher design teams (e.g., Handelzalts, 2009; Voogt et al, 2011), and do participate more profoundly in educational (design) research (e.g., Cochran-Smith & Lytle, 2009), students are seldom present during the whole process. Including students in the process of (re)designing curricula is still rare in the educational field (e.g., Barksdale & Triplett, 2010).

What could (reflexive) educational design learn from participatory design in other fields? It can help turn multivoicedness into a starting point in educational design by systematically determining which end and intermediate users should be heard, and by analyzing those target groups to be able to tailor the design to their differing and sometimes hidden and unexpected needs. By acknowledging the impact that users have on the adoption and implementation of design products, and acclaiming the need to include them in the whole process of designing. This means leaving behind the thought of prototyping, and turning to options that are more encompassing and user-centered. From the standpoint of participatory design special effort should be payed to including students in the process of design. To create opportunities for dialogue in the process of reflexive design, it could build on the strategies of participatory design as developed in other fields and from thereon develop some guidelines to include as many user groups as possible from the beginning of a problem definition onto the sustainable implementation of solutions.

3.0 Narrative research

The second perspective we like to explore is narrative research, defined as a research approach in which some kind(s) of written or oral stories are put central in its methodology (e.g., Clandinin, 2007; McEwan & Kegan, 1995). The philosophy behind narrative research is that people are storytelling animals that construct reality and understanding of it by capturing information in narrative structures: a coherent plot with underlying determining characteristics such as time, setting, agents and action (e.g., Bruner, 1990; Wertsch, 1998). We intrinsically have a need to build such narrative structures to be able to build schema that help us understand our surroundings. Narrative research sets

out to use the narrative nature of knowledge and understanding in its methods of data collection as well as data analysis. From a methodological point of view, narrative research has grown out into a field of its own in which matters of qualitative research are taken further in the context of narrative data structures (e.g., Beverley, 2000; Clandinin, 2007; Stake, 2000).

Narrative research has been present in the field of education many years now and is considered a fruitful approach in many ways. First, it helps to explicate the many voices present in an educational situation. Each individual can be asked for his or her story, and these stories taken together orchestrate an overview of the situation. Second, it supports building deep and detailed insights in people's thoughts and behaviours covering cognition, emotion as well as motivations (McEwan & Kegan, 1995; Mishler, 1999). And third, it helps to explain how people build stories together by the concept of resonance: when people tell stories and listen to each other's stories parts of the stories trigger new thoughts, storylines, and meanings (Conle, 1996, 2003). The trigger might be a strong resemblance with a listener's own experiences, or just the opposite: a perceived difference with what was told. Sometimes it is just a sparkle in a story caused by a specific word that awakens memories we have and evoke new ideas or understandings. New thoughts and associations emerge in the process of resonance and if these new thoughts are shared they provoke further discussion and interpretation within individuals as well as groups. Resonance promotes both individual as well as collective knowledge construction.

How could reflexive design be enriched by narrative research? Reflexive design processes are aimed at doing justice to different views on the same problem space and seeks ways to gain insight in those different views. It does not hold on to the idea that there is only one solution to a problem that needs to be realized as close as possible, but that problem definitions and solutions emerge from social activities and by constructing meaning together. Narrative research supports reflexive design in two important ways. First, it provides the methods to collect and analyze people's perspectives on a situation in depth by helping to reveal the both cognitive as well as socio-emotional layers it mostly hides. And second, the concept of resonance can feed the process of how to create a social practice in which the many stories that are present come together and organically grow into one shared story. In short, narrative research can strengthen both the reasoning behind and the means for engaging users of any kind in educational design processes.

4.0 Crystallization

The third perspective we would like to add to the concept of reflexive design is of a more fundamental methodological nature. It builds on what Richter and Allert (2017) describe as the critical notion of reflexive design, which they explain as

(1) allowing multiple perspectives on a phenomenon,

(2) revealing thought provoking interpretations rather than focus on claiming verifiable truths,

(3) seeing design processes as dialogues in which polyphony is present, and

(4) raising awareness of the socio-political context of any design process.

When it comes to educational design research, this critical stance of reflexive design is difficult to combine with the do's and don'ts and criteria of valid scientific research. And indeed, design research is always seeking balance between producing general findings and guaranteeing (ecological) validity, and has caused discussion on its scientific rigor many times (e.g., Dede, 2004; Kelly, 2004), as is also pointed out by Richter and Allert (2017). The recognition of different kinds of validity has contributed to the discussion (Anderson & Herr, 1999; Tracy, 2010), but has not bridged the gap between what seem to be fundamentally different paradigms in social sciences: positive science on the one hand claiming objectivity, and (socio)-constructivist views on (inter)subjectivity.

