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Navigating the power of time in classroom practices: teachers' and students' perspectives

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ABSTRACT

The paper examines educational functions related to time within classroom practices and aims to find out how curriculum delivery shapes the time experience, how time impacts curricular activities, how teachers and students negotiate time to achieve the goals of the curriculum, and how teachers and students manage time in the classroom. Using observations and interviews as a data-gathering method in schools with International Baccalaureate and Cambridge International General Certificate of Secondary Education curricula in Poland, the following study revealed that despite common opinions about the slow pace of school life, time within classroom practices makes lessons a dynamic process. The study suggests that time (1) imposes a tempo and rhythm (waves), sequences (lesson order), and synchronisation (of teachers' and students' activities), (2) guarantees stabilisation within learning, (3) triggers motivation to negotiate time while carrying out tasks, and (4) provides orientation for activities and emotional well-being, where repeated tasks provide a certain level of emotional safety and support. The temporal organisation of school practices determines the educational functions of the curriculum, and their time inflexibility and non-linearity constitute a functional part of a hidden curriculum. The results of this study underscore the importance of investigating flexible time management strategies, student-centered pedagogies, and interdisciplinary approaches that can alleviate the burdens of overcrowded curricula.

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Hidden curriculum; international school; time in education; classroom observations

Introduction

Three-quarters of an hour can be equal to one lesson hour. Five days define the week and constitute a weekly lesson schedule. Two semesters in combination with holidays define a school year. Time divisions are commonly known, obvious, visible, and apparent in schools. They have a linear character with a clear beginning or end point, like a school year or a lesson hour. However, not everything is linear when it comes to school time. Challenges in relation to time arise when it is squeezed into other dimensions, when time is hidden and non-apparent, and when we cannot define its beginning or its end.

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In relation to a school that lacks time for something, it is a self-contradictory expression, as time is not a phenomenon that can be saved or multiplied. When talking about a school that protests about insufficient time, this does not mean that the school does not have enough time, but rather refers to the forms of time-consuming work and time resources required to succeed. So, there is no point in focusing on searching for lost time, but using a qualitative approach in studying the time function in the curriculum, it would be interesting to look closer at how does time impact the implementation of curricular activities, how does curriculum delivery shape the time experience of students and teachers, how do teachers and students negotiate time to achieve curriculum goals, how do teachers and students manage time in the classroom.

Following study, the aim is to draw attention to the temporal dimensions of the curriculum, focusing not on methods, styles, or ways of delivering the curriculum "on time", but on examining the educational functions related to time within curricular practices. By investigating the temporal dimensions of the International Baccalaureate (IB) und Cambridge International General Certificate of Secondary Education (IGCSE) curriculum in Polish schools, this study contributes to advancing knowledge in two key areas. First, it sheds light on the challenges and complexities of implementing a globally recognised, non-traditional curriculum within a national education system with deep-rooted cultural norms and practices. The findings reveal the intricate interplay between curriculum delivery, time management, and the diverse learning needs of students, providing insights that can inform the development of more flexible and inclusive educational models. Second, this research underscores the importance of re-evaluating traditional conceptions of time in education and exploring alternative approaches prioritising student-centered learning, critical thinking, and problem-solving skills. By examining the temporal dynamics within IB classrooms, this study offers valuable perspectives for educational policymakers, curriculum designers, and educators seeking to cultivate learning environments that better prepare students for the demands of the modern world.

In this study, we use the term "educational functions" to refer to the intended and unintended roles, purposes, and consequences arising from implementing educational curricula and practices within classrooms and schools. Drawing from the theory of practice architectures by Kemmis et al. (2014), we conceptualise educational functions as encompassing various dimensions such as student learning, teaching practices, professional development, leadership and management, and research and evaluation processes. However, we also recognise that curricula can have implicit or "hidden" functions that shape the educational experience beyond the explicitly stated goals. By examining the temporal dimensions of curricular practices, we aim to uncover how the construct of time influences overt and covert educational functions within the context of the IB curriculum implementation in Polish schools.

The context of this analysis focuses on international curricula implementation in Polish schools, offering insights into how international educational programmes operate within national education systems. The introduction of international programmes like the IB or IGCSE provides valuable opportunities to examine diverse approaches to curriculum delivery and time management in educational settings. The IB and IGCSE curriculum was selected as the focus of this study due to its global significance and distinctive position as a complement to traditional national education systems. As

a well-established international programme emphasising critical thinking, problem-solving, and intercultural understanding, the IB/IGCSE curriculum provides an excellent context for examining the temporal dynamics and challenges of implementing comprehensive educational approaches. By studying the implementation of the IB/IGCSE curriculum in Polish schools, this research aims to understand how different pedagogical traditions and approaches to time management can coexist and adapt within educational institutions. This context allows us to examine how schools navigate between different curricular requirements and time management approaches, providing insights that could benefit other educational systems implementing international programmes.

