

Thevenot, Elisa

Timing transitions. Making sense of life course trajectories in the context of sustainability transitions through the lens of rhythms

European journal for Research on the Education and Learning of Adults 17 (2026) 2, S. 229-244



Quellenangabe/ Reference:

Thevenot, Elisa: Timing transitions. Making sense of life course trajectories in the context of sustainability transitions through the lens of rhythms - In: European journal for Research on the Education and Learning of Adults 17 (2026) 2, S. 229-244 - URN: urn:nbn:de:0111-pedocs-357215 - DOI: 10.25656/01:35721; 10.3384/rela.2000-7426.6155

<https://nbn-resolving.org/urn:nbn:de:0111-pedocs-357215>

<https://doi.org/10.25656/01:35721>

in Kooperation mit / in cooperation with:



<http://www.ep.liu.se>

Nutzungsbedingungen

Dieses Dokument steht unter folgender Creative Commons-Lizenz: <http://creativecommons.org/licenses/by/4.0/deed.de> - Sie dürfen das Werk bzw. den Inhalt vervielfältigen, verbreiten und öffentlich zugänglich machen sowie Abwandlungen und Bearbeitungen des Werkes bzw. Inhaltes anfertigen, solange Sie den Namen des Autors/Rechteinhabers in der von ihm festgelegten Weise nennen.

Mit der Verwendung dieses Dokuments erkennen Sie die Nutzungsbedingungen an.

Terms of use

This document is published under following Creative Commons-License: <http://creativecommons.org/licenses/by/4.0/deed.en> - You may copy, distribute and render this document accessible, make adaptations of this work or its contents accessible to the public as long as you attribute the work in the manner specified by the author or licensor.

By using this particular document, you accept the above-stated conditions of use.



Kontakt / Contact:

peDOCS
DIPF | Leibniz-Institut für Bildungsforschung und Bildungsinformation
Informationszentrum (IZ) Bildung
E-Mail: pedocs@dipf.de
Internet: www.pedocs.de

Timing transitions: Making sense of life course trajectories in the context of sustainability transitions through the lens of rhythms

Elisa Thevenot

University of Tübingen, Germany (elisa.thevenot@uni-tuebingen.de)

Abstract

Where institutional pathways are unclear, responses to sustainability transitions are largely individualised, marked by subjectivity and complexity, thereby placing the burden of navigating social change on individuals. This article argues that engaging with temporalities – particularly through rhythms and the practice of rhythmanalysis – offers valuable support for making sense of life-course transitions under uncertain and contested social change conditions. Drawing on biographical narratives with adults in professional transition, the paper examines how individuals connect personal life-course transitions to broader sustainability challenges. Using rhythms as a conceptual lens, the analysis and the subsequent discussion explore processes of sense-making, complex thinking, and engagement with wicked temporalities. This approach is advanced as a relevant resource for adult education in the context of rapid socio-ecological change. In doing so, the article contributes to ongoing debates on rethinking learning by expanding how the unfolding of lives can be framed and understood under complex and uncertain conditions.

Keywords: rhythmic intelligence, rhythmanalysis, sustainability transitions, biographical learning, life course transitions

Introduction: Adult education and transitions in times of wicked problems

A tall, thin black screen displaying digits that appear to cascade downward. In *Time Waterfall*, Tatsuo Miyajima artistically conveys the complex temporality of human lives. As the artist describes it, the installation presents random numbers – some large, some



small – symbolising lifetimes that cascade like a waterfall, never to return. Each number moves at a different speed, producing intricate and mesmerising visual effects. These effects reflect the lives of people in the present – constantly moving and intersecting with one another. The digits stand for our fleeting individual lives, while the installation as a whole evokes the ongoing cycle of life and death. This work of art, rather than an abstract rendering, aligns with the recognition that individuals make sense of their life trajectories and the temporal unfolding of experiences in ways that far exceed a strictly chronological interpretation (e.g., Alhadeff-Jones, 2017; Pineau, 2000).

Although time is not directly observable, humans have long sought to capture, structure, and control it as a means of organising our lives and creating shared social understanding (Zerubavel, 1982), for example by institutionalising specific times for education, training, and other activities. In other contexts, time is used to question our lives and how we understand and make sense of them (e.g., Sharma, 2014), particularly when the world is perceived as complex. *Time Waterfall* specifically challenges us to move beyond singular perspectives on the conception of a lifetime. While each life is fleeting and distinct, together they give the impression of a rhythm, like the continuous flow of a waterfall.

In light of widespread societal experiences of acceleration and alienation (Rosa, 2010), an increasing sense of social and ecological instability (Block et al., 2019), or recently rising eco-anxiety (Hickman, 2020), the question of how we make sense of our contemporary lives amid socio-ecological issues has gained increased scholarly interest. Against this backdrop, the term *sustainability transitions* in this paper refers to the ongoing reconfiguration of ways of living and organising society in response to environmental degradation and growing awareness of interconnected global challenges. Rather than following a blueprint, programmatic, or uncontested development of society, *sustainability transitions* are conceptualised as *wicked problems* (Murphy, 2012). These are ‘characterised by incomplete, uncertain, or contested expert knowledge; conflicting values and objectives; a lack of unambiguous problem formulations; and the impossibility of finding uncontested definitive solutions’ (Block et al., 2019, p. 30). For instance, while sustainability transitions imply societal change, there are deep disagreements about what should change, who should act, and how such change should be enacted. In a context framed by the urgency of sustainability – and thus sustainability education – Wildemeersch et al. (2023), in their article titled *No Time to Waste*, write from the perspective of educators and ask how they are expected to respond to climate change if it is indeed urgent. Should they ‘rush to inform students of the latest ecological and social catastrophes, thereby accepting being positioned as allies of the activists?’ (Wildemeersch et al., 2023, pp. 1-2). This example highlights the complexity of interpreting action – beginning with the situatedness, responsibility and engagement of educators – at the intersection of climate urgency, long-term sustainability, and educational practice.

In light of this indeterminacy, the field of adult education and lifelong learning is especially confronted with a wide array of pressing questions regarding the ways in which individuals can navigate and inhabit such social conditions. Schreiber-Barsch and Mauch (2019) suggest that adult education’s response to global challenges is ‘a two-way exercise: a necessary adaptation to the requirements of today’s globalised societies as well as a critical reflection on these requirements with the potential to empower social transformation’ (Schreiber-Barsch & Mauch, 2019, p. 532). The normative, open-ended, and long-term character of sustainability transitions (Köhler et al., 2019) complicates the definition of desirable learning outcomes. Although this indeterminacy is central to democratic engagement, it places considerable responsibility on adult education to

support democratic participation. Yet, as learning largely occurs beyond formal educational settings, the field faces significant challenges in assuming this role (Schreiber-Barsch & Mauch, 2019). Though special issues in the academic literature, such as the one in RELA at the intersection of sustainability and space (Vandenabeele et al., 2024), testify to ongoing attempts to move the field forward.