By introducing the concept of crystallization, the many-faceted reality is no longer a handicap that a researcher has to deal or live with, but the multiple perspectives or multivoicedness present in human situations almost becomes the 'raison d'être' for doing research. Crystallization takes on an epistemological stance towards knowing and the known that could be described by the term of 'social constructionism', having its roots in the idea that meaning is constructed in communication (Ellingson, 2009). Furthermore, in the process of communication and knowledge construction performative selves are present: shifting identities of researchers and respondents who get to know themselves, each other and the object under study by participating in the communication. Since the concept of crystallization has been introduced by Richardson (2000), it has been recognized and taken up by others as a founding notion for a new methodological framework to work in, which contains the following leading principles:

(1) it seeks to produce thick descriptions of (complex sets of) interpretations,

(2) using a large spectrum of qualitative methods and a mix of genres that all together reflect contrasting ways of knowing, and

(3) including the voice(s) of the researcher(s) in the process of doing research.

The epistemological stance and principles are well represented by the figure of a crystal. A crystal contains many faces and which face(s) you see depends on how and with what you shed light on the crystal. A crystal has many appearances and can shine in many ways. Moreover, the process of doing research is well represented by the verb 'to crystallize': a continuing effort of letting different faces of the object light up saturates the

meaning under construction that we (temporarily) have of an object. In that sense, research on any object is or should be seen as longitudinal by nature: it takes time to crystallize its meaning in all its complexity.

One of the things that is emphasized by crystallization is producing rich and thick (saturated) descriptions of the phenomena under study. This is also at the core of qualitative research methodology in general. However, to reach such rich descriptions, the approach of crystallization emphasizes the support of combining different genres:

> "All good qualitative research should provide an in-depth understanding of a topic, since 'thick description' forms the hallmark of our methods. But crystallization provides another way of achieving depth, through the compilation not only of many details but also of different forms of representing, organizing, and analyzing those details. Strong themes or patterns supported by examples provide a wide-angle view of the setting or phenomenon; stories or poems highlight individual experiences, emotions, and expression; critiques shed light on relevant cultural assumptions and constructions; and so on" (Ellingson, 2009, p.10-11).

In the context of crystallization, genres are defined by a constellation of form and situational characteristics. The typical genre used in research is the research report which is, among other things, characterized by technical language, explications of procedures, and a clear line of reasoning from theory to data collection and interpretation, conclusions and implications. Less typical genres for representing research are creative genres such as autobiographies, narratives and poems, or even video presentations and live performances. Such creative genres aim at producing engaging rather than formal accounts of data which invite "readers" into an experience. Crystallization promotes the use of more than one genre in research, as well as the blending of genres, and allows a researcher to seek new ways of collecting and representing data that best reveal the truth in the research. As Ellingson explains, crystallized research reports can include more than one genre (integrated crystallization), or researchers can use multiple genres across different studies and reports (dendritic crystallization). By allowing different kinds of data and data representation, crystallization could be viewed as an alternative and extended version of triangulation. By recognizing and valuing dialogue and multivoicedness as a principle, it allows creative and multiple lenses on data collection and analysis (e.g., Janesick, 2000; Shagoury, 2011), and at the same time does not give up on systematic research demanding a crystal clear recognition and explanation of the choices made. This raises a permanent awareness of the (personal and temporal) limitations of any truth that is revealed both within researchers and readers.

5.0 Conclusion

In this paper, we sought to resonate with the article of Richter and Allert (2017) who put forward the concept of critical reflexive design (research) depicting it as dialogical and contextual as opposed to the more traditional engineering approach. By further exploring it in three directions our aim was to build on and enrich their concept, and contribute to its methodological grounds and practicality.