Using classroom observations in 11 international schools in Poland, this study reveals how time functions as a stabilising framework in the social world of the school. The findings explore how both teachers and students navigate curriculum demands, sometimes adopting strategies like multitasking to cope with time pressures. Although school life is often seen as slow-paced, time within classroom practices makes lessons dynamic, shaping the rhythm, sequence, and synchronisation of teaching and learning activities. Time not only organises these processes – by setting tempo, order, and coordinating tasks between teachers and students – but also provides a foundation for emotional well-being. Repeated activities offer a sense of safety and stability, while the temporal organisation of school practices reinforces the educational objectives of the curriculum. This temporal structure, with its inflexibility and non-linear nature, forms a significant part of the hidden curriculum, conveying implicit messages about values and expectations within the educational setting. Through this study, we propose that the way time is structured and managed in schools serves as a "hidden curriculum", subtly transmitting lessons on productivity, efficiency, and the prioritisation of specific skills or knowledge domains. By examining how time intersects with the curriculum, we aim to uncover the hidden educational functions that shape students' and teachers' experiences and perspectives on learning.

The need for an analytical intervention stems from several crucial factors. Firstly, the conventional approach to time management within the curriculum is based on a linear, clock-based structure that fails to acknowledge the changing dynamics of information and the essential skills of critical thinking and problem-solving necessary in today's ever-evolving world. This approach overlooks the variations in students' learning capacities, resulting in some students needing more time to grasp concepts while others progress more quickly. Additionally, the prevalence of overcrowded curricula in educational institutions further emphasises the urgency for intervention, as the excessive content hampers students' ability to deeply understand the material. Furthermore, there is a notable gap in qualitative studies of school time specifically examining the role of time within the curriculum. This study aims to fill that gap by employing classroom observations and post-observation interviews as data-gathering methods. Through this analysis, we have deepened and broadened existing considerations regarding the factors that foster discipline and supervision in the school environment. We have also explored the remedial actions taken by social actors who face the challenges of time constraints and the need to achieve specific work outcomes.

Theoretical frameworks

School time

Within the educational system, time takes on multifaceted dimensions. School time is traditionally divided into school years, further broken down into smaller units like weekly schedules. These divisions help create a structured environment where students and educators can adapt to repetitive events within a linear time framework. In classical physics, time is often described as an arrow of infinitesimal moments flowing in a constant stream – a uniform and linear series of "now-points". This view of time involves the past as "no-longer-now", the future as the "not-yet-now", and the present perpetually moving from the past to the future. This perspective corresponds to our understanding of "clock time", constantly progressing in one direction – from past to future, always eluding the present. The linear perception of time, akin to the Aristotelian and Kantian understanding, underpins various aspects of education, where progress is seen as a linear journey. Rappleye and Komatsu (2016) argue that such a view of time emphasises perpetual progression and forward movement. It often leads to education focusing on acquiring predefined knowledge, skills, or competencies within fixed time frames, such as the school year (Biesta, 2013). The assessment of progress, in this context, frequently relies on high-stakes tests, which can limit teaching and learning opportunities (Holt, 2002). In response to the rush for perpetual progress, Holt (2002) advocated for "slow schools", providing temporal space for in-depth discussions, analysis, scrutiny, and resolution. This alternative approach offers a counterbalance to the fast-paced educational environments driven by linear time. Time usage is central to curriculum design, influencing the sequencing of teaching and learning events. Activities are often arranged to create causal relationships, where one event leads to another, ultimately contributing to curriculum attainment. This perspective sees time as a tool for directing and conceptualising sequences and procedures.

