DEVELOPING RHYTHMIC INTELLIGENCE: TOWARDS A CRITICAL UNDERSTANDING OF EDUCATIONAL TEMPORALITIES

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ABSTRACT

This article discusses what goes into the adoption of a rhythmological conception of education. It theorizes the notion of rhythmic intelligence as a mean to further improve our understanding of educational temporalities and the ways they are experienced. Accordingly, this contribution aims at: (1) laying the foundations of a rhythmological perspective in educational research by formulating the main assumptions that define it; (2) illustrating the relevance of a rhythmological approach and exploring how it may be conceived, considering the language mobilised, the categorisations made, and the forms of reasoning through which the relations between heterogeneous temporalities are made intelligible; (3) introducing and defining the notion of rhythmic intelligence, to qualify the capacity required to deal with the rhythmicity of educational processes; and (4) exploring six pathways (learning to discriminate, interpret, examine, argue, judge and challenge rhythmic phenomena) to envision the development of rhythmic intelligence.

KEY WORDS

education; temporality; rhythm; rhythmanalysis; rhythmic intelligence.

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DESENVOLVENDO A INTELIGÊNCIA RÍTMICA: PARA UMA COMPREENSÃO CRÍTICA DAS TEMPORALIDADES EDUCATIVAS

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RESUMO

Este artigo discute uma concepção ritmológica da educação. Teoriza a noção de inteligência rítmica como um meio para melhorar a nossa compreensão das temporalidades educativas e das formas como elas são vivenciadas. Por conseguinte, esta contribuição tem como objetivo: (1) lançar as bases de uma perspetiva ritmológica na investigação educacional, formulando os principais pressupostos que a definem; (2) ilustrar a relevância de uma abordagem ritmológica e explorar a forma como ela pode ser concebida, considerando a linguagem mobilizada, as categorizações feitas e as formas de raciocínio através das quais as relações entre temporalidades heterogéneas são tornadas inteligíveis; (3) introduzir e definir a noção de inteligência rítmica, para qualificar a capacidade necessária para lidar com a ritmicidade dos processos educativos; e (4) explorar seis vias (aprender a discriminar, interpretar, examinar, argumentar, julgar e desafiar fenómenos rítmicos) para prever o desenvolvimento da inteligência rítmica.

PALAVRAS-CHAVE

educação; temporalidade; ritmo; ritmanálise; inteligência rítmica.

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DESARROLLO DE LA INTELIGENCIA RÍTMICA: HACIA UNA COMPRENSIÓN CRÍTICA DE LAS TEMPORALIDADES EDUCATIVAS

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RESUMEN

Este artículo analiza lo que supone la adopción de una concepción rítmica de la educación. Teoriza la noción de inteligencia rítmica como medio para mejorar nuestra comprensión de las temporalidades educativas y las formas en que se experimentan. En consecuencia, esta contribución pretende: (1) sentar las bases de una perspectiva rítmica en la investigación educativa, formulando los principales supuestos que la definen; (2) ilustrar la relevancia de un enfoque rítmico y explorar cómo puede concebirse, considerando el lenguaje movilizado, las categorizaciones realizadas y las formas de razonamiento a través de las cuales se hacen inteligibles las relaciones entre temporalidades heterogéneas; (3) introducir y definir la noción de inteligencia rítmica, para calificar la capacidad necesaria para tratar la ritmicidad de los procesos educativos; y (4) explorar seis vías (aprender a discriminar, interpretar, examinar, argumentar, juzgar y desafiar los fenómenos rítmicos) para prever el desarrollo de la inteligencia rítmica.

PALABRAS CLAVE

educación; temporalidad; ritmo; ritmanalisis; inteligencia rítmica.

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Developing Rhythmic Intelligence: Towards a Critical Understanding of Educational Temporalities

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FROM A TEMPORAL TO A RHYTHMOLOGICAL UNDERSTANDING OF EDUCATION

Although mainstream research in education generally conceives educational time as objective, uniform and homogeneous (e.g., the course's hour or the daylong training), people relate to the changes that occur in their lives and the temporalities of their learning and development in a much more complex way (e.g., Alhadeff-Jones, 2017; Dominicé, 2000; Pineau, 2000). Because the multiples places (e.g., home, school, work, art spaces, urban and natural environments) and the different paces (e.g., biological rhythms, family habits, school routines, working schedules, institutional calendars, seasonal changes) that determine educational temporalities rarely remain static or constant over time, their evolution questions how, every day, throughout their existence, people learn to adjust, coordinate, and give meaning to feelings, thoughts, actions and environments that keep fluctuating. Such a movement is constitutive of who they are, as much as it defines how they evolve and what they become, personally and professionally. It makes it necessary, especially for adults, to learn how to combine and balance the complementary, contradictory, and antagonistic temporalities that compose their daily activities and their own history (Alhadeff-Jones, 2019a; Pineau, 2000).

For researchers in education, the complex interweaving of heterogeneous temporalities (physical, biological, psychological, social, cultural, etc.) that compose the phenomena they study, and their fluctuating influences on learning and educational processes, raise questions regarding the way they may be described, analysed, and regulated. How to identify the temporal configurations that may reinforce meaningful learning experiences? What are the resources required to be able to regulate the influence that heterogeneous temporal constraints have on learning and transformational processes? How to negotiate conflicts that may occur whenever the experience of time is lived as a source of tensions? The reflection proposed in this paper assumes that to be addressed, such questions require one to develop a capacity to explicitly conceive educational processes, as phenomena that display fluidity. It favours an approach centred on the rhythmic dimensions of education. Accordingly, it builds on a long tradition of research focusing on the rhythms that constitute individual or collective development, from Plato's musical education to Pineau's "rhythmoformation", via Dewey, Steiner, Jaques-Dalcroze, Bode, Bachelard, Whitehead, Lefebvre, or Hess (Alhadeff-Jones, 2017; Lesourd, 2006; Mathisen, 2015). As they may claim this legacy and benefit from the nascent literature in education, explicitly referring to rhythm theory (e.g., Michon, 2005, 2021; Sauvanet, 2000) and rhythmanalysis (e.g., Bachelard, 1950; Lefebvre, 2004; Wunenburger & Lamy, 2018) (see Alhadeff-Jones, 2017, 2019a, for

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literature reviews in educational research), current explorations on the subject deserve further elaborations and clarifications.

The aim of this article is therefore not only to legitimize a rhythmological conception of education, but also to conceive a framework to envision what it may involve and how it may be developed. Researchers and practitioners in education may indeed benefit from a theoretical outline to establish how a capacity to sense, organize and reflect on the rhythms that compose any living phenomena could be conceived and trained, in research and through various educational settings as well. Seeking to inscribe a reflection on temporal complexity in an epistemological and theoretical framework that is both rigorous and critical (Alhadeff-Jones, 2017, 2018, 2019a, 2021), the aim of this article is fourfold. Its first intent is to lay the foundations of a rhythmological perspective in educational research by formulating the main assumptions that define and ground it. The second aim is to illustrate the relevance of a rhythmological approach and explore how it may be conceived, considering three features that characterise research on the temporalities of education (the language mobilised, the categorisations made, and the forms of reasoning through which the relations between heterogeneous temporalities are made intelligible). The third aim of this paper is to introduce and define the notion of rhythmic intelligence, to qualify the capacity required to deal with the rhythmicity of educational processes. Finally, the last part of this paper explores six pathways to envision the development of rhythmic intelligence, as prerequisites to further improve our understanding of educational temporalities and the ways they can be experienced.

