

# Collaborative research in practice: articulating the realities of engagement

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## Abstract

Collaborative research entails the combination of practical relevance and academic contribution in order to generate knowledge that is relevant for both parties. It is based on the idea of knowledge co-creation through co-operation between researchers and practitioners and it hence requires engaged scholars. However, the requirements on the practitioners are less researched. In this paper we aim to provide clarity and understanding of the potential configurations of engaged research, to encourage the operations management community to articulate their research practice as it was actually undertaken rather than to post-rationalise based on prescribed legacy traditions. This is done through illustrative vignettes.

**Keywords:** Research approach, engaged scholar, collaborative research

## Introduction

A challenge common for scholars who work in professional schools, such as business and engineering, is to combine practical relevance and academic contribution (Karlsson, 2009). Engaged research is based on the idea of knowledge co-creation through co-operation between researchers and practitioners (Ellström, 2007). There exist several different methods and traditions, including collaborative management research, action research, participatory research, co-operative inquiry and design science (Säfsten and Bäckstrand, 2016). There are subtle differences in emphasis and background between these practices, but common for all is the ambition to generate knowledge relevant for both parties.

However, such engaged research typically faces many challenges. Firstly, the research process is messy, and many informal discussions need to take place to jointly define the research problem, participants need to come to a collective agreement about the project aims, and establish an understanding of different agendas (see e.g. Gosling *et al.*, 2017). Secondly, there is the potential issue that some disciplines and research traditions consider that there are philosophical problems when breaking down the barriers between the subjects of research (i.e. practitioners) and researchers (see e.g. Aims and Scope JSCM, 2017). Hence, practitioners are often seen as a ‘source of data’, rather than as active participants in the extended phases of a research project (Heron and Reason, 2006; van Weele and van Raaij, 2014). Research projects with high levels of engagement can

also be difficult to publish, since it is difficult to capture the complexity of the methods used (Bäckstrand and Säfsten, 2017).

The complexity, and informal interactions, of engaged research is hence typically simplified and reduced to descriptions of formal methods explained in generalised methodological text books e.g. cases, interviews etc. Our overall purpose is *to provide greater clarity and understanding of the potential configurations of engaged research and, given the actual messiness of engaged research, to encourage the operations management community to ‘tell it as it is’ i.e. to articulate their research practice as it was actually undertaken rather than to post-rationalise based on prescribed legacy traditions.*

The following research questions are articulated to explore this aim further:

- 1) What are the variations of engaged research?
- 2) How can/do practitioners and researchers engage across the phases of a research project?

### Literature Review

Van de Ven and Johnson (2006, p. 803) define engaged scholarship as: “a collaborative form of inquiry in which academics and practitioners leverage their different perspectives and competencies to coproduce knowledge about a complex problem or phenomenon that exists under conditions of uncertainty found in the world”. There are however a multitude of collaborative approaches. In Table 1 we have gathered a few. In line with (Halldórsson and Aastrup, 2003) it is worth noting that these represents different paradigms, with Yin (2003) representing the traditional positivistic paradigm (doing research on) and e.g. Van de Ven and Johnson (2006) representing the critical realists (doing research with).

*Table 1 – Overview of variants of engaged research*

<b>Variants of engaged research</b>	<b>Author (s)</b>
Case studies with participant observation	(Yin, 2003)
Focus groups	(Krueger and Casey, 2014)
Action research	(Näslund <i>et al.</i> , 2010; McNiff and Whitehead, 2011)
Innovation action research	(Kaplan, 1998)
Participatory research	(Lang <i>et al.</i> , 2012)
Participatory action research	(McIntyre, 2007)
Longitudinal action research	(Walker <i>et al.</i> , 2008)
Longitudinal immersion	(Wells and Nieuwenhuis, 2017)
Interactive research	(Larsson, 2006; Svensson <i>et al.</i> , 2007)
Collaborative research	(Adler <i>et al.</i> , 2004; Börjesson, 2012)
Collaborative management research	(Shani <i>et al.</i> , 2008)
Cooperative inquiry	(Reason, 1999; Heron and Reason, 2006)
Engaged research	(Van de Ven and Johnson, 2006; van de Ven, 2007)

In all these variants of engaged research researchers and practitioners meet and interact to different degrees. But, seen over a research project, how and when do we engage? In Table 2 we have compiled an overview of different phases of a collaborative research project as defined by previous authors; Svensson *et al.* (2007), Verschuren *et al.* (2010), McNiff and Whitehead (2011) and Lang *et al.* (2012).