For the understanding of time in education, the views and concepts of time proposed by Philip Zimbardo and John Boyd (Zimbardo, 2010) are interesting and inspiring. According to Zimbardo and Boyd, interpreting the world and people occurs through cognitive processes relating to temporality. Every human experience is ordered in relation to the past, present and future. Time is therefore an individual interpretive matrix for a person's educational experiences. Furthermore, over time, people give their experiences different interpretations and importance (Zimbardo, 2010). In educational settings, time is also considered from the perspective of time management and time discipline (Elias, 1992; Russell, 2008). Henri Lefebvre's (2004) concept of rhythm analysis provides a crucial lens to understand the complex temporal and spatial dynamics of social phenomena, such as those observed in educational settings. As Edensor (2010) argues, rhythms are fundamental to the production and reproduction of social life, shaping both everyday practices and broader societal patterns. This perspective aligns with Schatzki's (2002) theory of social practices, particularly in its emphasis on the temporal aspects of curriculum delivery and classroom interactions. Also, Meyer's (2008) work on organisational rhythms provides insights into how these temporal patterns manifest in educational settings, bridging micro-level interactions and macro-level structures. By incorporating a more nuanced understanding of rhythms into our theoretical framework, we can better

capture the complex temporalities that underpin the hidden curriculum and its effects on shaping both overt and covert educational functions.

Time in educational settings is a complex and multifaceted concept that goes beyond mere clock time, encompassing both time management and time discipline. Time management involves using tools like calendars and planners to efficiently organise activities and events, structuring the learning experience to optimise productivity (Elias, 1992; Russell, 2008). In contrast, time discipline reflects adherence to a community's established rules and procedures, often imposing a rigid framework on how time should be allocated and used within institutional contexts. However, time is not just a tool for organisation; it is also a critical element in shaping social relations and influencing how individuals experience the world. For instance, it informs judgments about people's behaviours, such as perceptions of friendliness, patience, or other personal traits during social interactions (McRuer, 2017; Samuels, 2017). Ben-Peretz and Bromme (1990) proposed an alternative to the conventional view of "clock time", introducing the concept of "time-space" in education. This approach promotes a more flexible understanding of time that frees it from rigid temporal constraints, allowing educators and students to engage in a more dynamic and context-sensitive learning process. Similarly, Thompson and Cook (2017) examined how educational reforms and the politicisation of education impact teachers' professional environments. They found that teachers often feel "out of time", experiencing a fragmented rhythm in their daily routines as they navigate between providing adequate time for student learning and meeting stringent curricular deadlines. This tension reflects the broader challenges inherent in balancing time management with the unpredictable demands of the educational process. Further expanding on this theme, Mittermeier and Benade (2023) explored an alternative time model in New Zealand schools. They critique the traditional "rigid temporal ritual based on the factory workday", which they argue does not foster meaningful student engagement and adds undue pressure on learners (p. 5). According to them, time is "inextricably woven through life experience" and plays a fundamental, yet often overlooked, role in school organisation (1). They advocate for rebalancing time control and enhancing student choice within the time structure to create a more inclusive and personalised educational experience. In addition to these contemporary studies, earlier research also underscores the importance of time in structuring educational experiences. Luckham and Schulte (2011) emphasise that time is crucial in sequencing teaching and learning events, where activities are arranged in a cause-and-effect manner, guiding students through the curriculum. Hudson (2011) further supports this view by explaining that time arrangements within planned curricula are fundamental to achieving educational objectives, shaping both the direction and procedures of learning activities. Time in schools extends beyond mere scheduling; it is intricately connected to human interactions, social relations, and the psychological experience of learning. It shapes the unfolding of educational processes and how they are perceived by educators and students alike.

Time can be seen as a tool for management, a discipline to follow, or a social construct that influences behaviour and relationships. Regardless of the perspective, it remains a central, multifaceted factor in educational settings that demands ongoing exploration and understanding (McRuer, 2017; Samuels, 2017).

International programmes in Poland – the temporal tensions of global aims and local realities

The concept of a curriculum is commonly understood as the set of courses and subjects explicitly taught within educational institutions (McLean et al., 2018). According to Tyler (1957), a curriculum encompasses all the planned learning experiences a school provides to achieve its educational goals. Eisner (1979) classifies curricula into three types: explicit, hidden, and null. The explicit curriculum includes formal elements such as objectives, timelines, and assessment procedures. The hidden curriculum, on the other hand, comprises unspoken assumptions, messages, and beliefs that operate unconsciously within educational settings. The null curriculum refers to what is intentionally left out of the teaching and learning process. According to Eisner, decisions about what to include or exclude from the curriculum should aim to foster students' academic and behavioural development. The hidden curriculum, in particular, includes the implicit and assumed elements that become part of the norms and practices in specific educational or cultural contexts.