The starting point of reflexive design as being essentially dialogical could be strengthened by relating to the body of knowledge on participatory design present in other domains. For instance, health care and computer science have a tradition in including all kinds of intermediate and end users in design cycles, and insights and methods from those domains could be borrowed. In both domains user-centeredness has been worked out in instruments and processes of researching, including and testing users' needs. It could help us to include pupils' voices in curriculum design more frequently and effectively. A tradition that is still hardly present in educational design and design research. From participatory design we could learn that structurally analyzing users' needs in more detail could enrich the process of critical reflexive design. Next, we proposed the perspective of doing narrative research as a way to acknowledge the multiple voices present in a dialogue. Narrative research has a long tradition in both educational research as well as other social sciences. We could learn from narrative research approaches when and how to make users' voices explicit and use processes of narrating and narrative data as building blocks for critical reflexive design processes. Finally, we presented the concept of crystallization as being a contemporary but yet underexplored methodological ground for complex and qualitative processes of design and design research. Principles of crystallization as well as the practical use of multiple genres - both oral, written and visual - could be borrowed from this shortly existing yet promising tradition of qualitative research to strengthen the validity of critical reflexive design.

Summarized, from a theoretical point of view, participatory design, narrative research and crystallization could enrich the conversation about how to move on with critical reflexive design so that it becomes a mature and valid alternative for the engineering approach. This in turn could help educational design research to become more practical in the sense that it successfully resonates with and builds on the complexity of teachers' and pupils' daily practices.

References

Anderson, G.L., & Herr, K. (1999). The new paradigm wars: is there room for rigorous practitioner knowledge in schools and universities? Educational Researcher, 28(5), 12–21, 40.

Barab, S.A., & Luehmann, A.L. (2003). Building sustainable science curriculum: Acknowledging and accommodating local adaptation. Science Education, 87, 454-467.

Barksdale, M.A. & Triplett, C.F (2010). Valuing Children's Voices. Current Issues in Education, 13(4). Retrieved from http://cie.asu.edu/.

Bartholomew, L.K., Parcel, G.S., Kok, G., & Gottlieb, N.H. (2001). Intervention mapping: Designing theory and evidence-based health promotion programs. New York: McGraw-Hill Higher Education.

Berliner, D. C. (2002). The hardest science of all. Educational Researcher, 31(8), 18-20.

Beverley, J. (2000). Testimonio, subalternity, and narrative authority. In N.K. Denzin & Y.S. Lincoln (Eds.), Handbook of qualitative research (pp. 555–565). Thousand Oaks, CA: Sage Publications.

Bruner, J. (1990). Acts of meaning. Cambridge, Massachusetts: Harvard University Press.

Clandinin, D. J. (Ed.) (2007). Handbook of narrative inquiry: Mapping a methodology. Thousand Oakes, CA: Sage Publications.

Cochran-Smith, M., & Lytle, S.L. (2009). Inquiry as stance: Practitioner research for the next generation. New York: Teachers College Press.

Conle, C. (1996). Resonance in preservice teacher inquiry. American Educational Research Journal, 33(2), 297-325.

Conle, C. (2003). An anatomy of narrative curricula. Educational Researcher, 32(3), 3-15.

Dede, C. (2004). If design-based research is the answer, What is the question? A commentary on Collins, Joseph, and Bielaczyc; diSessa and Cobb; and Fishman, Marx, Blumenfeld, Krajcik, and Soloway in the JLS Special Issue on Design-Based research. The Journal of the Learning Sciences, 13(1), 105-114.

Ehn, P. (2008). Participation in design teams. In Proceedings of the Tenth Anniversary Conference on Participatory Design 2008 (pp92-101). Indianapolis, US: Indiana University.

Ellingson, L.L. (2009). Engaging crystallization in qualitative research: An introduction. New York: Sage Publishing.

Erickson, F., & Gutierrez, K. (2002). Culture, rigor, and science in educational research. Educational Researcher, 31(8), 21-24.

Handelzalts, A. (2009). Collaborative curriculum development in teacher design teams. Doctoral thesis. Enschede: Twente University.

Janesick, V. (2000). “The choreography of qualitative research design: Minuets, improvisations, and crystallization.” In N.K. Denzin & Y.S. Lincoln (Eds.), Handbook of qualitative research (pp. 66–81). Thousand Oaks, CA: Sage Publications.

Kautz, K. (2009). User Participation and Participatory Design Topics in Computing Education. Human Computer Interaction 11(3), 267-284.

Kelly, A.E. (2004). Design research in education: Yes, but is it methodological? The Journal of the Learning Sciences, 13(1), 115-128.

Kensing, F., & Blomberg, J. (1998). Participatory design: Issues and concerns. Computer Supported Cooperative Work, 7, 167-185.

Könings, K.D., Van Zundert, M.J., Brand-Gruwel, S., & Van Merriënboer, J.G. (2007). Participatory design in secondary education: Its desirability and feasibility according to teachers and students. Educational Studies, 33, 445-465.