EDUCATION, PROCESSES AND RHYTHMS

TOWARDS A PROCESSUAL APPROACH TO EDUCATION

Since Antiquity, there has been a long tradition in philosophy emphasising the volatile and fluid aspects of phenomena, rather than their stable or substantial dimensions. In the Western world, thinkers such as Heraclitus, Leibniz, Bergson, Peirce, James, and Whitehead have given rise to what some researchers refer to as process or processual philosophy, an approach that can be found today in various academic disciplines (Helin, Hernes, Hjorth, & Holt, 2016; Nicholson & Dupré, 2018; Rescher, 2000). From this perspective, understanding the world is primarily based on the study of the active and changing aspects that form our reality, rather than what would constitute its substance. Ontologically, the presupposition is that every being (an object, knowledge, a person, an organism, etc.) is not only the product of processes, but more fundamentally it is the manifestation of them. A process thus refers to a phenomenon involving a series of connected developments, linked to one another in a functional or causal manner, and taking place in a coordinated and programmed way (Rescher, 2000, p. 22). The interest of this concept is to allow the linking of phenomena constitutive of reality that our thinking tends to separate. Thus, a process refers to a complex set of occurrences with a temporal coherence that manifests itself in an organised sequence of events, which in turn involve entangled processes.

Education can be defined as a body of practices and processes through which *l'humain* emerges within human beings. As such, education represents a movement of construction within which every human being is engaged (Charlot, 1995, p. 21). "[It]

can be analysed as an *intentional action* exercised on others to bring them to become what they must be, to lead them (according to the etymology) where they must go" (Charlot, 1995, p. 24, stressed by the author, my translation). Considering education as a bundle of processes may seem obvious, yet we often observe how much we tend to reduce it to the doctrines and institutions that define its aims (e.g., family, school), what it mobilises or produces (arrangements, knowledge, schemes, skills, identities, etc.), to the abstractions that symbolise them (titles, programmes, legislative framework), to the objects that materialise them (physical layout, infrastructure, etc.), while considering them, along with the subjects they affect (the learner, the work team, etc.), as stable, even static "persons", "elements" or "entities", endowed with a relative autonomy and an intrinsic "nature" (Alhadeff-Jones, 2018). From a processual perspective, the doctrines, institutions, products, abstractions, objects, and subjects that make up education are to be conceived primarily in terms of the (ordered) processes and (disordered) dynamics from which they emerge and in which they participate, rather than in terms of the forms of equilibrium and stability that pre-exist them, or that they express at a given moment in their evolution. From this perspective, educational processes, as well as the environments in which they evolve, are to be conceived as being in on-going motion: from the circadian cycles and seasons that punctuate the course programmes, to the biological and psychological rhythms that animate the learners, through the alternation of learning phases, paced by schedules and calendars, social interactions, or the succession of discourses, norms and social conventions through which any educational arrangement, policy and doctrine, develops and evolves over the course of history.

The same position may be applied to learning. Rather than reducing it to discrete phenomena (e.g., epiphany), objectives (e.g., learning goals), products (e.g., knowledge acquired), or effects (e.g., transformation of meaning perspectives), a processual approach stresses the relations and the fluidity that connect different forms of change, unfolding through time and displaying both continuity and discontinuity (Alhadeff-Jones, 2019b). Like propellers, learning processes reveal fluid and on-going dynamics. As it may be illustrated through experiences revealed by the COVID-19 pandemic (Alhadeff-Jones, 2021), their effects are to be conceived through the distinct, variable, and intertwined flows (e.g., embodied movements, discourses, social interactions) that animate them and emerge from them. Thus, "instrumental learning" (Mezirow, 1991) inscribed in the everyday life (e.g., changing habits to prevent contamination) can be conceived as being entangled with heterogeneous "communicational learning" processes (Mezirow, 1991) (e.g., reinterpreting the meanings given to family and professional activities), the repetition and (re)organisation of which may contribute to "transformative learning" (Mezirow, 1991) processes (e.g., reorganizing priorities in one's existence). As they fluctuate through time, such learning dynamics may participate to broader educational processes, such as professionalisation (e.g., Wittorski & Hatano-Chalvidan, forthcoming) or emancipation (Alhadeff-Jones, 2017), relying on features (e.g., self-confidence, professional status, expertise, autonomy, freedom) whose stability varies through successive moments or periods of one's life. Such an approach therefore emphasises what connects the different aspects of education and learning by focusing on the patterns and configurations through which they are organised over time, rather than on the states, products, or entities *per se* that pre-exist or emerge from them.

TOWARDS A RHYTHMOLOGICAL APPROACH TO EDUCATION

The concept of rhythm constitutes a privileged entry point for considering the study of temporalities and formative processes, insofar as the experience of rhythm allows one to describe and account intuitively for the way in which time and change are experienced, both from an existential point of view and in the more mundane aspects of the everyday life (Alhadeff-Jones, 2017, 2018, 2019b). The concept of rhythm is all the more relevant as it is a nomadic concept that has been adopted by different disciplines throughout the history of ideas (Crespi & Manghani, 2020; Michon, 2005, 2021; Sauvanet, 1999, 2000). Understood from its etymology and the use made of it in Greek philosophy from Archilochus to Aristoxenus, the concept of rhythm immediately refers to a critical tension between order and movement, substance and flow. As Sauvanet (1999, p. 6) points out, the Greek *rhuthmos* evokes both the form that a thing takes in time and the form as it is transformed by time. Referring to a "changing configuration" or a "fluid form", the concept of rhythm thus makes it possible to evoke an evolving order without reducing it neither to a substance nor to a formless flow.

How then can we conceive of an educational process based on the "forms in motion" that constitute it? For Sauvanet (2000), the study of rhythmic phenomena implies highlighting the "patterns" that structure them, the "periodicities" through which these patterns are repeated, and the particular "movement" that characterises them, with its variations and discontinuities. For Michon (2005), from an anthropological perspective, the study of rhythmic phenomena implies the study of the "ways of flowing" taken by language, bodies, and social interactions, as well as their contributions to the processes of individuation and to the power relations they reflect. By combining these approaches (Alhadeff-Jones, 2017, 2018), we obtain different entry points to study some of the rhythms that characterise educational processes. We can thus try to describe the patterns that make up the discourses, gestures, and social interactions around which an educational process is organised. We can explore their periodicity, i.e. the modalities of repetition through which these patterns are reproduced, by looking at their frequency, their period or the tempo that characterise them. We can also understand what makes their development unique, by looking at the variations observed or experienced, such as interruptions, events, crises, or accidents, through which educational rhythms are transformed and renewed.