In Poland, the implementation of international curricula like the IB operates within the established national education system, creating an interesting dynamic between global educational approaches and local practices. This intersection has led to the development of distinct temporal patterns and hidden curricula, as schools navigate between international programme requirements and national educational frameworks. The implementation of international programmes requires careful consideration of time management strategies to accommodate both sets of requirements while maintaining educational quality. The last 30 years have highlighted the persistent centralised nature of Poland's education system, emphasising structural control and conveying unanticipated lessons through policies, procedures, and implicit norms. Programmes like the IB illustrate the complex relationship between governance, prestige, and the hidden curriculum, which shapes student experiences. International schools in Poland are predominantly private, charging tuition fees that create financial barriers for less affluent families. This exclusivity reinforces a hidden curriculum that values privilege over equal opportunities, with time and school hours becoming markers of distinction. The expansion of IB schools in Poland, especially after the country's accession to the European Union in 2004, has increased accessibility to the IB educational offering, although it remains concentrated in urban areas. The International Baccalaureate Diploma Programme (IB DP) is the most popular, emphasising critical thinking, group collaboration, problem-solving, conflict resolution, foreign language acquisition, cultural awareness, and civic responsibility. These elements, while also present in the Polish education system, are often linked to theoretical knowledge rather than practical application.

For teachers working in IB classes, the hidden curriculum introduces a "dual identity", as they must adhere to Polish educational regulations while also aligning with the principles of the IB programme. This situation creates tensions as educators navigate competing demands, balancing curriculum content, teaching methods, and professional advancement requirements. The implementation of the IB programme in Poland highlights the clash between Western educational traditions, which emphasise efficiency and punctuality, and Polish cultural norms, which are often more process-oriented. Jarosz (2018) notes that future orientation, involving long-term goal setting and

pursuit, is more prevalent among better-educated individuals. Conversely, clock orientation, characterised by meticulous daily planning, is common among high-income individuals. These orientations reflect broader cultural attitudes towards time that can conflict with the structured, Westernised concept of time embedded in the IB curriculum. The hidden curriculum in the IB programme manifests on both macro and micro scales. At the macro level, it relates to Polish educational policy, while at the micro level, it emerges within individual schools. Structural violence appears through the imposition of organisational structures subordinate to economic and political interests, the top-down definition and legitimisation of knowledge, and the emphasis on transmission-based pedagogy. This complex professional landscape often prioritises performative compliance over pedagogical autonomy. The conflicting demands create a hidden curriculum that shapes educators' experiences and practices. Ultimately, the IB experience in Poland reveals underlying curricular messages concerning compliance, privilege, and elitism, highlighting the intricate interplay between global educational initiatives and local cultural contexts.

The current study

To examine educational functions related to time within the curricular practices of the International Baccalaureate and Cambridge IGSCE curriculum in schools in Poland, we posed the following research questions:

1. How does curriculum delivery shape the time experience of students and teachers?
2. How does time impact the implementation of curricular activities?
3. How do teachers and students negotiate time to achieve curriculum goals?
4. How do teachers and students manage time in the classroom?

Methods

This study examined educational functions related to time within the curricular practices of schools implementing the International Baccalaureate (IB) and Cambridge International General Certificate of Secondary Education (IGCSE) curricula in Poland. We conceptualised these schools as "timescapes" (Adam, 2003), where participants manage their and others' time according to the normative curriculum frameworks. Time is institutionally structured around the curriculum, situated within complex social networks of students and teachers. While time measures like schedules and calendars are visible, the sociocultural aspects of time are less overt. Therefore, we adopted a qualitative research orientation to understand the patterns and processes that shape the participants' lived experiences of time. Through analyses of photos and interviews, we drew upon Kemmis et al.'s (2014) theory of school practices, distinguishing practices like student learning, teaching, professional learning, leading, and researching. Southerton's (2003) theory of the temporal organisation of daily life, with concepts like periodicity, sequence, tempo, duration, and synchronicity, further guided our examination of temporality. Our instrumental case study (Stake, 1995) aimed to probe how temporal concepts manifest in these international curriculum settings and how time affects curriculum delivery and enactment.

We conducted research in 2021–2022, obtaining 28 interviews with women and 14 with men (in total 42 interviews) employed in 9 private and 12 public schools implementing the International Baccalaureate programme (18 schools) and Cambridge IGSCE curriculum (3 schools). While teacher recruitment initially took place across 18 schools, three additional schools joined the study at a later stage, bringing the total number of schools where observations were conducted to 21. Additionally, 32 students from grades 10–12 were recruited through purposive sampling with permission from their schools and parents. Student participants were selected to represent diverse academic backgrounds and engagement levels within the IB and IGCSE programmes. To recruit participants for the study, we extended an invitation to schools in Poland that were implementing an international education programme with ten years or more of experience. An email containing information about the ongoing research project and an invitation to participate was sent. Following the initial email outreach, we contacted the interested schools via phone to discuss further details and arrange on-site meetings and visits. We successfully arranged meetings and visits at several schools through these follow-up communications and coordinated efforts between the two researchers. All the teachers were of Polish nationality, and except for 3, the others had been working as teachers (within the national programme) for six years or more. Teachers were informed about the study's purpose, procedures, potential risks, and benefits. They received a written consent form outlining these details, and their voluntary participation was emphasised. Participants were informed of their right to refuse to answer questions or withdraw from the study without penalty. All identifying information (names, school names, etc.) was anonymized in the data collection and reporting processes to protect participants' privacy. Participants were assigned codes (e.g. T1 for Teacher 1, S2 for Student 2) to ensure anonymity. The researchers maintained strict confidentiality of the data and did not disclose any information that could potentially identify participants.

