

Sanding a slippery genre – Making sense of *the kappa* in STEM

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Abstract— In this roundtable, we will discuss the role of *the kappa*, the framing text in a compilation thesis, in STEM doctoral education. Based on two runs of the new course *Framing your research – thesis frames and knowledge contribution* for doctoral students at LTH and a focus group discussion with experienced examination committee members and supervisors, we argue that *the kappa* is an *emergent genre* still open for negotiation, but that this often goes unnoticed by doctoral students, supervisors, and examiners alike.

The result, as gleaned from our preliminary observations, can be a missed learning opportunity, where many doctoral students search for a convention that is but a mirage, hindering them in using *the kappa* to independently contextualize their doctoral project. To address this situation, we call for a reckoning of what *the kappa* is and what it can be and ask for your assistance in this task.

Index Terms—doctoral education, compilation thesis, thesis by publication TBL, critical thinking, *the kappa*

I. INTRODUCTION

IT appears that we can agree that the doctoral degree is more than a hat. But exactly what else is involved is harder to define. In Elmgren et al's report *The formation of doctoral education*, commissioned by the Association of Swedish Higher Education, the authors list some angles: “doctoral education can be viewed as *bildung*, education, research, work, apprenticeship, or as a calling – or as a combination of two or more of these perspectives” (Elmgren et al., 2016, p. 2).

Our view is that doctoral education involves a split vision of these angles, where the doctoral student has multiple identities as an apprentice, student, researcher and employee. Yet, we argue for independent, critical thinking as fundamental to the degree. Crucially, we are convinced that for a doctoral degree in STEM in Scandinavia, where a compilation thesis is the norm (Solli & Nygaard, 2023), independence and critical thinking can be promoted by strengthening the role of *the kappa*, the parts of a compilation thesis that remain after the individual articles have been removed.

Our vision is a design of doctoral education where doctoral students advance towards increased professional ownership of their projects, culminating in a thoughtful reflective voice in *the kappa*. To do this, we need to know more about what *the kappa* is today and what it can be. We invite all those interested in this question to join us in our discussion.

II. THE KAPPA – TUNING THE SCALES OF PROJECTIFICATION AND INDEPENDENCE

A call for a focus on independent, critical thinking in doctoral education can sound like preaching to a uniform choir. Who would disagree with this? For one, both independence and critical thinking are stipulated in the learning aims articulated in the Swedish Higher Education Ordinance.¹ What happens in practice, however, may not always support the doctoral student in developing these skills. A warning often issued is that quality assessment practices associated with neoliberal values such as performativity and efficiency can work against independence and critical thinking (see e.g., Alexander & Davis, 2018; O’Keeffe, 2020; Elmgren et al, 2024).

For STEM disciplines, such warnings are often linked to a practice of *projectification*, where project goals – and sometimes even methods – are defined by external funders (see Ylijoki, 2016; Sonesson et al., 2023; Elmgren et al., 2024). While projectification offers clear benefits, such as giving doctoral students opportunities to develop their identities as researchers and employees that provide them with a head start in post-degree employment, it also has potential drawbacks. One concern is that projects may align poorly with a *bildung* ideal, leaving limited room for reflection and for careful, critical engagement with the research field (see e.g., López-Castellano, 2025).

If we add generative AI into the projectification mix, with its abilities to rapidly summarize complex (and long!) papers, and potentially also to analyze and interpret data, it seems reasonable to look for processes and artifacts that give the doctoral student some time to think and reflect. We believe that such can be found – also within the boundaries of projectification – and argue that *the kappa* is ideal for the purpose. It is the only text in a compilation thesis that must be single-authored and there are few articulated requirements on the text, arguably leaving the doctoral student substantial freedom to craft their own storylines and articulate their understanding of the value and importance of their own research. The question is – do doctoral students see it this way and, crucially, what does the STEM doctorate expect?