CONTRIBUTIONS OF A RHYTHMOLOGICAL APPROACH TO THE UNDERSTANDING OF EDUCATIONAL PROCESSES

At least three main aspects can be distinguished that characterise the way in which research on the temporalities of education is conducted (Alhadeff-Jones, 2018): (1) the semantic and conceptual distinctions made to qualify experiences of time; (2) the categorisations through which the temporal heterogeneity of educational processes is ordered; and (3) the forms of reasoning through which the relations between heterogeneous temporalities are made intelligible. The following sections explore and illustrate the contributions of a rhythmological approach to the understanding of educational processes from these three perspectives.

DESCRIBING THE QUALITIES OF CHANGE BY TRANSCENDING BINARY WAYS OF THINKING

In everyday life, learners are described as “fast” or “slow”, “attentive” or “distracted”. Mention is made of training settings that are “accelerating” (Wallenhorst & Robin, 2017; Wlodkowski, 2003) or of the need to “slow down” pedagogical working methods (Domènech Francesch, 2009). Similarly, depending on the prevailing conceptions of change, educational processes may be seen as part of the “continuity” of routines or habits, or conversely as the result of “discontinuities” that have been experienced or provoked (Alhadeff-Jones, 2019b; Roquet & Biasin, forthcoming). While they allow us to appreciate intuitively certain properties of the changes at play in education, the current use of the notions of speed/slowness, acceleration/deceleration, attention/distraction, or continuity/discontinuity proves to be problematic when it comes to assigning a precise value to them. Firstly, because these notions favour a binary way of thinking that makes it difficult to describe the phenomena under study in a nuanced way. Secondly, because they are fundamentally relative, and the terms used to describe the changes experienced or observed do not express anything about the referential within which they are considered. Thus, the use made of these expressions implies that the relationships to which they refer should be made explicit, as well as the value systems to which they refer.

In view of these difficulties, recourse to the concept of rhythm makes it possible to refine the description of the temporalities taken into consideration. If we refer, for example, to the idea of acceleration, it seems necessary, to describe and evaluate its properties, to qualify it and to try to clarify what it corresponds to as a process. From a rhythmological point of view, acceleration effects in the context of education can be achieved through at least three types of change. The first is to change the patterns of activity engaged in, what Michon (2005) calls “ways of flowing”. We can thus accelerate a learning process by changing the language through which we converse, the bodily experience through which we feel things, move, and express ourselves, or the modalities of socialisation through which we interact. Hence the interest in language immersion training to learn a new language, outdoor training schemes to strengthen team building, or retreats to increase the concentration of exchanges within a group. A second type of change relates to the periodicity that characterises the repetition of a learning pattern. Acceleration effects can be achieved by changing the frequency of an activity, i.e. the number of times it is reiterated. The period between each of these occurrences can also be modified (once an hour, once a day, once a week, etc.). The tempo of the activity can also be varied, i.e. the frequency of its occurrence over a given period can be modified (for example, by increasing the duration of a training sequence every other week). Finally, an acceleration effect can be obtained by introducing a break in the repetition of certain learning patterns, in order to give a new dynamic to the movement in which they occur. Thus, the organisation of a trip abroad can make it possible to infuse new momentum into a training process by intensifying language immersion, travel and social interaction over a given period. The fact remains that not all forms of acceleration are necessarily formative. It may even hinder the learning process if the rhythmic characteristics promoted are too constraining. The interest of a rhythmological approach is that it allows us to analyse the terms from which to conceive this type of tension, insofar as it requires, on the one hand, discriminating between the rhythms involved (discursive, embodied, social, etc.) and, on the other hand, interpreting the modalities of their evolution (e.g., pattern, periodicity, movement). In so doing, it provides markers for evaluating the unfolding of a formative process over time.

ORGANISING TEMPORAL HETEROGENEITY BY TRANSCENDING STATIC CATEGORISATIONS

It is common in education to rely on schemes of categorisation to order the temporal heterogeneity that characterises learning, transformative, or developmental processes. Thus, referring to biological age or generational belonging (child, parent, grandparent, generation Y, etc.) is a common way of grouping learners. Similarly, considering their development (psychological, social, moral, etc.) in terms of "stages" is a way of organising the diversity of behaviours and abilities, observed or experienced, by placing them in a specific chronology. While such categorisations are inevitable, they are also problematic. For example, chronological age or generational belonging, despite their administrative usefulness, are of little relevance in assessing the conditions or effects of education in any detail. Similarly, equating a mode of reasoning or an ability to act with a developmental stage runs the risk of reification, leading to considering certain chronological differences in the way one develops as natural and self-evident. Methodologically, there is also a tendency to compartmentalise the temporal perspectives taken into consideration when studying lived change. Activity analysis methods thus focus on everyday gestures, whereas biographical approaches consider the temporalities of educational dynamics by placing them in the globality of existence. This type of fragmentation thus makes it more difficult to conceive of education as systematically relating everyday learning to lifelong learning (Alheit, 1994; Lesourd, 2009).

In a perspective that is both antagonistic and complementary, a rhythmological approach suggests going beyond this type of categorisation and placing the phenomena to which they refer within a processual logic, characterised by fluctuations between different states or activities. Thus, feeling mature or immature, capable or incapable, refers to states that are not strictly associated with a specific age, level, or stage of development, but that also fluctuate according to situations experienced. From this perspective, the challenge is not so much to establish a static temporal framework to which the analysis of the formative experience can be subjected (chronological and developmental model), as to interpret it on the basis of the logics of variation (transition, progression, regression, transgression, etc.) that reveal the tensions experienced between different poles of one's experience, different "situations" (Maubant, Biasin, & Roquet, 2018) or different "moments" of one's existence (Hess, 2009).

The interest of the concept of rhythm is twofold. On the one hand, it allows one to conceive in a dialogical manner (Morin, 1990) the tensions that animate any process organised around polarities or "patterns of duality" (Bachelard, 1950) such as: expert/novice, autonomy/dependence, concrete/abstract, theory/practice, memorisation/forgetting, error/success, individual/group work, action/reflection, etc. It thus makes it possible to envision the fluidity of the relationships through which one experiences and interprets learning over time. On the other hand, it allows one to rethink the very product and purpose of an educational process. If the process is fluid, the epistemic challenge is not so much to reach a certain stage or ideal state (e.g., to be a reflective practitioner or to adopt an eco-conscious lifestyle), but to be able to decrease, maintain, or increase the intensity of the movement through which this type of attitude or behaviour is experienced. The emphasis is thus placed on the effort required to be able to pace the alternance between complementary, contradictory, and antagonistic states in a coherent manner. In so doing, the use of the concept of rhythm makes it possible to move from a disjunctive logic based on distinctions, inscribed in an established or inherited chronology (ages, stages, levels, etc.) to a conjunctive logic, focused on the changing relationships

between heterogeneous states or activities, which are constitutive of a temporality that is always under construction, insofar as its perception is based on the organisation of the fluctuations experienced. From a normative point of view, once we recognise the rhythmicity of an educational process as the emergence of a particular temporality through which it unfolds, we also leave open the possibility for each person to determine the "right" rhythm that corresponds to him or her (Pineau, 2000).