We conducted the interviews in a comfortable and safe face-to-face setting, ensuring a conducive environment for participants. The initiating question was: How did you start working at an international school? In addition, we were interested in issues such as professional socialisation, successes, failures, crises, and relationships with colleagues, students, and people from outside the social world. We asked students about their reasons for taking up the International Baccalaureate programme. The experiences of both groups allowed us to reconstruct the functions of international programmes.

The observations occurred in different school spaces, including classrooms, halls, sports rooms, IB rooms, and cafeterias. The observations in classrooms covered various subjects, including biology, mathematics, geography, economics, and physics, with each observation lasting between 45 and 90 min, depending on the school's lesson duration. The discrepancy in the duration of the observations resulted from the students' schedules, which we adapted. Selected schools preferred combining subject hours into thematic blocks, for example, two physics lessons in a row (2×45 min). The argument for this solution was to gain more time to discuss issues and practice the material with students. Teachers indicated that 45 min was a short and insufficient lesson. Due to the demanding nature of the research, which involved both interviews and observations, the empirical material was collected by four researchers supporting each other's work.

Observations and post-observation interviews

The observational tool was developed to examine time management practices in the classroom systematically. The observational criteria focused on the following comprehensive aspects of time management and classroom dynamics. The first dimension examined time management strategies employed by the teacher, which included the use of time-tracking tools such as clocks and timers, careful allocation of time for diverse activities (e.g. teacher-led instruction, individual and group work, discussions), strategic pacing and transitions between activities, and dynamic adaptations to the planned time allocation based on students' responses. The second critical area of observation centered on student engagement and time utilisation. This involved analyzing the level of student participation and involvement during various activities, measuring time spent on task versus off-task behavior, and documenting instances where students negotiated or requested modifications to time allocations for specific learning segments. Classroom dynamics and interactions related to time constituted the third observational focus. Researchers meticulously documented teacher-student interactions concerning time management and curriculum coverage, student-student collaborative interactions pertaining to time utilisation, and identifying moments of time pressure or rushed behavior that might impact learning effectiveness. The final dimension scrutinized the alignment with curriculum objectives and time constraints. This included assessing the teacher's adherence to planned curriculum content and objectives within allocated time frames, investigating strategies employed to ensure comprehensive curriculum coverage, and noting any adjustments or modifications to scheduled activities necessitated by temporal limitations.

Semi-structured conversations, sometimes called post-observation interviews with teachers and students, were conducted after each classroom observation to provide "room for negotiation, discussion, and to allow interviewees to expand on their responses" (Mann, 2016, p. 91). Another aim of these semi-structured interviews was to understand the rationale for the lesson design and the selection of teaching activities and materials (Ruslin et al., 2022; Adeoye-Olatunde & Olenik, 2021). Teachers were asked one general question regarding the lesson: "How do you think the lesson went?" The question encouraged them to reflect on their lessons – the semi-structured interviews with teachers aimed to understand their perspectives on time management and curriculum implementation. Apart from the general question, "How do you think the lesson went?", additional questions were asked to explore specific aspects of time management and curriculum delivery. These questions included: How do you plan and allocate time for different activities within a lesson? What strategies do you use to ensure the curriculum content is covered within the given timeframe? How do you balance meeting the curriculum requirements and accommodating the diverse learning needs of your students? How do you negotiate and adapt the use of time based on students' responses and engagement levels during a lesson? For the student interviews, the following questions were asked to gain insights into their experiences and perceptions of time management within the curriculum: How do you manage your time between classroom activities and homework/assignments? Do you have sufficient time to complete all the assigned tasks and fully engage with the curriculum content? What challenges or difficulties do you face regarding time management

Table 1. General information about observations.