Despite the inherently *wicked* character of *sustainability transitions*, individually coded habit-changing practices – such as adopting a vegan diet, reducing air travel, or engaging politically on climate issues – have gained momentum, demonstrating participation in and the shaping of sustainability transitions as ongoing processes across the life course, rather than as isolated, minor adjustments to individual trajectories (Hards, 2011; Greene & Rau, 2018; Thevenot, 2025). Within this context, adult education has a crucial role to play in fostering critical reflection and inquiry into how individuals interpret and navigate the complexities of knowing and doing sustainability transitions – starting with the temporal complexities introduced at the beginning of this article. Reflecting on temporalities – such as through ‘cultivating the “temporal imagination” in relation to climate change’ (Facer, 2024, p. 1291) – is essential, because our relationship with time shapes how we experience, interpret, and respond to complex phenomena amid rapid social and environmental change.

To engage with the complexity of contemporary temporal experience, this article turns to the concept of rhythms. The central claim is that *rhythmic intelligence* – a notion that evokes the ‘capacity to sense, organise and reflect on the rhythms that compose any living phenomena’ (Alhadeff-Jones, 2023, p. 14) – can enrich adult education, particularly when *sustainability transitions* mean that individuals and society must cultivate entirely new ways of thinking and living in the world (Lange, 2024). This paper addresses this claim through an empirical approach grounded in a research project on life-course transitions within the context of sustainability transitions. The theme of rhythms initially emerged inductively from the analysis of biographical interviews; the aim here is to build on that result by grounding *rhythm theory* in lived experience and demonstrating how *rhythmic intelligence* manifests in participants’ accounts. In doing so, the analysis explores how individuals navigate moments of impasse, articulate their sense of agency within ongoing processes of social change, and align their life-course transitions with evolving socio-ecological commitments.

This leads to the following guiding question: How do individuals deal with the temporal complexities of sustainability-related life course transitions, and how can *rhythmic intelligence* inform adult education to better support these processes?

The article unfolds in four parts. First, it outlines a conceptual framing of transitions that shifts the focus from individual adaptation to questioning the broader contexts and dynamics that produce transitions themselves, fostering a relational perspective in an attempt to link personal and sustainability transitions. Second, it engages with Alhadeff-Jones’ work and particularly *rhythmic intelligence* – as an answer to navigating complexity and understanding the temporal intricacies of transition processes. Third, three contrasting empirical insights are mobilised to demonstrate how time – especially rhythms – is experienced in distinct ways and thereby shape how individuals make sense of the temporality of personal transitions: *transitioning ahead of time (a)*; *transitioning right on time (b)*; *transitioning onto a different time (c)* – collectively reflecting a form of rhythmic intelligence. Finally, the article argues for the cultivation of rhythmic intelligence as a critical resource in adult education, particularly in addressing wicked sustainability issues.

Reflexive transition studies

To begin, it is important to clarify what constitutes a life course transition within the framework of this study. Transitions in general – and those of the life course in particular – such as the shift from schooling to employment, or from work to retirement – are often treated as self-evident, linear processes, understood as movements from point A to point B, with status changes that are either successfully completed or not. From this conventional view, transitions risk being treated as objective milestones or natural facts – for example, labelling someone as ‘eco-friendly’ or not ‘eco-friendly’ based on minor changes in everyday consumption habits. Instead, reflexive life-course transition studies, and in particular the *Doing Transitions* research group, focus on how life-course transitions are socially constructed, context-dependent, and continuously produced through social practice (Walther et al., 2022). Thus, a focus on life course transitions is not merely concerned with whether and how individuals successfully navigate or struggle with them, but also with making the production of transitions themselves a subject of inquiry (Walther et al., 2022). For example, rather than asking whether someone has ‘successfully’ become vegan, we can examine how becoming vegan is framed as a meaningful transition and how this framing relates to sustainability transitions.

Attending to the temporal norms tied to life course transitions, also raises a wide range of questions (e.g., Facer, 2023): is there a ‘right’ time to transition? Who is able to transition and when? Does a transition have a clear beginning and end? How long does a transition last? These questions reveal that transitions – even those perceived as ‘intentional’ – are not simply matters of individual choice but are deeply embedded in broader social expectations and temporal structures.

Individually performed sustainability-related transitions are weakly institutionalised, framed as voluntary processes, and of rapidly evolving significance (Rauschmayer et al., 2015), making clear or stable temporal markers unreliable for orientation or assessment and casting doubt on their classification as life-course transitions. Becoming vegan is more than a simple change in habit; from a reflexive transition perspective, it represents a movement into a new social position. Transitioning to veganism can be understood as a performative practice with socially significant consequences for individual life trajectories and others’ lives linked to them (Settersten, 2015). Veganism may also be conceptualised as a ‘practice of not-doing’ (Hards, 2011, pp. 198-200) – namely, abstaining from meat eating – through which subtle social distinctions are produced. This dynamic reflects what Stauber (2020) terms *doing difference by doing transition*.

The question remains whether to transition at all (e.g., become vegan)? – and if so, when, for how long, and whether the change should happen progressively or abruptly. While political and scientific actors often emphasise the urgency of change, individuals receive little guidance on when such transitions are pragmatically possible, meaningful, or viable. Conducting a transition also depends on infrastructure. Giving up a car may require reliable public transport; adopting a vegetarian diet might depend on workplace canteen options; and installing solar panels could hinge on forthcoming subsidies. With limited visibility on when others will change or policies will stabilise, even small transitions involve complex decisions and offer less freedom of action than often claimed.

Life course transitions are complex, socially constructed, and deeply shaped by temporalities – and the wickedness of sustainability *transitions* only adds to this complexity (Thevenot & Hof, 2024). Within this context, adults should be empowered to co-shape desirable societal futures, starting by actively engaging with – and learning from – their own life course transitions (Hof & Bernhard, 2025). In the next section, learning

from transitions through engagement with alternative conceptualisations of temporality – particularly rhythms – is explored.

Rhythms, rhythmanalysis, rhythmic intelligence

The notion of *rhythm* is inherently intuitive, as it resonates with the many ways in which we make sense of how our lives are structured and unfold (see Alhadeff-Jones, 2023) natural rhythms (such as day and night or the seasons), biological rhythms (such as sleep-wake cycles or hunger and satiety), and socially constructed rhythms (such as weekly routines, or the academic calendar) – all these rhythms, regardless of their degree of subjectivity, whether perceived as more *scientific* or *poetic*, and whether operating at the scale of *particles* or *galaxies* (Lefebvre, 2004) – entangle and shape how we experience living in the world.