METAPHORS, ANALOGIES, STATISTICS, AND NARRATIVES: FOUR WAYS TO UNDERSTAND THE RHYTHMICITY OF CHANGE

Considered from the point of view of thought processes, a rhythmological approach implies different forms of reasoning. At least four of these can be retained here, corresponding to as many ways of making intelligible the relations that exist, or are likely to exist, between experienced or observed changes, which are constitutive of specific temporalities (Alhadeff-Jones, 2018, pp. 28-29).

Metaphorical reasoning

A first form of reasoning is metaphorical. It puts in correspondence heterogeneous phenomena of change based on images that allow us to think about their organization. It is used, for example, when differentiating "levels" of temporality (e.g., Adam, 1994; Lesourd, 2006; Roquet, 2007). Thus, the distinction between the "micro" level of temporalities of action, the "meso" level of biographical temporalities, or the "macro" level of institutional and historical temporalities is a metaphor that distinguishes different forms of change according to a "scale" that is applied to them in order to distinguish their scope, magnitude, or relations of inclusion. The same applies to the idea of "growth", which evokes temporal phenomena (development, evolution, etc.) by linking them to physical changes deployed in an observable space. The reference to "levels" of temporality or to the idea of "growth" thus refers to spatial metaphors that make it possible to describe phenomena that remain otherwise entangled, invisible, or imperceptible to our senses. When we consider the changes experienced or observed, from a rhythmological point of view, there is a whole body of sensible or pictorial references that we are likely to refer to. The use of rhythmic theories, developed in particular in the arts, thus offers words and representations (swing, ritournelle, rhyme, motif, melody, harmony, syncopation, etc.) with an evocative power to represent the plasticity, the dynamics of organization and (re)shaping of the phenomena under consideration. If the appeal of metaphorical reasoning lies in the richness of the vocabulary and the imaginary to which it gives access, as well as in their evocative power, it obviously has its limits. The most significant probably lies in the fact that the use of metaphors does not make it possible to explain in a factual manner the nature of the processes of change experienced or observed. Thus, establishing correspondences between images and temporal phenomena makes it possible to describe, compare and even categorize them, but without making it possible to account for or explain the nature of the phenomena that constitute them. The main obstacle of metaphorical reasoning is that it does not allow logical or rational correspondences to be established in a factual manner. From a rhythmological perspective, the use of metaphorical reasoning, using a

pictorial vocabulary to describe phenomena, is not only inevitable, but also desirable, insofar as their symbolic and evocative power constitutes a privileged means of representing and formulating some of the characteristics specific to the changes experienced or observed. From a critical point of view, however, this evocative resource must be accompanied by the ability to reflect on the symbolic significance of the metaphors employed and on the limits of the representations they convene, in a given context.

Analogical reasoning

A second modality of reasoning is analogical. Heterogeneous temporalities and forms of change are related based on similarities or differences that emerge from their comparison. The study of analogies between rhythmic phenomena can be found, in a more or less rational and critical way, at the heart of many theories in the human sciences (Sauvanet, 2000). This is for instance the case in education, where learning and developmental phenomena have long been considered based on the correspondence between heterogeneous rhythms. For Plato, for instance, musical education provided from an early age is inseparable from the moral development of the individual. According to this conception, exposure to sensible rhythms (e.g., music, poetry) of a certain quality would thus have a direct effect on personality development (Adamson, 1903). Closer to us, Rudolf Steiner's pedagogy also aims at matching the rhythms experienced in different spheres of existence (aesthetic, biological, discursive, cosmological, etc.) with a view that favours a holistic development of the person (Alhadeff-Jones, 2017). In the social sciences and humanities, the notion of “synchronization”, borrowed from biology, is also used in adult education (Pineau, 2000) to account for the relationships of influence, entrainment or domination through which certain rhythms (personal, collective, organizational) impose themselves within educational processes or group dynamics, based on the model of the relationships between circadian or seasonal cycles and biological rhythms (sleep, reproduction, etc.). Reasoning based on analogy contributes to the understanding of experienced or observed changes, insofar as it favours relationships based on phenomena that are often quite intuitive. Thus, the use of the “wave” analogy to report on the evolution of the COVID-19 pandemic makes it possible to communicate an accessible message about the evolution of a biological phenomenon by establishing some correspondence with a universal physical phenomenon. Like metaphorical reasoning, however, analogical reasoning has its limitations. The logics that underlie the experience of physical (e.g., cosmological rhythms), biological (e.g., physiological, or epidemiological functioning), psychological (e.g., learning or personality development), sociological (e.g., group dynamics or relationships of influence), and aesthetic (e.g., dance, music, poetry) phenomena are heterogeneous in nature. This means that despite formal correspondences, they are based on processes of very different natures, between which it is not always easy to establish empirical and rational relationships. From the perspective of analogical reasoning, the development of a rhythmological point of view thus implies the capacity to establish correspondences (similarities, differences, causal relations) based on processes of comparison involving the observation of heterogeneous phenomena, present in all spheres of existence. Similarly, it presupposes a critical capacity to question the nature and legitimacy of these correspondences, in order to avoid the trap of “panrhythmic” thinking (Sauvanet, 2000) which would tend to reduce the complexity of the phenomena observed to the matching of the rhythmic dimensions that they manifest in a superficial manner.

Statistical reasoning

A third modality of reasoning is statistical. It uses quantification and computation to establish correspondences between changes that show some regularity. The evolution of the COVID-19 pandemic has thus contributed over the months to disseminate a rhythmological understanding of the contamination processes, based on statistical analyses highlighting the patterns that characterize the spread of the virus and its variants. In the same way, the increasingly widespread use of sensors measuring and recording body activity (blood pressure, heart rate, movement, etc.) is contributing to the dissemination of an understanding of our health based on the quantification of physical activity, its representation in a mathematical manner (graphs, curves, etc.) and on the correspondences generated by algorithms that can be established between different forms of activity (biological, physical, psychological, etc.). With the advent of research in chronobiology and chronopsychology (Testu, 2008), the study of learning rhythms is also being considered based on the probabilistic correlation between changes in the physical environment (e.g., time of day, time of year) and physiological and psychological changes (e.g., attention span, mood, behaviour), which determine the quality of the educational experience. More broadly, a statistical approach to behavioural rhythms questions the way in which we model the temporal sequences through which certain activities are repeated and succeed one another (Magnusson, 2000). The advantage of a statistical approach to rhythmic phenomena is that it allows relationships to be established on an empirical basis, between phenomena of change that can be modelled. Similarly, it can make it possible – to a certain extent – to anticipate certain phenomena or at least to establish reasonable correspondences between them. Like metaphorical and analogical modalities of reasoning, the statistical approach has its own limitations. First of all, by relating the understanding of rhythmic phenomena to what is quantifiable, it reduces the possibilities of interpretation by limiting them to the numbers, formulas, and algorithms it uses to apprehend reality. In so doing, it reduces the rhythms studied to a periodic conception of change that emphasizes an understanding of rhythmic phenomena that privileges the study of frequencies, sequences, periods, and tempi that can be measured. Secondly, by reducing the rhythmicity of observed phenomena to their measurable dimension, it favours the use of standards (clocks, calendars), norms (units of measurement), or benchmarks (age, frequencies of a behaviour) to capture the observed changes, neglecting what constitutes the idiosyncrasy of particular ways of flowing (Michon, 2005), i.e. what is constitutive of the "movement" of a rhythm (Sauvanet, 2000). In this sense, a statistical approach to the rhythms experienced or observed does not allow us to appreciate the qualitative and particular aspects of the changes experienced. From the point of view of the development of a rhythmological approach, a statistical mode of reasoning complements the metaphorical and analogical modalities considered above. By relying on a computational capacity that can be externalized (formulas and algorithms), it potentially makes it possible to make perceptible phenomena (sequences, correlations) that would otherwise be difficult, if not impossible, to grasp through the senses. The use of this mode of reasoning implies, however, here again, the development of a critical capacity, not only to establish the validity of the measurements and computations produced, but also and above all to point out the limits inherent in the quantification of phenomena of change and their reduction to a metric involving the definition of standards, norms, or benchmarks.