Number of observations	21
Number of international schools for observations	11 secondary schools (9 with International Baccaluareate Curriculum, 2 with Cambridge IGSCE Programme)
Lessons observed	biology, maths, geography, economics, history, physics
School places observed	hall, classrooms, sports room, IB room, cafeteria
Length of observation	lesson between 45 and 90 min

and meeting the curriculum expectations? How do you and your classmates collaborate or negotiate with the teacher regarding using time during lessons?

Data analysis

The results of this study are derived from a systematic analysis of the detailed notes from 21 non-participant classroom observations and the transcriptions of the post-observation interviews conducted in 21 schools in Poland implementing the International Baccalaureate (IB) and Cambridge International General Certificate of Secondary Education (IGCSE) curricula. While initial teacher recruitment occurred across 18 schools, classroom observations were ultimately conducted in 21 schools due to three additional schools joining the study during the data collection phase after expressing interest in participating. The detailed notes from the observations and the interview transcripts were read carefully. Then, the main code segments such as "time management", "time pressure", and "time overload" were generated. Codes were the foundation for the main modes of thinking about and interpreting the data (Gibbs, 2007, pp. 79–82). Next, links between codes belonging to one category (intra-case analysis) and different categories (cross-case analysis) were identified. Following this scheme, the aim was to obtain a holistic (systemic, integrated) context, its logic, and principles of navigating the power of time in classroom practices. The researchers also used triangulation by regularly meeting with research team members to analyze data and exchange experiences. These meetings were intended to avoid generalisations and unsubstantiated theses. The analysis includes specific examples and excerpts from the observational data and interview transcripts to support the findings. Direct quotes from participants are included and referenced by their roles (e.g. T1 for Teacher 1, S2 for Student 2) to provide evidence and contextualise the findings (Table 1).

Results

Time management

The systemic imposition of rigid schedules in the curriculum forces educators to prioritise task completion over deeper learning, reflecting structural violence in educational practices. As one teacher shared, "*I feel like I'm always rushing through lessons. There's never enough time to cover everything I want to*". This quote illustrates how the inflexibility of the curriculum undermines teachers' autonomy, pressuring them to conform to externally imposed time constraints. Similarly, students expressed significant stress due to workload, with one noting, "*There's so much homework that I was up until 2 am last night*". These accounts highlight how structural constraints create an oppressive environment that

affects both teachers' and students' well-being. The rigid demands of the curriculum, therefore, not only disrupt educational values like freedom and exploration but also constitute a subtle form of structural violence by limiting the autonomy and potential of both educators and learners. This evidence clearly supports the argument that structural violence is embedded in the time pressures imposed by the educational system, forcing conformity at the expense of meaningful learning and well-being.

Multitasking emerged as a central theme in our findings, where both teachers and students engage in multiple tasks simultaneously to improve efficiency and productivity. To manage the demands of the curriculum and maximise learning time, they employ various strategies, including multitasking, as a way to cope with extensive content and time pressures. Our observations revealed that teachers often resort to multitasking by preparing lessons at home, using applications and technological tools for organisation, and attempting to share responsibilities with students. These practices aim to maximise learning time and align with curriculum goals, rather than simply focusing on completing tasks within a given timeframe. Similarly, students reported multitasking behaviours, such as working on homework late into the night or attempting to complete multiple tasks during class. While these strategies help manage workloads, they also carry the risk of reduced work quality and increased errors, as highlighted by literature on "time abuse" and "temporal binding".

Despite the structured nature of lessons and the presence of time management tools like clocks and schedules, both teachers and students experienced a sense of urgency and pressure to complete tasks within the allotted time frames. This tension highlights the challenges in balancing the depth of learning with the breadth of content and the potential for time constraints to impact the quality of instruction and student comprehension. The study revealed the presence of "rhythmic time" within classroom practices, characterised by repetitive routines and procedures that structured the flow of activities. For instance, lessons often followed a consistent pattern of a teacher-led introduction, followed by individual or group work, and concluding with a summary or discussion. However, within this rhythmic time, there existed variations and "waves" of intensity, where the allocated time for certain activities expanded or contracted based on the demands of the curriculum content and the pace of student engagement. As one teacher noted, "Students have to learn under time pressure. Sometimes, it's their fault that they leave things to do until the last minute. The international programme expects students to control their time, and we teachers indirectly teach time management". These "waves" of intensity suggest that while classroom practices follow a rhythmic pattern, the experience of time within these practices is dynamic and negotiated, influenced by factors such as student readiness, task complexity, and curricular demands. The rhythmic nature of classroom time provides a structural framework. At the same time, the waves of intensity highlight the adaptability and responsiveness required within that framework to address the unique needs and circumstances of each learning experience. Our analysis captured two distinct yet interconnected perspectives: those of students and teachers. Although the dynamics of defining time in the school space distinguish these groups, we identified significant common ground, particularly in the shared experience of time pressure. Ultimately, time emerged as an inherent element of the social ecosystem of international schools, functioning as a subtle yet powerful cultural connector.