This article explores how individuals make sense of the heterogeneous, interwoven rhythms shaping their lived experience, life trajectories, and transitions across the life course. Although life trajectories may appear harmonious on the surface (e.g., a life history account that describes moving from schooling, to training, to retirement), Lefebvre and Régulier in *Le projet rythmanalytique* (1985) invite us not to be afraid to disturb this surface and set limpidity in motion. Indeed, by zooming in, one can observe various rhythms shaping dynamic movements of life trajectories (Awad, 2021).

In analysing rhythms – that is, in conducting a *rhythmanalysis* – Lefebvre (2004) distinguishes between *eurhythmia* and *arrhythmia*. *Eurhythmia* denotes the harmonious interaction of rhythms, referring to situations in which they are in sync. *Arrhythmia* refers to a disruption or pathological relation between rhythms, occurring when they are out of sync. However, reducing these states to a dichotomy (in sync vs. out of sync) oversimplifies their complexity. Such reductionism emerges when one fails to ‘rely on any elaborated temporal or rhythmic theory to nuance, explain, and justify the conceptualisation of speed’ (Alhadeff-Jones, 2017, p. 154).

Rather, the point of *rhythmanalysis* is to enable the observation and description of processes, dynamics, and flux. This perspective is particularly meaningful when we consider that:

every eurhythmia always already contains arrhythmia, pauses, breaks, and off-beats. As arrhythmia are reproduced, they weaken previously strong connections, but in doing so, they also build and strengthen other and new connections, new eurhythmia. It is this dynamic relation between rhythms that matters. (Blue, 2019, p. 941)

Lefebvre and Régulier (1985) invoke the metaphor of waves to emphasise that rhythms are never identical; they produce differentiation and are characterised by inherent unpredictability. ‘Look closely at each wave’, they write: ‘It changes ceaselessly. As it approaches the shore, it takes the shock of the backwash: it carries numerous wavelets’ (Lefebvre & Régulier, 1985, p. 196). This metaphor also underscores how waves do not move independently of one another but share the same surface, interact, and continuously generate new, both large and small, disruptions: ‘Powerful waves crash upon one another, creating jets of spray; they disrupt one another, absorbing, fading, rather than crashing, into one another’ (Lefebvre & Régulier, 1985, p. 196).

The above analytical approach to engaging with temporal dynamics remains abstract and thus applicable to a variety of phenomena (Awad, 2021) – yet it remains underutilised to explain educational processes (Alhadeff-Jones, 2018) and largely confined to what Alhadeff-Jones (2020) describes as the realm of *rhythmic unconsciousness*. Hence, while

rhythms may be intuitive, as emphasised at the beginning of this section, engaging with them strategically also requires specific learning. The capacity to mobilise rhythms – that is, to perceive, interpret, evaluate, question, and reflect on lived or observed rhythms – must be consciously developed (Alhadeff-Jones, 2023).

Particularly in times of crisis that demand urgent decision-making, adopting a rhythm analytical approach – that is, focusing on processes rather than solely on outcomes – can foster more nuanced understanding and provide analytical leverage for making sense of complex situations. In practice, however, attention typically centres on results and the attainment of predefined goals, sidelining the temporal dynamics, unintended consequences, and ripple effects that inevitably accompany such processes (Alhadeff-Jones, 2023). For instance, sustainability transitions are often framed primarily in terms of institutionally negotiated targets and timelines – such as ESD for 2030: Education for Sustainable Development: Towards achieving the SDGs (UNESCO, 2020) – which implies the development of education *for* sustainable development. This framing tends to obscure the complex, open-ended, and processual nature of sustainability transitions, reinforcing patterns of instrumentalisation (Jickling, 1992) rather than fostering emancipatory approaches (e.g., Singer-Brodowski, 2023; Lange et al., 2021) that embrace multiple ways of thinking about and engaging with sustainability transitions. This calls for reimagining education not merely as a means to deliver sustainability content, but as an opportunity to learn from sustainability (Van Poeck & Vandenabeele, 2012) or to reflect on education itself as a form of sustainability practice (Foster, 2001). Szczygiel and Kowzan (2025) propose the term *wild competences*, which they see as particularly relevant during times of polycrisis, and which encompass knowledge and skills that support ‘the ability to destabilise hierarchies, deconstruct the existing social order, and initiate change through collective, reflexive action’ (Szczygiel & Kowzan, 2025, p. 209); one such competence might involve thinking in terms of rhythms.

The concept of *rhythmic intelligence*, in a sense, responds to the often-overlooked temporal processes that profoundly shape experiences and learning. It involves becoming aware of this time, making sense of it, and reclaiming it to deepen one’s understanding of life and agency – thereby resisting feelings of resignation, alienation, or exclusion (Alhadeff-Jones, 2017).

Rhythmic intelligence was introduced by Alhadeff-Jones (2023) and builds on various theoretical contributions, one of which is Gaston Pineau’s extensive work in adult education and lifelong learning. Among other fundamental questions, Pineau (e.g., 2000, 2022) was interested in how adults can learn from their daily lives and how these daily experiences can become spaces for ongoing learning. To advance this understanding, over the past four decades, he has employed and refined training and research methods grounded in life history and biographical approaches. To deepen the understanding of the multiple temporalities that shape life trajectories, Pineau (2000) developed the concept of *rhythmoformation* – a process through which individuals learn to distribute, combine, and balance the rhythms and temporalities that constitute the historicity of their lives. It thus provides a means through which subjects may become more conscious of, and assign meaning to, the rhythmic dynamics that organise the temporalities of their lives and structure their existence (Alhadeff-Jones, 2017).

Rhythmic intelligence, in turn, can be understood as the outcome of *rhythmoformation* processes: a conscious ability or intelligence to use rhythms to comprehend the organisation of reality, to adapt and solve problems, and to relate – harmoniously – to others and the world (Alhadeff-Jones, 2023). And the outcome, rhythmic intelligence, is the means by which to cultivate a critical perspective – that is,

the ability to discriminate, interpret, examine, argue, judge, and challenge temporal processes (Alhadeff-Jones, 2023).

In the following section, *rhythms*, *rhythmanalytic*, and *rhythmic intelligence* are employed as a lens, a tool, and a mode of interpretation for examining participants' ability to make sense of their biographical and professional trajectories in the context of sustainability transitions – especially during periods of overlapping transitions, when interwoven temporalities are redefined and renegotiated.