Narrative reasoning

A fourth modality of reasoning is based on the logic of explicitation and narration. It may involve both the enunciation of moments of rupture (epiphany, crisis, break-up, accident, discontinuity, etc.) and the description of phenomena that manifest a certain constancy over time, such as habits, scripts, routines, or rituals reproduced in daily life. It also may lead to question the way in which the emergence or repetition of these phenomena is part of the life course and the logics that account for the reproduction of ways of thinking, feeling, and behaving at different periods of life (Alhadeff-Jones, 2017). In adult education, the explicitation and narration of lived experience make it possible to envision the temporal fabric of the learning, (trans)formative, and developmental processes, by describing their unfolding and the meanings associated with them, in the life of a person or a group (Dominicé, 2000; Lesourd, 2009). The work of explicitation and narration of lived experience thus appears to be complementary to metaphorical, analogical, and statistical modes of reasoning. On the one hand, the work of explicitation refers to a phenomenological approach that questions the ways in which language is used to describe and convey the sensible reality of changes experienced or observed. On the other hand, the narration of experience presupposes a "plot" (Ricoeur, 1983) to elaborate the fabric through which the temporal complexity of one's existence can be organized, and meanings given to it. From the point of view of the development of a rhythmological perspective, increasing and refining the capacity to explicit and narrate the lived experience is of definite interest. The elaboration of narrative processes indeed questions the relationships between language, interpretation, and the ways in which we imagine the succession of changes experienced or observed, as well as the temporalities and rhythms they produce. Moreover, the elaboration of narrative processes participates in a particularly efficient capacity to synthesize and organize one's experience of time (e.g., explanation of the relationships of synchrony and diachrony, chronology) which presents benefits from the perspective of identity development (e.g., awareness of the singularity of the subject) and a proven evocative and communicative power. Finally, the development of capacities to explicit and narrate processes of change can contribute to highlighting tacit or unconscious dimensions of experience, the formulation of which can contribute to processes that are themselves (trans)formative (Alhadeff-Jones, 2017, 2020).

FROM A RHYTHMOLOGICAL APPROACH TO THE DEVELOPMENT OF RHYTHMIC INTELLIGENCE

Adopting a rhythmological lens to interpret lived or observed phenomena based on the rhythms that compose them is intuitive as much as it requires specific learning to unfold. It is intuitive because it relies on an innate capacity to identify and create patterns to make sense of our inner experiences and give meaning to the world around us. It involves learning and development because the adoption of a "rhythmanalytical" point of view (Alhadeff-Jones, 2017; Bachelard, 1950; Lefebvre, 2004; Lesourd, 2006; Lyon, 2018; Pineau, 2000; Sauvanet, 2000; Wunenburger & Lamy, 2018) relies on an ongoing effort for the self to elaborate and purposefully organizes lived instants and observed changes into rhythms that may provide it with a sense of time. A challenge thus lies in the development of such a capacity to combine these modes of reasoning in order to critically reflect on the richness

of the temporal experiences and rhythms through which educational processes evolve and are transformed. Such a challenge led me to introduce a few years ago in my teaching the notion of "rhythmic intelligence" as a way to qualify the capacity that has to be developed in order to deal with the rhythmicity of educational processes. Because the development of such a capacity cannot be taken for granted, it requires first to be defined. Thus, the following sections explore the meaning given to the term "intelligence" to lay the ground for a definition of the notion of rhythmic intelligence.

WHAT DOES AN INTELLIGENCE OF RHYTHMIC PHENOMENA IMPLY?

The term "intelligence" is borrowed from the Latin *intellegentia*, which evokes the action or faculty of knowing (*connaître*), understanding (*comprendre*), comprehension (*entendement*). The term derives from *intellegere* (-*inter* "between" and -*legere* "to pick, to gather") which refers to the capacity of the mind to choose, to appreciate and to understand (Rey, 2000, p. 1855). It is in this sense that the term is used today to evoke the capacity to organize an understanding of reality and the ability to adapt the conduct of an action. The word also refers to a second meaning that evokes a more or less secret complicit relationship, characterized by a good understanding with another person or a thing (Rey, 2000, p. 1855). For instance, one refers to the fact of being in intelligence with a close person or with nature. Based on these meanings, the following sections explore the use of the term intelligence to consider the modalities of understanding and regulation of rhythmic phenomena, experienced or observed.

A CAPACITY TO COMPREHEND THE ORGANIZATION OF REALITY IN THOUGHTS OR ACTS

The meaning attributed to the word "intelligence" in philosophy, and later in psychology, suggests one to envision the phenomena it relates to as being associated with a mental function organizing reality in thoughts. The term thus evokes the "whole of the psychological and psycho-physiological functions contributing to knowledge, to the comprehension of the nature of things and the meaning of facts..." found in human beings. It also suggests an aptitude for knowing, the development of intellectual capacities or the act of understanding with ease or having a thorough knowledge of something (Institut National de la Langue Française, 2021, para. I.A., my translation). According to these meanings, the notion of rhythmic intelligence evokes the ability to know, understand and have a representation of the rhythmic dimensions inherent to any organized, experienced, or observed phenomenon. Nevertheless, recognizing the mental dimension of a form of intelligence does not presuppose that it should be reduced to individual psychological processes. As it appears through the notion of collective intelligence, the capacity to understand rhythmic phenomena can also emerge from shared processes of elaboration, requiring the involvement of several people in the understanding of a phenomenon that would be difficult to apprehend individually. Furthermore, rhythmic intelligence should not be reduced to the treatment of strictly discursive (language) or logical (deduction)

representations. It should also be envisioned, in congruence with research conducted on multiple intelligences (Gardner, 1983), through different concrete or symbolic modalities of apprehension of the real, such as those expressed through music, in space, through movement, on an affective or relational level.