Photo 1. Fixed order – bell schedule.

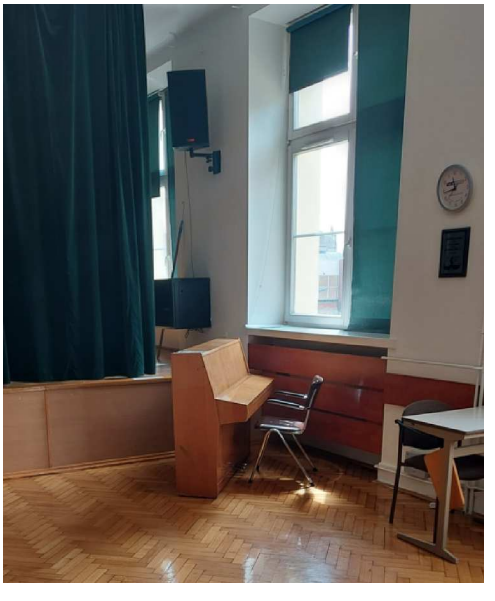

Photo 2. Clock in room for music lesson.

Observations revealed that the traditional classroom layout, with the teacher's desk at the front and rows of student desks facing it, significantly impacts time management. This setup dictates the flow of activities, influencing how time is divided between teacher instruction and student engagement. For instance, the placement of clocks in each classroom, as shown in Photos 1 and 2, helps teachers monitor and manage the duration of activities, ensuring that lessons stay on schedule. Additionally, the use of PowerPoint presentations at the start of lessons, typically lasting 10–15 min, as seen in Photo 3, indicates an effort to organise and optimise instructional time. This traditional layout, while

Photo 3. Time allocated for students' work.

effective in maintaining a clear structure, may limit opportunities for student collaboration, which could otherwise enhance time efficiency and learning outcomes. Thus, the physical arrangement of the classroom is closely linked to how time is organised and utilised during lessons, impacting both the teacher's ability to manage time effectively and the students' learning experience.

Time allocated to students' work

During one observed lesson, students were introduced to a textbook or presentation by the teacher. They proceeded to work on exercises either individually or in groups, with varying speeds. Before starting the exercise in the book, the students were given a time limit of about ten to fifteen minutes to finish the exercises. This approach reminded the researcher of the transactional leadership style of leadership within teaching. In post-observations conversations, students were saying that they "*admire the extra time of teacher, what was not that much common when they were working with national curriculum in the past*" (S1). The teacher set clear goals and expectations for the students to help them focus on their work and achievements. While working on the tasks in the book, he monitored their progress. The class had a small number of students (12 people) and it was evident that he knew them well. In the post-observation interview one teacher told that during the lesson "*helpful for lesson planning are for me online platforms to facilitate the timing of tasks, like I am using Trello*" (T1). Timing tools were available for students and teachers to help organise and manage lesson time like clocks placed on the wall in a visible, central place in the classroom. The international schools' ubiquitous clocks and printed lesson plans (photo 1, photo 2, photo 4, photo 5) reflect the traditional concept of time in education – clear, logical, and bringing order. These time-organising elements oppose the chaos present in the educational reality and try to tame the spontaneous and irrepressible interpersonal relations between teachers and students.

In the second part of lessons, students usually worked with textbooks. The activities displayed features of a certain repetitiveness as far as the order of the activities was