¹<https://www.uhr.se/en/start/laws-and-regulations/Laws-and-regulations/The-Higher-Education-Ordinance/Annex-2/#Doctor>

II THE KAPPA – AN EMERGENT GENRE

Identifying the kappa as a challenge – the foundation of a new course

In 2023, we received a request from the faculty to address an issue from their quality enhancement work. In a questionnaire sent out to all doctoral students at LTH, they had seen that many of the doctoral students found it difficult to get started on their *kappas* and tended to feel somewhat isolated towards the end of their doctoral studies. One way of addressing this, the faculty said, could be to offer a course organized around *kappas*, bringing the doctoral students together and perhaps also target some of the learning aims in doctoral education difficult to examine elsewhere.

As someone interested in communication and writing, the idea of a *kappa* course appealed to us, and we realized that we too did not have a clear idea of the *kappa*. We also soon realized that we were not alone in this – the *kappa* has largely been left alone as an academic artifact, likely at least in part because the compilation thesis has been an unusual thesis format in a global perspective (Solli & Nygaard, 2023) – with no compilation thesis, no *kappa*, and no real interest in describing it.

Approaching the kappa as a genre

Currently, the compilation thesis is spreading, and with this, some interest in *the kappa*. It follows, however, that most studies originate from geographical and disciplinary areas where the compilation thesis is relatively new – typically the UK, US, South Africa and Australasia and within the humanities and social sciences.²

In this research, there seems to be an assumption that *the kappa* is a straightforward genre in the STEM fields (see e.g., Solli & Nygaard, 2023; Jägerskog & Nemi, 2023), owing in part to an assumed ‘high consensus’ nature of STEM (see e.g., Becher, 1989; Becher & Trowler, 2001). But is *the kappa* straightforward in STEM? To us, the request for a course addressing *the kappa* suggests otherwise, as well as our own gut feeling that it is difficult to generalize about *kappas*. For one, the ‘high-consensus’ characterization of STEM can be a too tight fit in many STEM sub-fields, particularly in interdisciplinary contexts (see e.g., Trowler, 2014).

As a first step in developing a *kappa* course, we wanted to get closer to the how *the kappa* is understood and what might be difficult about writing it. This meant exploring how *the kappa* functions as a genre in STEM, where genre refers to socially recognized ways of using and structuring language for specific communicative purposes. In simple terms, this is similar to conventions, but by emphasizing ‘socially,’ we highlight that conventions are shaped by the social systems in which people interact, e.g., institutions, disciplines, and educational systems (Hyland, 2007, p. 149).

An example of a socially negotiated convention at the

level of the disciplinary area is the IMRaD structure (Introduction, Method, Result, and Discussion) for examination papers, lab reports and research papers across STEM disciplines. For the *kappa*, a particular heading may become a convention within a discipline or at a specific institution simply because it is socially recognized as the proper, or useful, way to present certain content.

The kappa – something more than a summary, but what?

Viewing *the kappa* as a genre in STEM, we started by looking at its purpose as described on university websites in Scandinavia. Two descriptions are common: *introductory summary* and *synthesis*, and a third appears occasionally: *framework story*, which we interpreted as overlapping with synthesis.³

How we interpret these descriptions is one matter, what people intend by them is another. To explore this, we invited five experienced supervisors and examination committee members at LTH to a focus-group discussion. In this discussion, synthesis was a preferred term over summary and the participants agreed that synthesis signals that *the kappa* should do something more than a summary, but it was not obvious from the start what this ‘something more’ should, or can, be.

Instead, a complex understanding of *the kappa* was negotiated during the conversation. Initially, the participants talked about *the kappa* as a way of showing the bigger picture and outlining the research project. Then, they added that the bigger picture needs to display critical thinking and reflection. Finally, they agreed that *the kappa* is a place for issues not covered in individual papers, serving as a narrative of the doctoral students’ research journey – which is perhaps better captured by the term framework story than synthesis, indicating that our categorization above might have been too blunt.