Rhythms in biographical narratives: An empirical perspective

Study design

Exploring rhythms through biographical narratives is particularly relevant, as this approach, to use Pineau's terms, serves as a personal *linguistic synchroniser* at the scale of an individual life. It offers individuals the freedom to construct meaning by learning to navigate and reconcile physical, social, and personal temporalities – along with their fragmentations, repetitions, contradictions, joys, and hardships (Pineau, 2022).

Life history and biographical approaches have long been recognised as valuable in adult education (Hallqvist, 2014). They promote an understanding of learning as a dynamic, ongoing process, emphasising how individuals reflect, negotiate and make sense of temporalities while they construct coherent life narratives. In practical terms, these approaches offer an opportunity to gather and organise heterogeneous experiences and moments of existence (Alhadeff-Jones, 2017), fostering learning from one's life and awareness of one's own agentic orientations – which, in turn, shapes and enhances one's agency (Tedder & Biesta, 2009; Thevenot, 2025), and from a temporal perspective a means 'to better understand the *temporal relationalities* of self, identity and subjectivity' (Schmidt-Lauff, 2023, p. 133, italics in original). In this context, mobilising rhythms can be considered a fruitful resource to put words onto and make sense of the temporal contours of one's life, and thus a relevant facet of doing biographical learning. In research terms – particularly when analysing narratives, as demonstrated in the following section – the process of untangling interwoven 'collective times, social patterns of time, and individual temporal perceptions' corresponds to what Schmidt-Lauff (2023) refers to as *biographical temporalisation*.

This paper draws on biographical narratives originally collected for a qualitative reconstructive research project: *Sustainability Transitions in Professional Life Trajectories*. The sample consisted of 15 individuals recruited through snowball sampling (see, e.g., Czarniawska, 2014), i.e., through third-party recommendations and online networks. Most participants were either French- or German-speaking and sought to engage with sustainability-related issues through their work, and undertaking a professional transition as part of that process. Discontinued professions included, for example, banking, real estate, online marketing, technical engineering, human resources, IT, and project management in large corporations. Aspired professions included, for example, vegetable farming, urban gardening activities, sustainability consulting for businesses, permaculture training, and project management in environmentally oriented enterprises.

Each participant was interviewed twice at an interval of one year between March 2020 and May 2022. Most interviews were conducted remotely and lasted between 1.5 and 2.5 hours. Participants were prompted through open-ended questions to provide extensive accounts of their professional trajectories (Helfferich, 2011)¹.

In constructing coherent narratives, participants generated new meanings by creatively linking different aspects of their lives, (re)interpreting their personal trajectories in relation to the world they inhabit, and making sense of how their life paths connect to broader societal changes (Alheit & Dausien, 2002). This process involved articulating how global warming becomes a matter of personal concern and how their work-life trajectories are intertwined with sustainability transition contexts (Thevenot, 2025).

For the purpose of this paper, the empirical focus was specifically on temporalities, which, as noted earlier, offer important insights for the field of adult education. Using a *Documentary Method* of analysis for narrative interviews (Nohl, 2017), the first step involved selecting passages that captured participants' sense of timing of transitions. These passages – and the implicit knowledge they contained, given that articulating temporal experiences is challenging – were interpreted with the goal of making explicit what was previously expressed implicitly². During the interpretation phase, the rhythmanalytical approach provided a valuable lens for the researcher to more precisely describe the complex temporalities implicitly conveyed in the interviews. Through constant comparison across interviews, patterns emerged regarding how participants temporally positioned themselves and their transitions within the broader context of sustainability transitions.

The following empirical examples illustrate ways through which individuals make sense of the timing of their personal transitions in relation to broader sustainability transitions: *transitioning ahead of time* (a); *transitioning right on time* (b); *transitioning onto a different time* (c).

Timings of life course transitions in the context of sustainability transitions

Below, the three approaches to biographically narrating timing transitions are illustrated using contrasting passages from anonymised and pseudonymised study participants, highlighting the diverse ways in which life-course and sustainability transitions – and their temporalities – can be understood. Furthermore, biographical depth is emphasised to explore how individuals navigate moments of impasse and articulate their sense of agency within ongoing processes of social change. This approach helps trace the central idea developed at the end of the chapter: a sensitivity to rhythms that can be interpreted as rhythmic intelligence.

(a) Transitioning ahead of time

Speaking and acting as someone who wants to change practices in response to sustainability issues is not always simple. Heidi (1966, 1st interview Feb. 2021) recalls, a few years back, having been mocked for being the 'greenie' in her group of friends: 'You had this brand here and for a couple of years it was always about making jokes on my behalf, but now that changes' (Heidi). Heidi indicates that her early engagement with sustainability, preceding that of her friends, elicited social disapproval within her circle. Raising and enacting sustainability-related concerns constituted a form of *doing difference* that generated discomfort, disrupted group dynamics, and exposed her to backlash. Meanwhile, the social circle ceased joking about the issue and gradually revised its views regarding the relevance of lifestyle adaptations in line with sustainability transitions. Her ability to reflect on the processual nature of societal trends – particularly sustainability issues – enables her, during the interview, to reinterpret this negative experience as a matter of timing from which she can distance herself. In retrospect, she

understands this experience as having been ahead of her time in wanting to be more attuned to these topics.

She describes a similar experience in her professional career, when still working in the Human Resources department of a big corporation:

Ahm it was 2008, 2009, we had crises everywhere, also economic crises, and environmental topics simply weren't on the top of the list. And I felt pretty lonely with these topics, [...] it simply nobody responded on it. It was not what the business context was looking for at the time, at least I felt like this and so I decided 2013 I think, yeah 2013 I decided to quit my job. (Heidi)

Heidi describes having been ahead of her time about environmental topics at work. Unlike with her group of friends, she could put a halt to her employment – break away from a persistently dissatisfying rhythm – and seek for a working context that was more in line with the environmental movement. While narrating, she connects her personal trajectory and interprets her professional transition by referencing the broader economic context, highlighting how it was out of sync with the way she wanted her professional trajectory to evolve. This prompts her to note that although the business world was not ready for these concerns a decade earlier, the context had shifted by the time of the 2021 interview: 'I'm pretty sure, nowadays I wouldn't leave my job necessarily, because I feel that there is a window of opportunity to really change things in companies. But at that time it was difficult' (Heidi). Instead of expressing regret over her decision to leave, Heidi is able to adopt a distanced perspective by reflecting on considerations of timing. She suggests that she was not acting within the appropriate *window of opportunity*, and therefore her wish 'to change something from within' was unlikely to succeed at that moment. Moreover, ten years earlier, there had been no visibility on whether – or when – the business world would engage with sustainability issues at all.