Table 2 – Overview of sequential research project phases

<b>Svensson <i>et al.</i> (2007)</b>	<b>Verschuren <i>et al.</i> (2010)</b>	<b>McNiff and Whitehead (2011)</b>	<b>Lang <i>et al.</i> (2012)</b>
Development of the general idea for the project	Defining the project context	Identify a research issue	Collaborative problem framing
	Delineating the research into manageable portions		
	Defining a realistic research objective		
Detailed formulation of the questions for the project	Formulating a set of research questions	Identify research aims and formulate a research question	
Selection of research approach and method	Selecting research material and Strategy	Set out a research design	Building a collaborative research team
	Developing a project plan	Take action	
Carry out data collection		Gather Data	
		Identify criteria and standards by which to make judgements about the quality of the research	
Analysis of collected data	Defining and operationalising key concepts	Generate evidence from the data in relation to the criteria and standards of judgement	
Implementation of developed initiatives		Make a claim to knowledge Link the claim with existing knowledge Test the validity of the claim. Submit the claim to critique Explain the potential significance of the research and claim Generate theory from the research	Co-creation of solution-oriented and transferable knowledge through collaborative research
Presentation and dissemination of results		Write a report and disseminate findings	
		Modify practice in light of the evaluation.	(Re-)integrating and applying the co-created knowledge

From Table 2 we can see that Svensson *et al.* (2007) make the case for interactive research whereas Verschuren *et al.* (2010) stress that it is important to consider both design and

execution of project. Most papers focus on execution, and more reflection is needed at the design stage, e.g. to make sure that there is a collaborative research approach. There is a lot of potential in ‘practice-orientated research’, but “*One of the most recurring shortcomings of these researchers is that they set to work on the research project too hastily. The research project is often already underway before all of the parties have obtained a clear idea of which problem is to be tackled and what the problem is exactly*” (Verschuren et al., 2010). Lang et al. (2012) make the case for ‘Transdisciplinary, community-based, interactive, or participatory research’ approaches. They create some guidelines and design principles for each of the three research phases, whereas McNiff and Whitehead (2011) focus on action research perspective. Hence, there are some slightly different phases in Table 2.

*Tensions and challenges in collaborative research projects*

One main challenge of collaborative research is the different scopes and time frames that are relevant for academics and practitioners respectively. In Figure 1 the different expectations for the different roles are illustrated, indicating that both expectations can be fulfilled if they are planned for early on in the project (Svensson et al., 2007).

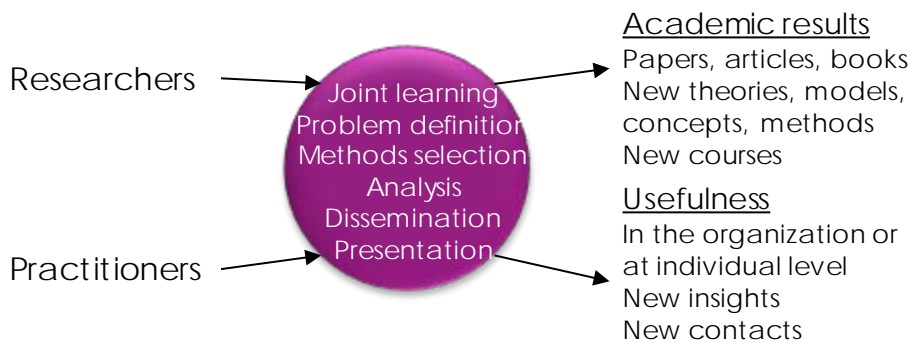


Figure 1 – Roles and expectations on a collaborative research projects (Svensson et al., 2007)

Another challenge in collaborative research is the communication between academics and practitioners – in many ways we speak different languages or at least we have biases, see Figure 2, based on Berlo’s communication model (Berlo, 1965). The problems in communication, here represented by “noise” has been studied since Weaver (1949).