Sanding the slippery genre – not an easy task

Towards the end of the focus-group interview, one of the participants reflected on how the lack of a clear purpose for *the kappa* might put the doctoral student in a difficult position, making a comment along the lines of ‘I sort of feel bad now that we have not discussed this more in department meetings and so on. I feel that the doctoral students are not given much to go on’.⁴

At this point, having developed the course *Framing your research – thesis frames and knowledge contribution* (Sw. *Rama in din forskning - om kappan och kunskapsbidrag*) and run it twice, we have seen that many doctoral students agree that they are not given much to go on as they approach their *kappas* and find this problematic, but we argue that exactly what guidance they need is not straightforward. The challenge, in our view, is to align expectations in a way that guides doctoral students but does not mute their independent voices.

In the course, we asked the students about what they find challenging about *the kappa* in informal in-class questionnaires and we also talked about this in feedback meetings. We found that many of our participants were

² An interesting publication that does address the compilation thesis in STEM is Björn Gustavii’s book *How to Prepare a Scientific Doctoral Dissertation Based on Research Articles*. The book is organized around a series of common headings Gustavii found in browsing a vast number of compilation theses, both from his own context at the faculty of medicine at Lund University, and globally. Based on his observations, Gustavii offers some advice on dos and don’ts regarding *kappas*.

³ <https://www.phd.lth.se/english/my-doctoral-studies/thesis/>

⁴ This is not a direct quote, but a translation from Swedish, and slightly condensed for presentational purposes.

unsure about what is allowed and expressed that they wanted to write to conform to expectations. Their answers range from difficulties in pinning down the purpose of *the kappa* (summary or synthesis?), knowing their audience (general or specific?), providing a context for the individual articles (finding the right scope – interesting for industry, society, academia?), finding the storyline (How much of the papers should be repeated? What about method?), to difficulties in finding the appropriate style (academic, popular or textbook style? Are personal pronouns ok?).

To us, these answers suggest that the doctoral students struggle to find set conventions to guide their writing. Moreover, we see this as hindering them in expressing their independence and developing their voice as academics, values we have observed as central to the supervisors and assessors (see section C).

The question then becomes how we can nudge them into independence. A lasting impression from our two runs of *the kappa* course is that although the doctoral students initially expected a set structure, they left feeling empowered to make some independent choices in structuring their text and welcomed the opportunity to shape their own stories. But we do not know whether our discussions were sufficient in making them act on this or how their *kappas* turned out in the end. In their responses and initial drafts, we saw the potential for *the kappa* as a tool for reflective critical thinking, but setting genre boundaries is not an easy task, and although the doctoral students felt empowered, they may have found it difficult to follow through. We are, after all, talking ‘independent thinking’ rather than ‘anything goes.’

III. THE KAPPA – WHAT CAN IT BE?

It is clear to us that to reliably nudge the doctoral students towards independence and critical thinking, we need to study *the kappa* and its value in the STEM doctorate more broadly: what it has looked like historically; what it looks like today; how it is perceived by its assessors and those who write it. We can then use these observations to discuss *the kappa*’s potential for displaying independent critical thinking in the STEM doctorate today. The observations can also be used to provide doctoral students with some typical ways of organizing their *kappas*, but importantly this needs to be done by emphasizing the communicative functions of types of sections rather than looking for a template.

The task is big and necessarily involves descriptive and analytical work of *the kappa* as a product as well as its social context, as articulated by the people involved in it. In this roundtable, we begin with the people and approach the *kappa* as a so-called boundary negotiating artifact (BNA) (Lee, 2007) i.e., a carrier, and potential expression of, basic academic values and assumptions. We will use the following questions to guide our discussion:

- What is the purpose of *the kappa*?
- Who is its reader(s)?
- What is a typical way of structuring a *kappa*?
 - Can other ways of structuring it work?
- Is it possible to write a successful *kappa* without independent, critical thinking?
- How important is *the kappa* in the STEM doctorate?

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