While her friends and former company may have since adopted – or at least acknowledged – sustainability issues, Heidi, who in 2021 describes herself as a self-employed sustainability consultant, has already moved on to new topics. She has learnt to position herself at the forefront of the sustainability transitions processes, anticipating mainstream developments and contributing to their advancement by introducing ever new related topic - attuned to the rhythms of sustainability transition. In doing so, she frames herself not only as ahead of the curve but as an active agent who helps sustain and propel these transitions forward.

(b) Transitioning right on time

Unlike Heidi, Gabriel (1970, 1st interview Oct. 2020) presents his personal life transitions as a timely and fitting response to the current moment. After 30 years in the banking sector, he transitioned into vegetable farming – a shift that might seem drastic at first glance, but in the research interview, Gabriel takes the time to reflect and provide more context:

It still took more than 5 years before I really settled into vegetable gardening. So, it's not like I just dropped everything on a whim – it wasn't all that sudden. When you want to change your life, it doesn't always happen as quickly as you'd like. But at the same time, I don't know if it was fast or not, but in any case, I feel like that time was necessary too – for things to happen, for me to feel ready. So yeah... maybe it's all a bit confusing, a bit all over the place. (Gabriel)

In this passage, Gabriel touches on how the experience of time is subjective, as he wonders whether his transition *was fast or not*, and difficult to make an account of it: ‘maybe it’s all a bit confusing, a bit all over the place’ (Gabriel). He also emphasises the importance of moving at his own pace, noting that *time was necessary* – suggesting that forcing or rushing the process could have led to setbacks. The realisation that staying at the bank ‘just wasn’t possible anymore’, did not stem from a single event; it gradually intensified, sparked by moments of doubt, like the day he read a newspaper headline titled: ‘These jobs that will soon no longer exist’. He thought to himself: ‘damn, you’re doing a job that won’t exist in the future’. Gabriel may have held a secure position and could have retired before banking sector jobs disappeared entirely. Here, he reflects on being caught in the banking sector’s rhythm, which, in light of the news he read, made him realise it was a dying rhythm. The fact that ‘redundancy plans kept coming one after another in the banks’ signalled to Gabriel that it was also time for him to leave: ‘So, I wanted to be part of the next redundancy plan. If there was one, I was ready to raise my hand’ (Gabriel). Gabriel recognised a changing sector, accelerating signals that he had to act before being caught in a rhythm he no longer wanted, using the unfolding patterns to time his departure.

With his transition to vegetable farming, Gabriel wants to convey the sense that he has caught a good wave – one with a future that aligns well with current mainstream societal developments. He repeatedly describes his transition as being met with approval: ‘It’s rewarding, especially since, as a result, there are people who are interested in my journey, who want to know what I’ve done’.

As a banker, Gabriel suffered from the image related to his profession: ‘it was the worst, I was ashamed’. Whereas now, as documented above, there is a feeling of having the wind on his side. Even his ex-wife later acknowledged his transition, texting: ‘I saw you on TV... I’m happy you realised your dream’. For Gabriel, this moment reinforces his narrative that changing paths was the right decision.

Unlike Heidi, who felt isolated in her interests, Gabriel frames his aspirations as part of a broader, shared movement. When he visited the Chamber of Agriculture in 2015, he was surprised to hear that ‘half of the inquiries’ were from people ‘who wanted to change their lives, who wanted to go into agriculture’. This sense of a collective shift reassured him that his professional transition was timely, shared by many others. Gabriel anticipated his professional transition by interpreting multiple temporal signals – evolving societal habits, political tendencies, sectoral change, and marital dynamics, among others – using their intersecting rhythms to judge, as far as possible, when the moment to transition was opportune.

Lou (1982, 1st interview Jan. 2021) similarly describes her transition into alternative agriculture as having occurred just at the right time. To illustrate this, she reflects on historical developments and compares her experience and timing with those who came before her:

The majority of us who settle [in alternative agriculture] and create things have this kind of profile. [...] we are part of a movement that today, for me, has won – the organic movement. It’s becoming something desirable and normal, uh, and that’s obvious now, but it wasn’t obvious 10 years ago, and even less so 20 years ago, and hats off to those who decided for everyone else 40 years ago. (Lou)

This account reflects Lou’s awareness of the organic movement’s evolution. Drawing on its perceived pace, she frames her transition as timely – neither too early nor too late – allowing her to situate herself within a ‘favourable’ movement she views as society’s ‘winning’ side. With ‘hats off’, Lou suggests there was a time when producing organic

vegetables involved more obstacles – a time which, as Heidi also describes, could be met with mockery and a sense of isolation – implying that the movement started off slowly. She suggests that entering alternative agriculture 40 years later is no longer exceptional or brave, as the socio-historical timing is more favourable for such a transition.

(c) Transitioning onto a different time

A third perspective frames sustainability transitions' rhythm as constrained by mainstream efforts, which cannot accelerate change to match one's vision of radical adaptation. Klaus (1975, 1st interview Oct. 2020) like Heidi earlier also recalls having been mocked at for his ideas about how he imagines his future life: 'At some point in my life, I believed, 'Ok, I'm a completely crazy weirdo', because whenever I talked about it, I was laughed at'. Unlike Heidi, Klaus' experiences of not being understood led him to see his understanding of sustainability as disconnected from 'normal lives', with a 'structured everyday life, stable job, an employer, and regular working hours'. For the past 13 years, he has deliberately cut himself off from those everyday rhythms.

He quits his law clerk job and trains for a master's in environmental studies, but subsequent job offers fail to meet his expectations. At the peak of this disharmony, he learns about eco-villages and soon moves to one:

So I realised this isn't a utopia – it's reality. It exists. A large part of society may not be at that point, but maybe I can find the people with whom I can truly live that way. And since then, it's been clear to me that I can't go back to the old setting. (Klaus)

Whereas Heidi seeks to mobilise others by accelerating the temporal rhythm of sustainability transitions from a perceived position of being ahead, Klaus suggests that his life trajectory is shaped by altogether different rhythms. He seems unbothered by the rhythms of 'normal' people's lives, as if the patterns that shape his life rarely interweave with those of others. Instead of following a fixed path – predetermined rhythms – toward his 'utopia,' Klaus describes staying flexible and adaptable, which allows him to make decisions and respond to future uncertainties: 'ever since, um, I've been walking that path – sometimes with bigger steps, sometimes with smaller steps, and sometimes even taking steps backward' (Klaus). Klaus suggests that he is able to live out time and life on his own terms – to a point that it feels right: 'Then I realise that I can truly follow my own path' – a tempo that does not have to conform to external expectations and remains independent of the routes others are taking or expect him to take.