AN ABILITY TO ADAPT TO THE REQUIREMENTS OF A SITUATED ACTION

As the definition of the term suggests it, intelligence refers not only to an ability to think, but also to the "mental function of organizing reality into acts". It thus suggests "[the] aptitude to apprehend and organize the details of the situation, to link procedures to be used with the goal to be reached, to choose the means or to discover the original solutions that allow adaptation to the demands of action." (Institut National de la Langue Française, 2021, para. I.B, my translation). In the common sense, the term thus evokes "[the] ability to take advantage of circumstances, ingenuity, and efficiency in the conduct of one's activity." In this sense, rhythmic intelligence, like other forms of intelligence, refers to a capacity for adaptation and problem-solving that involves not only "*science et conscience*" (Morin & Le Moigne, 1999), knowledge and reflexivity, but also an ability to feel and act in order to influence the rhythms that make up the physical, living, and human environments in which it is exercised, in a deliberate, strategic and critical manner. The notion of rhythmic intelligence can thus be conceived in relation to the research conducted on "complex thought" elaborated by Morin (1990) and on the "intelligence of complexity" evoked by Morin and Le Moigne (1999). From this point of view, it can be envisioned as a capacity to establish connections and relations (*reliance*) that is exercised in a deliberate and pragmatic way in a given environment, based on the exploration and linking of the dynamics and processes through which phenomena identified as complex are organized, while at the same time maintaining a critical awareness of the limits of human understanding.

AN ABILITY TO RELATE, UNDERSTAND EACH OTHER AND BE IN HARMONY WITH OTHERS AND THE SURROUNDING WORLD

Finally, the term intelligence refers to the mutual understanding that is established between people who know and relate well with each other. The word thus evokes "[the] action of getting along, of understanding each other [or the] result of this action" (Institut National de la Langue Française, 2021, para. II, my translation). It refers to forms of tacit agreement or relationship, with people or things, that may suggest some form of connivance, or harmony. From this perspective, rhythmic intelligence can be conceived as the means or product of an organized, and therefore rhythmical, process of mutual accommodation and understanding that would contribute to the development or nurturing of special relationships with others. Similarly, it suggests an ability to enter into resonance (Rosa, 2018), through processes of synchronization, with phenomena, natural or social, that are likely to increase the quality and understanding of the lived experience.

AN ATTEMPT TO DEFINE RHYTHMIC INTELLIGENCE

Based on these elements, we can consider rhythmic intelligence as a function based on the individual and collective ability to know, understand, and represent the rhythmic dimensions inherent in any organized, observed, or experienced phenomenon. It implies concrete or symbolic modalities of apprehension of the real, which integrate and go beyond discursive and logical aspects. Rhythmic intelligence also supposes a capacity of adaptation and problem-solving which implies an ability to feel and act, in order to influence the rhythms that make up the physical, living, and human environments in which it is exercised, in a deliberate, strategic, and critical manner. More fundamentally, it refers to a capacity to establish and explore the relations and the connections that characterize the dynamics and processes through which rhythmic phenomena, identified as complex, are organized, while maintaining a critical awareness of the limits of human understanding. Finally, rhythmic intelligence can be envisioned through the function it fulfils in the development of privileged relationships within a given environment. It thus presupposes an ability to enter into resonance with others and with natural or social phenomena, likely to increase the quality and understanding of the lived experience.

ENVISIONING THE DEVELOPMENT OF RHYTHMIC INTELLIGENCE

Defining the notion of rhythmic intelligence opens the possibility to start questioning what goes into the development of a rhythmanalytical capacity, as a prerequisite to further develop people's ability to analyse the temporalities of their lives and their institutions. There are many ways to conceive the development of rhythmic intelligence. Privileging a critical perspective, the considerations developed below build up on previous research (Alhadeff-Jones, 2007, 2013) stressing the importance of six core features associated with the exercise of a critical capacity. Accordingly, the following sections formulate key issues that may be considered to envision the development of rhythmic intelligence and a rhythmanalytical capacity, considering respectively processes of discrimination, interpretation, examination, argumentation, judgment, and challenge. The aim of the following sections is neither to make prescriptions nor to reduce the complexity of the matter to a finite set of problems. The intent is rather to formulate and organise intuitions fed by the reflections conducted throughout previous research (Alhadeff-Jones, 2017, 2018, 2019a, 2019b, 2020, 2021).

LEARNING TO DISCRIMINATE RHYTHMIC PHENOMENA

The term "discrimination" refers to the conscious or unconscious activity of differentiating and distinguishing elements from each other to process them according to specific treatments (Alhadeff-Jones, 2007, 2013). Some rhythms are spontaneously recognized (e.g., circadian and seasonal) due to the prevalence of the changes that constitute them or their specific pace. Others remain subtler either because their periodicities are too long or too short to be discriminated (e.g., a young child cannot conceive what a year represents, and under a tenth of second the brain cannot perceive

discontinuities) (Sauvanet, 2000, p. 180) or because their patterns involve changes that occur without being noticed (e.g., being too casual) (Alhadeff-Jones, 2020). Developing rhythmic intelligence requires therefore a capacity to reflect on the way we perceive and recognize – purposefully or not – a configuration of changes that displays specific patterns, periodicities, and variations. It questions how one learns to identify and distinguish the rhythms that compose specific physical and biological phenomena (e.g., the non-linearity of climate change), as well as sociocultural rhythms, such as those expressed through discursive (e.g., ways of speaking), embodied (e.g., ways of moving), and social activities (e.g., habits, rituals). From an educational perspective, what appears as critical is to promote some form of "exochrony" (from the Greek: *exo-*, meaning "outside, outer" and *chronos*, time) as a capacity to detach oneself from a familiar experience of time. Considering the fact that "[w]e are only conscious of most of our rhythms when we begin to suffer from some irregularity" (Lefebvre, 2004, p. 77), paying attention to irregularities (e.g., disruptions, gaps, accidents) or "arrhythmia" (Lefebvre, 2004), may constitute privileged ways to trigger the detachment required to identify and distinguish rhythmic patterns, periodicities and movements remaining otherwise taken for granted or unchallenged. Thus, reflecting on the "rhythmic dissonances" (e.g., incongruence, disconnection, lack of harmony between rhythms) experienced when travelling, studying, or teaching abroad (Alhadeff-Jones, 2019a) may provide strategies to better discriminate educational rhythms, embedded culturally and institutionally. Similarly, as shown by Surak's (2017) phenomenological research on novice and experienced teas ceremony practitioners in Japan, entering new experiential domains (e.g., tea ceremony) may bring people to experience "ruptures" in the flow of everyday life that allow them to register religious, gender, class, or national differences, expressed through embodied rhythms. From a research perspective, Lyon's (2018) review of literature around the use of rhythmanalysis in social sciences, suggests additional means to discriminate specific rhythms, including: reflecting on embodied experiences as they relate to one's spatial environment (e.g., walk, dance); questioning professionals' operations as they relate to specific movements, and the use of material (e.g., computer) and immaterial (e.g., software) elements of their activities; or using audio-visual methods (e.g., time-lapse photography) to reveal how various rhythms and routines interrelate and interfere in specific working environments (e.g., fish market) (Lyon, 2018).