McEwan, H., & Egan, K. (Eds.) (1995). Narrative in teaching, learning and research. New York: Teachers College Press.

Mishler, E.G. (1999). Storylines: Craftartists’ narratives of identity. Cambridge, MA: Harvard University Press.

Preece, J., Sharp, H., & Rogers, Y. (2015). Interaction design: Beyond human-computer interaction (4th edition). London: Wiley.

Reigeluth, C., & Nelson, L. (1997). A new paradigm of ISD? In R. Branch & B. Minor (Eds.), Educational media and technology yearbook (pp.24-35). Englewood: Libraries Unlimited.

Richardson, L. (2000). Writing: A method of inquiry. In N.K. Denzin & Y.S. Lincoln (Eds.), Handbook of qualitative research (pp. 923–943). Thousand Oaks, CA: Sage Publications.

Shagoury, R. (2011). Crystallization: teacher researchers making room for creative leaps in data analysis. Learning Landscapes, 4(2), 297-306.

Stake, R. E. (2000). Case studies. In N.K. Denzin & Y.S. Lincoln (Eds.), Handbook of qualitative research (pp. 435–454). Thousand Oaks, CA: Sage Publications.

Tracy, S.J. (2010). Qualitative quality: Eight “Big-Tent” criteria for excellent qualitative research. Qualitative Inquiry, 16(1), 837-851.

Valcke, M. (2010). Onderwijs als ontwerpwetenschap: Een inleiding voor ontwikkelaars van instructie en voor toekomstige leerkrachten [Education as design science: An introduction for instructional designers and future teachers]. Gent: Academia Press.

Voncken, E., & Breemer, F. (2008). Een rol van betekenis: Deelnemerbetrokkenheid bij de innovatie van het primaire proces in het mbo [Meaningful roles: Student participation in innovation in vocational learning]. Amsterdam: Max Goote Kenniscentrum voor beroepsonderwijs en volwasseneneducatie.

Voogt, J., Westbroek, H., Handelzalts, A., Walraven, A., McKenney, S., Pieters, J., & De Vries, B. (2011). Teacher learning in collaborative curriculum design. Teaching and Teacher Education, 27(8), 1235-1244.

Wertsch, J.V. (1998). Mind as action. New York/Oxford: Oxford University Press.

Author Profiles

Bregje de Vries is an assistant professor at the research institute LEARN! of the Vrije Universiteit Amsterdam (the Netherlands). She previously worked as an associate professor at HAN University of Applied Sciences (Nijmegen, the Netherlands). Her general fields of interest are curriculum design and instructional design related to new pedagogies. In many projects, design research and teachers as designers have been central elements. Current projects include research on inquiry learning and science education in primary and secondary education, and knowledge dissemination and the role of teacher leadership in curriculum innovation.

Author Details

Dr. Bregje de Vries
Faculty of Behavioural and Movement Sciences
LEARN! Research Institute
VU University Amsterdam
Van der Boechorststraat 1
1081 BT Amsterdam
The Netherlands
+31 6 21 96 21 21
b.de.vries@vu.nl
learn.vu.nl

Text-Mentor Details

Prof. Dr. Gabi Reinmann
Hamburg Center for University Teaching and Learning (HUL)
University of Hamburg
Schlüterstraße 51
20146 Hamburg
Germany
+49 40 42838 9631
gabi.reinmann@uni-hamburg.de
hul.uni-hamburg.de

Editor Details

Dr. Sebastian H.D. Fiedler
EDeR Editor in Chief
Hamburg Center for University Teaching and Learning (HUL)
University of Hamburg
Schlüterstraße 51
20146 Hamburg
Germany
+49 40 42838 9631
sebastian.fiedler@uni-hamburg.de
hul.uni-hamburg.de

Journal Details

EDeR – Educational Design Research
An International Journal for Design-Based Research in Education
ISSN: 2511-0667
uhh.de/EDeR
#EDeRJournal (our hashtag on social media services)

Published by

Hamburg Center for University Teaching and Learning (HUL)
University of Hamburg
Schlüterstraße 51
20146 Hamburg
Germany
+49 40 42838-9640
+49 40 42838-9650 (fax)
EDeR.HUL@uni-hamburg.de
hul.uni-hamburg.de

In collaboration with

Hamburg University Press
Verlag der Staats- und Universitätsbibliothek Hamburg – Landesbetrieb
Von-Melle-Park 3
20146 Hamburg
Germany
+49 40 42838 7146
info.hup@sub.uni-hamburg.de
hup.sub.uni-hamburg.de