For Klaus, the transition served as a way to interrupt a trajectory that no longer aligned with his values. Beyond becoming aware of the rhythms that structured his former life, he describes resisting and destabilising some of them – inducing a form of arrhythmia through his professional transition. In doing so, he articulates a particular story of emancipation (Alhadeff-Jones, 2017) from a society that, in his view, fails to align with the temporal demands of sustainability transitions as he understands them.

Finally, his ability to recognise and engage with rhythms – to upend, modify, or initiate new ones by doing transitions that align with his own understanding of sustainability transitions – highlights the political potential that rhythms can carry (Sharma, 2014; Dakka & Wade, 2019; Wanka, 2020).

Rhythmic intelligence in practice: Discussion and outlook

This paper adopted an empirical approach to examine how adults interpret and negotiate temporal conditions in everyday life and how these shape processes of meaning-making.

While attention to the complexity of temporalities predates the context of sustainability transitions, the endless global warming issues which will pervasively continue to make us reconsider how we function as a society but also in many cases, why we go to work and what to aspire to as individuals (Hards, 2011; Thevenot & Hof, 2024) – calls for greater attention within adult education. In particular, adult education could further address how individuals reflect on, discuss, and navigate their own transitions, including developing tools that support temporal awareness and reflexivity – in line with Schreiber-Barsch and Mauch (2019), who argue that it involves both adapting to and reflecting upon changing practices in the context of social transformation.

Against the backdrop of sustainability transitions as a wicked temporal context – unpredictable, contested, and unclear – questions of temporality become analytically significant. When temporal conditions are framed as ‘natural’, they can obscure how expectations about pace, urgency, or delay are produced and negotiated. As Facer (2023) argues, ‘temporal imagination is required’, since ‘time and our relationship to it is such a powerful force in structuring the perception of possibility’ (Facer, 2023, p. 62). Engaging more explicitly with temporality may help prevent sustainability transitions from narrowing attention to only certain futures or fostering feelings of alienation and hopelessness toward unfolding change. This paper suggests that attending to rhythms offers one such approach, supporting more expansive ways of imagining life-course possibilities within this context.

The paper through the lens of reflexive transition research and a rhythmanalytical approach, analysed the biographical narratives of adults who connect their professional transitions to broader sustainability challenges. The analysis showed how individuals creatively made sense of their personal transitions, related them to broader contexts, and learned to grasp and position their own agency within sustainability transitions (Thevenot, 2025, 2026). Rendering implicit knowledge explicit revealed that participants already mobilise temporal reflexivity in their narratives – what could be interpreted as a trace of rhythmic intelligence. They engage – explicitly or implicitly – in rhythm sensitive articulations to navigate temporal complexity, further facilitating biographical learning and supporting their response to complex phenomena such as rapid social change in the context of global warming.

While many might ask: why initiate (sustainability) transitions at all – especially if a ‘truly’ sustainable lifestyle is never to be entirely attained? – the participants in this study describe transitioning to (life)long processes of personal negotiation with sustainability transitions and how they are deeply shaped by their unique circumstances (Stimm & Dinkelaker, 2024). Participants construct a sense of being on the ‘right path’³ in their narratives. From a rhythmanalytic approach, the notion of path – rather than a fixed state – shows how they attune to the perceived rhythms of sustainability transitions, moving with the flow – sometimes behind, in sync, or just ahead – while navigating their life-course transitions. Learning to navigate sustainability transitions can thus be seen as an individual educational process with its own temporality, where each person is invited to find the ‘right’ rhythm that aligns with their own life path (Pineau, 2000; Alhadeff-Jones, 2023).

The three temporal meanings reconstructed from participants’ narratives – *too early*, *right on time*, and *onto a different time* – are neither fixed nor exhaustive; they illustrate the variety of experiences and interpretations of personal timing in relation to sustainability transitions. The unpublished extended analysis, beyond this article, revealed other means of narrating timing transitions like *feeling time-pressured* or *too late*. Timing perceptions varies not only from person to person, but also for the same individual across different contexts, shaped by the specific situations and relations at play.

The empirical analysis also documented how one's sense of timing unfolds within a constrained environment shaped by the pace of others (Awad, 2021). When transition narratives emphasise urgency and rapid personal change, they produce a sense of acceleration and intensity. This highlights how narratives make a difference by shaping temporal perceptions and, in turn, can influence the pace of collective change (Thevenot, 2026).

Accordingly, a sensitivity to rhythmical processes serves as a multifaceted resource for individuals engaging with social change. It suggests the development of tools not only for critically reflecting on and regulating the rhythms of one's own life but also for fostering emancipation from perceived temporal constraints – recognising that many of these rhythms are socially constructed and therefore open to further shaping. For those committed to social change, rhythmanalysis is more than a method of self-reflection; it can serve as a way to actively co-shape social and cultural life and, as argued in this article, sustainability transitions. In this regard, developing rhythmic intelligence becomes increasingly urgent – not only to expand individual agency, but also to recognise the risks of exclusion from processes of social change as available options begin to narrow.

Rhythmic intelligence, by itself, does not resolve the structural social inequalities that shape individuals' agency in pursuing sustainability transitions. This underscores a critical limitation: awareness of the rhythms that structure and constrain one's life is not sufficient to enable transitions. It doesn't answer to – who is actually able to transition? Who has the capacity to calibrate their rhythms in a way that aligns with personal or ecological values – and to choose the right timing to do so. The sample cannot be considered representative, as it overlooks the lived realities of individuals whose life circumstances are significantly shaped by social and economic inequalities. The presence of rhythmic intelligence in participants' accounts should thus not be interpreted as causal evidence that such reflexivity made their transitions possible.

If we acknowledge that transitioning toward sustainability-conscious lifestyles is a desirable collective future, it becomes essential for individuals to grasp the depth of the complex, *wicked temporalities* involved. Navigating this complexity should not be reduced to a matter of individual responsibility but rather recognised as a key concern for adult education – one that involves cultivating the capacity to make sense of and respond to shifting temporal dynamics (Pineau 2000; Alhadeff-Jones, 2017). Building on the work of a broader field of scholars – some of whom were cited in this article – this paper has argued that engaging with rhythms, practicing rhythmanalysis, and cultivating what Alhadeff-Jones (2023) refers to as rhythmic intelligence offers a valuable perspective, analytical tool, and practical orientation for further research and educational practice in the fields of lifelong learning and sustainability education.

Notes

¹ An extended methodological description is documented in the PhD thesis: *Sustainability Transitions in Professional Life Trajectories* (the manuscript is in the process of publication).