LEARNING TO INTERPRET RHYTHMIC PHENOMENA

Interpretation refers to at least two operations constitutive of the process of meaning making. The first one is a matter of translation, which implies transforming what is discriminated to assimilate it according to signs that are relatively invariant (Alhadeff-Jones, 2007, 2013). Once discriminated, a rhythm typically requires symbols to be described (e.g., musical rhythms can be codified, numbers or letters can be associated with specific changes that display specific patterns). At a first level, the exercise of a rhythmic intelligence requires one to explore the choice of symbols used to assign meanings to the phenomena observed or lived. It should question for instance whether numbers are sufficient to grasp the complexity of what is observed, or if a richer vocabulary is required. The second interpretive operation is to attribute meaning to what is discriminated, according to the logics of a specific language. As discussed previously, the translation between signs and meanings may rely for instance on metaphors, analogies, statistics, or narratives. Languages used may also be embodied or aesthetic.

What is at stake is to identify what kind of vocabulary and grammar (e.g., discursive, formal, embodied) may serve the purpose of giving meaning to a rhythmic phenomenon and according to which logics does it proceed. For instance, Hopwood's (2014) empirical research illustrates how verbal descriptions supported by an *ad hoc* system of notations can be used to enhance people's perception and understanding of rhythmic behaviours. It demonstrates how nurses or social workers can support families dealing with challenges of parenting young children, by training them to perceive and develop new responses to specific embodied rhythms that characterize their infants' behaviours (e.g., sleep problems), using the recording of charts describing through different symbols the frequency, intensity, and duration of subtle behavioural changes. Interpreting the rhythmicity of educational processes that unfold through adulthood may also benefit from the use of imaginary representations. For instance, in my own practice of educational biography seminars (Dominicé, 2000) with adult educators, we reflect on the temporalities of real and significant life changes, using metaphors and analogies. Rather than focusing on the recollection of concrete experiences of time (e.g., dates, durations), participants reflect on the rhythms that characterize imaginary phenomena chosen to depict them. Thus, for instance, a life crisis depicted as a "hurricane" may be reinterpreted through the language provided by physics (e.g., criticality, tipping point) to inform such a meteorological phenomenon. Doing so, participants may learn to interpret transformative experiences as "non-linear" phenomena, characterized by the slow accumulation of incremental changes, and the liminality of sudden shifts.

LEARNING TO EXAMINE RHYTHMS' VALUES AND THEIR NORMATIVE ATTRIBUTES

Examination supposes the capacity to evaluate a phenomenon to better appreciate, know or understand it. Beyond discrimination and interpretation, examination involves the adoption of a system of values, norms, or standards to compare the phenomenon considered with a scale, a referential or a system to determine its value (Alhadeff-Jones, 2007, 2013). The examination of rhythmic phenomena is often assimilated to the measurement of their periodic features (e.g., frequency, period, tempo). However, the evaluation of complex rhythmic phenomena should not be reduced to a metric because they involve qualities and variations that cannot be assimilated to a strict and regular order. Thus, the succession of situations that punctuate one's life, or the qualities inherent to the intensity of people's daily activities cannot be reduced to the number of minutes, hours, days, or years through which they occur. A critical matter is therefore to determine according to which values rhythmic patterns, periodicities or fluctuations and variations are appreciated. The adoption of a specific system of value remains a normative choice embedded within social and historical dynamics. Accordingly, the exercise of rhythmic intelligence involves a critical capacity to define, organize and hierarchize the values and qualities attributed to the rhythms of one's existence, considering the norms and standards used to evaluate the changes that are observed or lived. This is particularly important when competing or conflicting values shape the rhythms of human activities, including in education (e.g., efficiency versus equity, personal versus institutional) (Alhadeff-Jones, 2017). This aspect appears for instance in the research conducted by Saillot and Piot (forthcoming) studying the role of space and time allocated to dialogue and conversation in the development of professional identity,

among educators and health workers. The authors stress the importance for professionals to develop the capacity to appreciate the value and the rhythm of free flowing, sometimes time-consuming, "non-productive" discursive spaces (e.g., conversations with patients or between professionals), as meaning-making practices that are at the same time complementary and antagonistic to the protocoled, measured, and "timed" activities (e.g., prescribed medical gestures) valorised by the institution.

LEARNING TO ARGUE ABOUT THE EVIDENCE AND THE LOGICS OF RHYTHMIC INFLUENCES

As an activity, argumentation refers to at least three operations that contribute respectively to establish evidence, deliberate, and communicate around the legitimacy of the way a phenomenon is interpreted and examined. Argumentation is based on the way one pays attention to evidence that is produced (e.g., observations, recording, transcript, measurement) and the logics that frame the discourses through which such evidence is elaborated (Alhadeff-Jones, 2007, 2013). Whenever heterogeneous rhythms are lived or observed, one of the key issues remains to determine the nature of their mutual constraints, and the ways they eventually influence, synchronize, or resonate with each other. In formal education, scientific debates around school schedules and instructional time have been going on since the end of the 19th century, with successive attempts to demonstrate the pedagogical value inherent to different models of temporal organization. In the same way, the emergence since the 1970s of "accelerated learning" raised many unresolved controversies, among researchers and practitioners in adult and higher education, regarding the intensification and compression of learning activities (Alhadeff-Jones, 2017; Wlodkowski, 2003). Rhythmic intelligence requires the development of a capacity to argue and determine how does one establish for oneself and for others the nature of rhythmic influences and what rationale may express or explain the causes and effects of temporal constraints. In addition, it may require the capacity to take into consideration heterogeneous experiences of time, as they express subjective differences. Based on their empirical research in different professional settings, Faulx and Danse (2018) suggest for instance to consider six parameters influencing how participants, engaged in continuing education, experience subjectively the temporality of their training (e.g., too fast or too slow) and argue about it. Considering the relations between temporal dynamics and educational design, they suggest that educators can respond to participants' concerns, by regulating six factors: the scope of the content (small vs large), the levels of, respectively, difficulty (easy vs hard), complexity (low vs high), familiarity (familiar vs unusual), confrontation (comforting vs risky), and transferability (proximal vs distant), associated with the training. Being able to establish, deliberate, and communicate how rhythms are experienced in relation to the content of a training appears therefore as a specific strategy to design and differentiate the components of an educational setting.