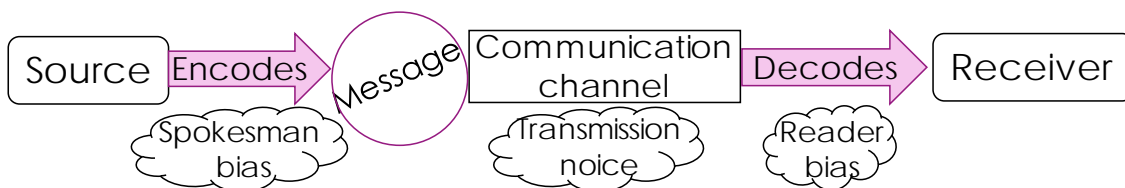


Figure 2 – Communication model. Based on Berlo (1965) and Towill (1996).

Communication problems can also be seen as a culture crash where practitioners and academics speak different languages. Misaligned priorities, metrics, and objectives together with conflicting goal and interfunctional bias could lead to sub-optimization and conflicts among the participants (Schumann et al., 2016). This can be seen as a ‘built in’ problems that will occur over and over again unless it is resolved.

**Design/methodology/approach**

The approach adopted consists of two stages (Wacker, 1998). First, there is a conceptual

development stage. We use existing literature to develop an overview of the different traditions for engaged research, exploring their background, heritage and practices. Then, we categorize the potential phases of a research project, based on stages described in different studies, and highlight where and when engagement may take place. Second, we present a series of vignettes to illustrate variations/configurations of engaged research (Rungtusanatham *et al.*, 2011). These vignettes encompass different types of research (e.g. qualitative and quantitative) with different beginning and end points, demonstrating the potential variety of engaged projects.

The vignettes were selected based on meta-analysis of our own previous research projects. In line with Lacoste and Johnsen (2015) we have thus used ‘tacit knowledge’ gained through immersion in the field to guide both our conceptual study as well as the selection of vignettes. The vignettes are presented showing the interactions between theory and practice over time (in line with Gosling *et al.*, 2017). They are informed by our own experiences of collaborative research projects, and we include empirical feedback from industrial collaborators to reflect on the nature of engaged research and the impact that it has in their organizations.

## Findings

Using the classifications and model developed, a series of vignettes are presented to demonstrate different variations of engaged research. Each vignette will include the scope of work, a description of the nature and extent of engagement, the nature of cycling between theory and practice, research methods used and outputs in line with the research phases presented by (Svensson *et al.*, 2007). Through the vignettes we explore what engage research means, and the iterations between theory and practice.

### *Vignette 1 – Decoupling points in engineering flows*

Vignette 1 illustrates a co-operative inquiry to investigate the potential for order penetrations points within engineering designs as presented in Gosling *et al.* (2017), see Figure 3. In the co-operative inquiry’, a practitioner was involved in planning, directing, reflecting on, and in the presentation of the research.

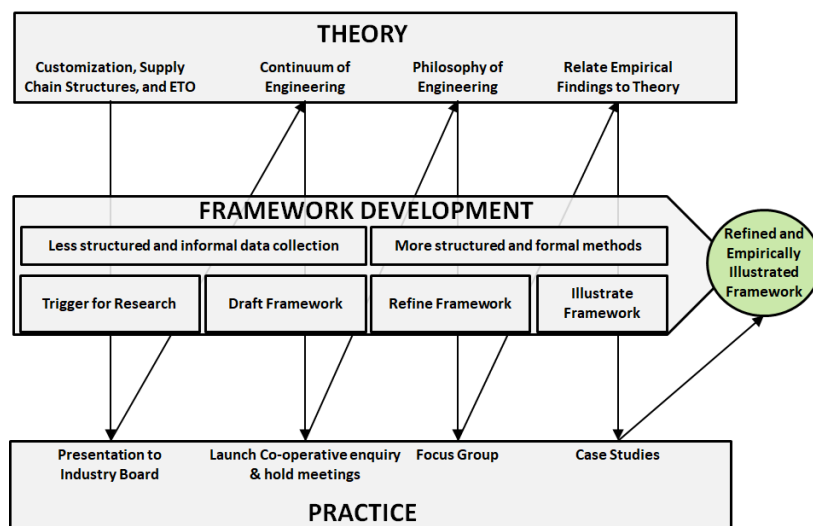


Figure 3 – Overview of research design in vignette 1. (Gosling *et al.*, 2017)