² The analysis was conducted in the original language of each interview: Heidi in English; Gabriel and Lou in French; and Klaus in German.

³ The word 'right' underscores how normative expectations structure their sense of timing and progress, pointing to the already heavily normed imaginaries of sustainability.

Declaration of conflicting interests

The author declares no potential conflicts of interest with respect to the research, authorship or publication of this article.

Funding

This work was supported by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation): GRK2105 - Projektnummer 261443382.

References

- Alhadeff-Jones, M. (2017). *Time and the rhythms of emancipatory education: Rethinking the temporal complexity of self and society*. Routledge.
- Alhadeff-Jones, M. (2018). Pour une approche rythmologique de la formation [Toward a Rhythmanalytical Approach to Education]. *Education Permanente*, 217, 21-31. https://www.academia.edu/download/65633182/Alhadeff_Jones_2018_EP_approche_rythmologique.pdf
- Alhadeff-Jones, M. (2020). Explorer l'inconscient rythmique dans les pratiques d'histoire de vie en formation [Exploring the Rhythmic Unconscious in Life Narrative Practices in Training Contexts]. *Education Permanente*, 222, 43-51. <https://doi.org/10.3917/edpe.222.0043>
- Alhadeff-Jones, M. (2023). Developing rhythmic intelligence: Towards a critical understanding of educational temporalities. *Sisyphus – Journal of Education*, 11(1), 10-34. <https://doi.org/10.25749/sis.26894>
- Alheit, P., & Dausien, B. (2002). The 'double face' of lifelong learning: Two analytical perspectives on a 'silent revolution'. *Studies in the Education of Adults*, 34(1), 3-22. <https://doi.org/10.1080/02660830.2002.11661458>
- Awad, S. H. (2021). Experiencing change: Rhythms of everyday life between continuities and disruptions. *Qualitative Studies*, 6(2), 85-107. <https://doi.org/10.7146/qs.v6i2.127314>
- Block, T., Van Poeck, K., Östman, L. (2019). Tackling wicked problems in teaching and learning. Sustainability issues as knowledge, ethical and political challenges. In K. Van Poeck, L. Östman, & J. Öhman (Eds.), *Sustainable Development Teaching: Ethical and Political Challenges* (pp. 28-39). Routledge. <https://doi.org/10.4324/9781351124348-3>
- Blue, S. (2019). Institutional rhythms: Combining practice theory and rhythmanalysis to conceptualise processes of institutionalisation. *Time & society*, 28(3), 922-950. <https://doi.org/10.1177/0961463X17702165>
- Czarniawska, B. (2014). *Social science research: From field to desk*. Sage. <https://doi.org/10.4135/9781529799613>
- Dakka, F., & Wade, A. (2019). Writing time: A rhythmic analysis of contemporary academic writing. *Higher Education Research & Development*, 38(1), 185-197. <https://doi.org/10.1080/07294360.2018.1540555>
- Facer, K. (2023). Possibility and the temporal imagination. *Possibility Studies & Society*, 1(1-2), 60-66. <https://doi.org/10.1177/27538699231171797>
- Facer, K. (2024). Educating the temporal imagination: Teaching time for justice in a warming world. *Educational Philosophy and Theory*, 56(13), 1289-1302. <https://doi.org/10.1080/00131857.2024.2378086>
- Foster, J. (2001). Education as sustainability. *Environmental education research*, 7(2), 153-165. <https://doi.org/10.1080/13504620120043162>
- Greene, M., & Rau, H. (2018). Moving across the life course: A biographic approach to researching dynamics of everyday mobility practices. *Journal of Consumer Culture*, 18(1), 60-82. <https://doi.org/10.1177/1469540516634417>
- Hallqvist, A. (2014). Biographical learning: Two decades of research and discussion. *Educational Review*, 66(4), 497-513. <https://doi.org/10.1080/00131911.2013.816265>
- Hards (now Royston), S. (2011). *Careers of action on climate change: The evolution of practices throughout the life-course* (Doctoral dissertation, University of York). https://etheses.whiterose.ac.uk/id/oai_id/oai:etheses.whiterose.ac.uk:1951