LEARNING TO JUDGE AND BALANCE RHYTHMS

Formulating a judgment is closely intertwined with activities such as discriminating, interpreting, examining, and arguing; it involves however an additional critical function. Through the formulation of an opinion, a judgment establishes some form of authority (acknowledged or not) involving the adoption of a set of principles that define what is right or wrong, fair or unfair, balanced or unbalanced. Establishing a judgment questions the underlying principles that may be mobilized when one tries to justify the formulation of a critique or solve a situation experienced as an ordeal. More fundamentally, an act of judgment involves a process of equilibration aimed at resolving a state of unbalance (Alhadeff-Jones, 2007, 2013). For instance, when considering autobiographical narratives that describe learning dynamics through which people transform and develop themselves, establishing what constitutes a "good" rhythm or "legitimate" temporalities in one's own development remains up for debate. Being able to judge and balance the rhythms that compose one's life questions the equilibria found between continuity and discontinuity, rigidity, and fluidity, or between the different paces of change that may organize the ways people and collectives live and evolve. Because there are no developmental, emancipatory, or alienating rhythms *per se* (Pineau, 2000), it seems critical to interrogate how one learns to judge, for oneself or for others, what constitutes "right", "fair", or "balanced" temporal experiences. Rhythmic intelligence requires therefore one to learn how to (re)establish balance between the complementary, contradictory, and antagonistic rhythms of one's life (e.g., in family, at work, in education) whether considered symbolically as an expression of justice and equity, and physiologically, psychologically, and socially, as an expression of individual and collective well-being or efficiency. This point is found in Grave's (2018) biographical study of the professional development of teachers becoming private school leaders. His research shows how professional development is regulated through the repetition of specific moments, characterized by their own rhythmic patterns, through which leaders learn to regulate and sustain balance between different conflicting temporalities, linked to their positions within the institution, contingent factors, and their own career path. Another example appears through Zaid and Mierzejewski's (2018) study about the professional development of district educational advisers, involved in the reform of school teachers' training. It demonstrates the role played by the capacity to balance and position oneself regarding the conflicting temporalities involved in the regulation of dual education. Similar concerns are found in recent research on processes of professionalization (Wittorski & Hatano-Chalvidan, forthcoming). They demonstrate how the development of professional identity relates to the capacity to judge and regulate "oscillations" and temporal tensions that define professional commitment and position, as they evolve rhythmically through time.

LEARNING TO CHALLENGE THE EXPERIENCE OF TIME

Discriminating, interpreting, examining, arguing, and judging the experience of time involve activities that contribute to alter, change, and modify, but also challenge and put into question, the way rhythmic phenomena are experienced and conceived. The exercise of rhythmic intelligence carries a challenging dimension that may lead to significant transformations or even trigger crises (Alhadeff-Jones, 2007, 2013).

Challenging the ways rhythms are experienced involves disturbance and tensions and it may eventually lead to ruptures within a system, characterized by a specific temporal order and the relative stability of its rhythms (e.g., schedule, routines, habits). For instance, the COVID-19 pandemic demonstrated how taking into consideration sanitary imperatives – based on the knowledge of how a virus reproduces itself – may bring an entire society to adjust the rhythms of its activities (e.g., school, business, transportation, production, trade) to regulate and control its transmission. The experience of a crisis challenges existing rhythms, as much as challenging established rhythms may lead to critical transformations (e.g., appropriation of technologies, changes of habits, reconfiguration of one's life). From that perspective, rhythmic intelligence may be required to determine what are the effects associated with the changes of rhythmic equilibria, whether abrupt or incremental, and how they can be regulated. However, beyond the intensity of the tensions triggered by the alteration of a rhythm, ruptures and transgressions may only carry meaningful effects when they occur at the right and opportune time. The challenging function of rhythmic intelligence appears therefore through the capacity to identify the *kairos* (Galvani, 2019) through which individual agency or collective decisions may effectively influence targeted changes. In Galvani's biographical research and practice, such a capacity involves studying the phenomenology of "intense moments", lived throughout one's existence, whose experience leads adults to reconfigure the rhythms of their life. It questions how one develops the skills to discriminate, interpret, examine, argue, and judge what may be the right or opportune timing to alter and transform both individual and collective experiences. From that perspective, rhythmic intelligence relates to the capacity to identify the rhythmic features that shape critical experiences – usually identified as events, accidents, tipping points, or bifurcations – considering them as emergences revealing hidden processes that are rhythmically structured, regulated, and reorganized over time (Alhadeff-Jones, 2021).

LEARNING TO GO WITH THE FLOW

The reflection developed in this paper illustrates the interest of adopting a rhythmological lens to conceive the temporal complexity of educational processes. Such an approach implies focusing on their dynamic and intertwined aspects, rather than analysing their constituting elements separately, which may be considered as stable and subject to changes external to their nature. Such a posture questions the configurations through which educational processes are organised over time. It is based among others on the identification of patterns, periodicities, fluctuations, or variations that characterise the evolution of the ways in which discourses, bodies, or social interactions flow.

Regarding the semantic and conceptual distinctions based on which temporal experiences are qualified, this approach presupposes the development of frames of reference that make it possible to distinguish, interpret and evaluate the rhythms experienced or observed. In terms of organising the heterogeneity of temporalities involved in educational processes, a rhythmological approach suggests going beyond the categorisation processes through which ages, levels or stages of development are ordered. The study of rhythmic phenomena favours a logic centred on the modalities of fluctuation of the states experienced, revealing, for example, effects of alternation between specific states or activities. Educational processes are thus to be conceived through the tensions that characterise their evolution. From this point of view, the aims

of education refer more to the capacity to organise and regulate the changes experienced over time, rather than seeking to achieve or maintain a state or level that would remain stable or constant. Moreover, the adoption of a rhythmological lens suggests the use of metaphors, analogies, but also dedicated means of observation, measurement, explicitation and narration, to account for the heterogeneity of lived or observed rhythms, their reciprocal influences, and their effects on the dynamics of education.

Adopting such a position may benefit from an innate capacity to perceive some rhythmic phenomena. It also involves the development of a capacity, rhythmic intelligence, that suggests one to comprehend the rhythmic organisation of reality in thoughts or acts, an ability to adapt to the rhythms of a situated action, and to relate to those that organise one's surrounding. From a critical perspective, developing rhythmic intelligence relies on the ability to detach oneself from familiar experiences and discriminate configurations of changes that display specific patterns, periodicities, and variations. It requires fluency in the use of heterogeneous languages, to explore the choices of symbols used to represent the experience of time, and to identify discursive, formal, or embodied vocabulary and grammar to interpret their meanings. It also involves a critical capacity to define, organize and hierarchize the values, norms or standards used to evaluate how temporalities are experienced. Rhythmic intelligence also requires the development of a capacity to argue and determine how does one establish the characteristics of rhythmic influences, and what rationale may explain the causes and effects that constrain specific experiences of time. Moreover, the development of rhythmic intelligence involves the capacity to judge what constitutes right, good, legitimate, or balanced rhythms, in contexts where they may incorporate or express a sense of justice, equity, well-being, or efficiency. Finally, rhythmic intelligence relates to the capacity to comprehend and eventually trigger events, turning points, or bifurcations, as critical experiences revealing hidden processes that are rhythmically structured, regulated, and reorganized over time.

The contribution made in this article constitutes a renewed attempt to keep promoting rhythmological perspectives in education, as much as it constitutes an original effort to start envisioning the development of rhythmic intelligence. From a retrospective angle, there is still a lot to flesh out, based on existing literature around process-oriented approaches, rhythm theory and rhythmanalysis. From a prospective point of view, everything remains to be invented to conceive the practical and political implications of rhythmic intelligence, as an ability to individually and collectively regulate and critically reflect on the rhythms through which transformational processes shape and constrain people's lives.

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