The co-operative inquiry research was initiated through a presentation given to an advisory group for a large engineering organisation and its supply chain. Following this, an ‘inquiry group’ was formed (Heron and Reason, 2006), consisting of the paper’s

authors as the core members, but with the wider advisory group feeding in as appropriate. This led to an iterative process of conceptual development, cycling between the experience of industry professionals and researchers, with reflection on relevant literature and practice. Members of the advisory board contributed, participated and were consulted at various stages of the inquiry. Since the research seeks to build theory, and is exploratory, a focus group was chosen in order to gather feedback on the dimensions of different engineering subclasses and order penetration concepts. Multiple case studies were then used to illustrate the different dimensions of the framework.

A further point to note is that prior to the generation of a draft framework, the approach was based on a more informal and less structured approach, allowing ideas to develop ‘organically’. Once a draft was developed, methods became more structured and formalised. A focus group and multiple case studies were used in the later stages.

*Vignette 2 – Supplier development and selection*

Vignette 2 presents the activities of a longitudinal collaborative research endeavour focused on the analysis and interpretation of a large performance dataset. The collaboration began in 2007, when the organization became co-creators of a number of ideas for research endeavour in an EPSRC funded IMRC. This has resulted in a range of co-authored published work with the supply chain director, including an article in Supply Chain Quarterly (2009), a book chapter (Lean book), and a journal paper in Construction Management and Economics 2015, (e.g. Gosling *et al.*, 2015).

Much of the collaboration over the last 10 years has been based against a backdrop of informal meetings, discussing ongoing research challenges as well as developments in the organization. Once a research challenge becomes better defined, more focused meetings have been arranged and a project plan developed, as shown in Figure 4.

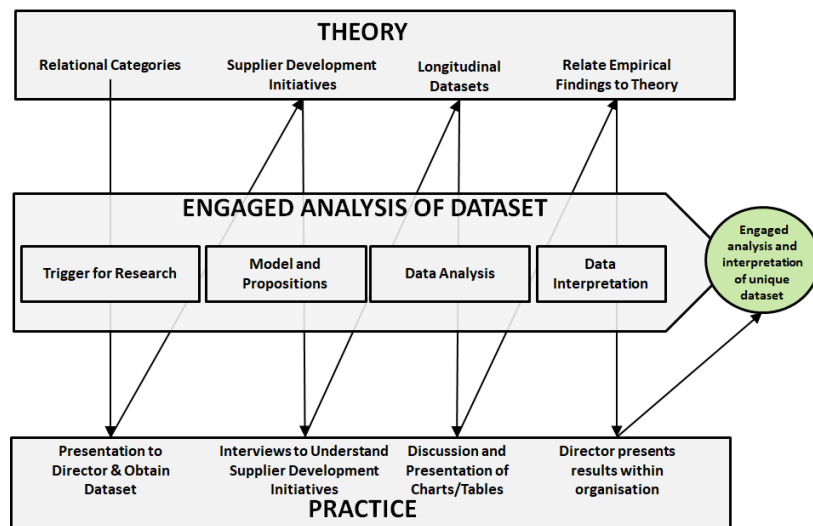


Figure 4 – Overview of research design in vignette 2.

The research starting point was that while relational categories and portfolios have been well defined in the literature (e.g. refs), large datasets providing comparisons of performance outcomes are much less common. From the practitioner view, the company had employed particular approaches and strategies with respect to relationship building with suppliers and wanted insights to understand what was working and what wasn't.

The analysis provides an evidence base for the value of long term strategic partners and has helped develop a better understand risk profiles in supplier selection decisions. Collectively, this work has enabled better informed dialogue with clients, the supply

chain, as well as other stakeholders, such as insurance organizations. The work has informed the supplier selection approaches used by the company, enabling greater use of long term strategic partners, where spending with long term strategic partners has increased over time. It has also promoted a change of culture, whereby “the supply chain is no longer considered an ‘island’ or a commodity, but a strategic area to be managed in a holistic way”. This, in turn, allows the supply chain to invest in long term relationships more effectively.

This vignette highlights that close engagement can play an important role in the analysis of quantitative data, as well as joint working to understand and define the problem context.