- Helffferich, C. (2011). *Die Qualität qualitativer Daten: Manual für die Durchführung qualitativer Interviews* [The Quality of Qualitative Data: A Manual for Conducting Qualitative Interviews] (4th ed.). VS Verlag für Sozialwissenschaften. <https://doi.org/10.1007/978-3-531-92076-4>
- Hickman, C. (2020). We need to (find a way to) talk about... Eco-anxiety. *Journal of Social Work Practice*, 34(4), 411-424. <https://doi.org/10.1080/02650533.2020.1844166>
- Hof, C., & Bernhard, M. (2025). Navigating change. Theoretical perspectives to relate research on transitions and learning. *European Journal for Research on the Education and Learning of Adults*, 16(1), 7-20. <https://doi.org/10.3384/rela.2000-7426.4791>
- Jickling, B. (1992). Why I don't want my children to be educated for sustainable development. *The Journal of Environmental Education*, 23(4), 5-8. <https://doi.org/10.1080/00958964.1992.9942801>
- Köhler, J., Geels, F. W., Kern, F., Markard, J., Onsongo, E., Wieczorek, A., Alkemade, F., Avelino, F., Bergek, A., Boons, F., Fünfschilling, L., Hess, D., Holtz, G., Hyysalo, S., Jenkins, K., Kivimaa, P., Martiskainen, M., McMeekin, A., Mühlemeier, M. S., . . . Wells, P. (2019). An agenda for sustainability transitions research: State of the art and future directions. *Environmental Innovation and Societal Transitions*, 31, 1-32. <https://doi.org/10.1016/j.eist.2019.01.004>
- Lange, E. (2024). Composting modernity: Pedagogical practices for emplacing ourselves within the living world. *European Journal for Research on the Education and Learning of Adults*, 15(3), 239-259. <https://doi.org/10.3384/rela.2000-7426.5214>
- Lange, E. A., O'Neil, J. K. P., & Ross, K. E. (2021). Educating during the great transformation: Relationality and transformative sustainability education. *Andragoška spoznanja*, 27(1), 23-46. <https://doi.org/10.4312/as/9692>
- Lefebvre, H. (2004). *Rhythmanalysis: Space, time and everyday life* (S. Elden & G. Moore, Trans.). Continuum. (Original work published 1992). <https://doi.org/10.5040/9781472547385>
- Lefebvre, H., & Régulier, C. (1985). Le projet rythmanalytique [The Rhythmanalytical Project]. *Communications*, 41, 191-199. <https://doi.org/10.3406/comm.1985.1616>
- Murphy, R. (2012). Sustainability: A wicked problem. *Sociologica*, 2, 01015. <https://doi.org/10.2383/38274>
- Nohl, A. M. (2017). *Interview und dokumentarische Methode: Anleitungen für die Forschungspraxis* [Interview and the Documentary Method: Guidelines for Research Practice] (5th ed.). Springer VS. <https://doi.org/10.1007/978-3-658-16080-7>
- Pineau, G. (2000). *Temporalités en formation: Vers de nouveaux synchroniseurs* [Temporalities in Training: Toward New Synchronizing Mechanisms]. Anthropos.
- Pineau, G. (2022). Ancrages philosophiques de l'apprentissage d'une rythmoformation du cours de la vie dite adulte [Philosophical Foundations of Learning in a Rhythmo-Formation of the So-Called Adult Life Course]. *Phronesis*, 11(3), 161-180. <https://doi.org/10.7202/1088345ar>
- Rauschmayer, F., Bauler, T., & Schöpke, N. (2015). Towards a thick understanding of sustainability transitions – Linking transition management, capabilities and social practices. *Ecological Economics*, 109, 211-221. <https://doi.org/10.1016/j.ecolecon.2014.11.018>
- Rosa, H. (2010). *Alienation and acceleration: Towards a critical theory of late-modern temporality* (Vol. 3). Aarhus University Press.
- Schmidt-Lauff, S. (2023). Biographical Temporalisation(s) in Adult Education. *Sisyphus – Journal of Education*, 11(1), 128-146. <https://doi.org/10.25749/sis.27736>
- Schreiber-Barsch, S., & Mauch, W. (2019). Adult learning and education as a response to global challenges: Fostering agents of social transformation and sustainability. *International Review of Education*, 65, 515-536. <https://doi.org/10.1007/s11159-019-09781-6>
- Settersten, R. A., Jr. (2015). Relationships in time and the life course: The significance of linked lives. *Research in Human Development*, 12(3-4), 217-223. <https://doi.org/10.1080/15427609.2015.1071944>
- Sharma, S. (2014). *In the meantime: Temporality and cultural politics*. Duke University Press. <https://doi.org/10.1215/9780822378334>
- Singer-Brodowski, M. (2023). The potential of transformative learning for sustainability transitions: Moving beyond formal learning environments. *Environment, Development and Sustainability*, 27, 20621-20639. <https://doi.org/10.1007/s10668-022-02444-x>
- Stauber, B. (2020). Doing difference by doing transitions: differenz(ierungs)theoretische Grundüberlegungen für die reflexive Übergangsforschung [Doing Difference by Doing Transitions: Differentiation-Theoretical Foundations for Reflexive Transition Research]. In A. Walther, B. Stauber, M. Rieger-Ladich, & A. Wanka (Eds.), *Reflexive Übergangsforschung. Theoretische Grundlagen und methodologische Herausforderungen* (pp. 231-252). Verlag Barbara Budrich.

- Stimm, M., & Dinkelaker, J. (2024). The climate crisis as an impetus for learning. Approaching environmental education from learners' perspectives. *European Journal for Research on the Education and Learning of Adults*, 15(3), 281-297. <https://doi.org/10.3384/rela.2000-7426.5123>
- Szczygiel, P., & Kowzan, P. (2025). Wild competences: Challenging the neoliberal frame in adult education through collective actions. *European Journal for Research on the Education and Learning of Adults*, 16(2), 197-212. <https://doi.org/10.3384/rela.2000-7426.5671>
- Tedder, M., & Biesta, G. (2009). Biography, transition and learning in the lifecourse: The role of narrative. In J. Field, J. Gallacher, & R. Ingram (Eds.), *Researching transitions in lifelong learning* (pp. 86–100). Routledge. <https://doi.org/10.4324/9780203875179>
- Thevenot, E. (2025). Biographical Learning in the Context of Sustainability Transitions: Conceptual Reflections and Methodological Insights. *Studies in Adult Education and Learning*, 31(2), 117-134. <https://doi.org/10.4312/as/19722>
- Thevenot, E. (2026). Learning from Rhythms: Navigating Personal Life Transitions at the Intersection of Work and Sustainability. In M. Bernhard, S. Billett, C. Hof, K. Kraus, V. J. Marsick, & P. H. Sawchuk (Eds.), *Adult education in changing times: Learning at the nexus of life, work, and transitions* (pp. 223-238). Routledge. <https://doi.org/10.4324/9781003584384-18>
- Thevenot, E., & Hof, C. (2024). Den Widersprüchen einen Sinn geben: Biografisches Lernen berufstätiger Erwachsener im Kontext der Anforderung von Nachhaltigkeit [Making Sense of Contradictions: Biographical Learning of Working Adults in the Context of Sustainability Demands]. *Zeitschrift für Weiterbildungsforschung*, 47(3), 533-549. <https://doi.org/10.1007/s40955-024-00295-9>
- UNESCO. (2020). *Education for sustainable development: A roadmap*. United Nations Educational, Scientific and Cultural Organization (UNESCO).
- Vandenabeele, J., Schreiber-Barsch, S., & Finnegan, F. (2024). Editorial. Sustainability: Place, Space and Pedagogy in Adult Learning and Education. *European Journal for Research on the Education and Learning of Adults*, 15(3), 227-238. <https://doi.org/10.3384/rela.2000-7426.5549>
- Van Poeck, K., & Vandenabeele, J. (2012). Learning from sustainable development: Education in the light of public issues. *Environmental Education Research*, 18(4), 541-552. <https://doi.org/10.1080/13504622.2011.633162>
- Walther, A., Stauber, B., & Settersten, R. A., Jr. (2022). “Doing transitions”: A new research perspective. In B. Stauber, A. Walther, & Settersten, R. A., Jr. (Eds.), *Doing Transitions in the Life Course. Processes and Practices* (pp. 3-18). Springer. https://doi.org/10.1007/978-3-031-13512-5_1
- Wanka, A. (2020). No time to waste – how the social practices of temporal organisation change in the transition from work to retirement. *Time & Society*, 29(2), 494-517. <https://doi.org/10.1177/0961463X19890985>
- Wildemeersch, D., Håkansson, M., & Læssøe, J. (2023). No time to waste? Dealing with ‘urgency’ in environmental and sustainability education. *Environmental Education Research*, 29(10), 1417-1429. <https://doi.org/10.1080/13504622.2023.2213412>
- Zerubavel, E., (1982). The standardization of time: A sociohistorical perspective. *American Journal of Sociology*, 88(1), 1-23. <https://www.jstor.org/stable/2779401>