*Vignette 3*

Vignette 3 illustrates a set of collaborative research projects that gives a longitudinal overview of companies’ engagement in all phases of a research project as well as their view of being engaged over a longer period of time. The KOPeration project illustrated to the left in Figure 5 was initiated in 2008 together with 5 companies; C, F, H, P and S. In 2009 company E also joined. The project continued until 2013. The last stages of KOPeration was dedicated to identifying further areas of research which led to the joint formulation of the KOPTimera project that started in 2014. One of the six companies chose to leave the collaboration since the selected research area was not their core concern. At the end of 2016 when the KOPTimera project was ending, three different ways forward was identified, and three different projects were thus formulated. The five companies chose to participate in one, two or three of the new projects that are running 2017-2020. No company quit but six new companies were brought in.

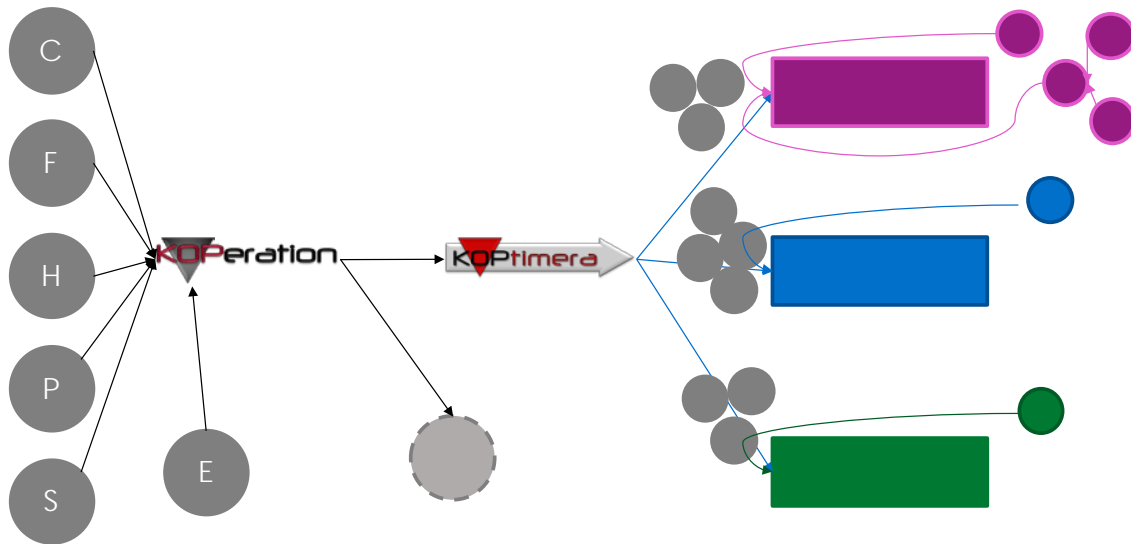


Figure 5 – Longitudinal overview of engagement over 10 years

Throughout these projects, a collaborative way of working has been established that satisfies the different expectations placed on the project, see Figure 1. The project work is organized around re-occurring workshops where the industrial researchers from the different business partners interact with each other and the academic researchers (this is the point of joint conceptualization and interpretation in Figure 6). The workshops are hosted alternately by the business partners and the academic institution and is an opportunity also for observation for all researchers.

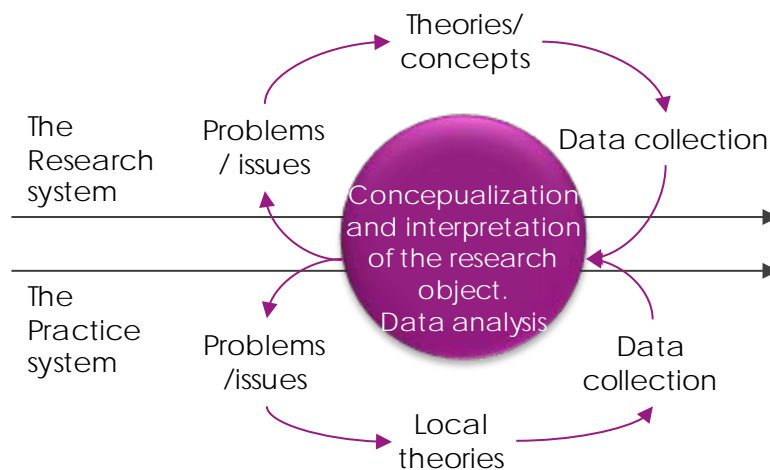


Figure 6 – Interactive research - generic approach (Larsson, 2006)

The workshops have been found to be very rewarding and the companies discovered that their problems were much alike although they operated in different industries and manufactured very different products (in terms of value, size, lead-time, and level of customization etc.). The workshops also had a significant role when it comes to data analysis and conclusions. Each workshop is associated with a work package containing data collection, data analysis and conclusions. Each work package covers four months of parallel activities, resulting in ten deliverables during the three years of a project.

### Discussion

When we set out to provide greater clarity and understanding of the potential configurations of engaged research and, given the actual messiness of engaged research, to encourage the operations management community to ‘tell it as it is’ i.e. to articulate their research practice as it was actually undertaken rather than to post-rationalise based on prescribed legacy traditions we hoped that we would find more examples of such articulations in published papers than we actually did. The variations of engaged research however seem endless. How do practitioners and researchers engage across the phases of a research project? In Figure 7 we propose a generic research design that illustrates the iterations between theory and practice.

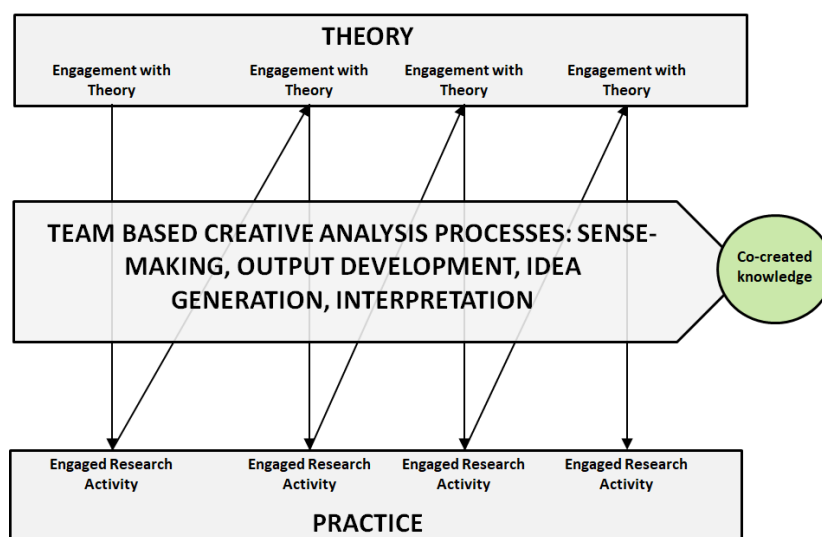


Figure 7 – A generic research design



However, taking into consideration all the non-academic activities needed in order to build a successful collaborative research project, such as publishing in trade journal in order for companies to know that the research exists, building trust between researchers and companies, between participating companies, network, and finding time to meet etc. a more truthful articulation and way of ‘telling it as it is’ is probably found in Figure 8.

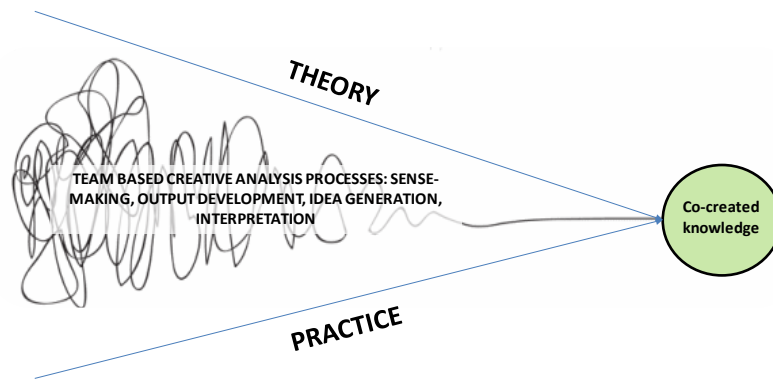


Figure 8 – Collaborative research design – the truth (?)

## Conclusion

The paper establishes a framework for understanding different dimensions of engagement. By showing how this framework relates to a series of vignettes, illustrating different types of engaged research, this paper adds to the debate and discourse about finding appropriate ways to frame our written accounts of engaged research in the discipline. In providing richer explanations of the realities of engaged research, researchers are also in a better position to replicate and repeat studies.

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