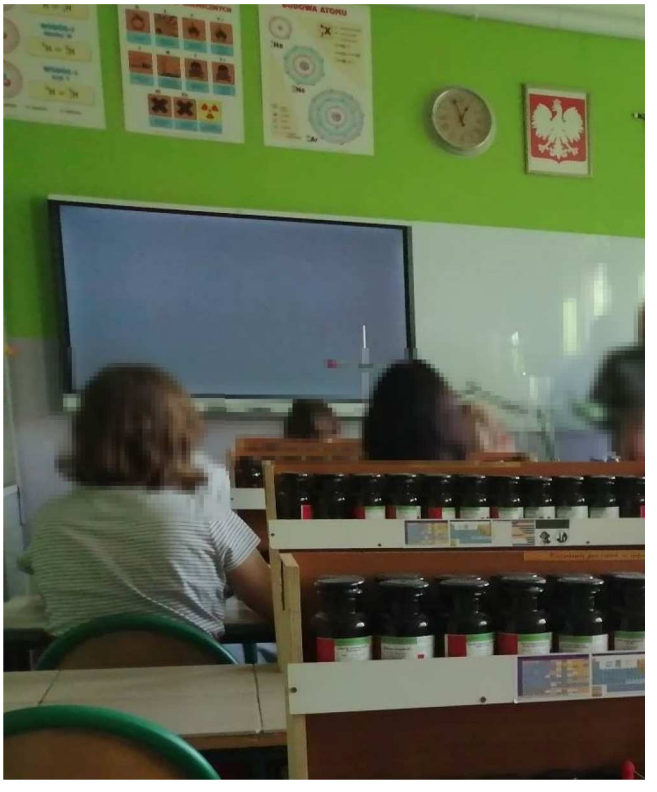

Photo 4. Time for questions.

concerned. They usually started by reading the text and answering the question. Sometimes students were reading sentences, finding out the meaning of some selected words in Polish (textbooks or PPT presentations were in English). Then students read the text again and said what they had learned from it (Photo 3). They also asked questions

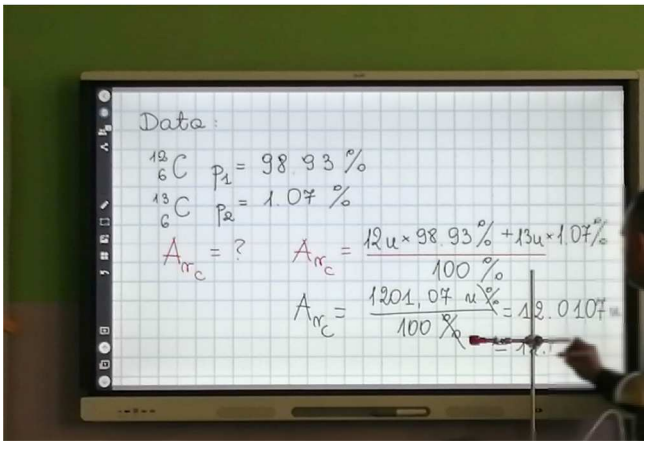

Photo 5. Academic curriculum – calculations.

about the text to which the teacher responded. The third part of the lessons were texts suggested by teachers (usually subjects within social sciences). The lessons ended with the teacher's questions about how to organise the information: teachers asked questions and they were answered individually by students. Photo 4 captures the end of a lesson where the teacher is questioning individual students. In the post-observation interview one teacher said that even if a lesson order seem to be slow, he works quickly: "*I am leader of students learning so I'm acting quickly with problems over a task*" (T5).

Time pressure and time overload

In post-observation discussions, teachers raised concerns regarding students' complaints about the amount of learning they had to do at home and the lack of time they had after school. Students reported needing to learn intensively late at night, creating a feeling that learning never ends. This subjective experience of time pressure is evident in students' statements and aligns with studies on time perception in educational settings, e.g. of Lingard et al. (2017), Mittermeier and Benade (2023). Students we interviewed after observations described learning as "an ongoing activity with non-linear time as it cannot be marked by a beginning or an end within the homework" (S4). This perception illustrates how students subjectively conceptualise time in relation to their educational experiences. One student explained, "*There are stages where there is more and less work, yes. You must adapt to this to learn under time pressure*". Another student complained about "*so much homework that was done last night up to 2am*" (S3), highlighting the intensity of their workload.

The subjective nature of time perception in the educational context is further evidenced by students' reports of time seeming to slow down during tests or boring lessons. As one student noted, "Learning is an ongoing activity with non-linear time as it cannot be marked by a beginning or an end within the homework". This demonstrates that students' learning doesn't always align with clock time, revealing the complex relationship between subjective time experience and formal educational structures. The placement of clocks in classrooms significantly influences students' perception of time and contributes to their sense of pressure. Clocks are often centrally located on the classroom's front wall, alongside national emblems and religious symbols (as observed in photos 3 and 4). This architectural choice, as noted by Foucault (1968), can serve as a tool of control, continually reminding students of time constraints. The central placement of clocks forces students to be constantly aware of time passing, potentially adding to their sense of pressure and preventing them from fully focusing on learning. One teacher described the situation:

> I see that students have to learn under time pressure. Sometimes it's their fault that they leave things to do until the last minute. The international program expects students to control their time, and we teachers indirectly teach time management.

This comment suggests that the school structure itself contributes to students' time-related stress, illustrating how the hidden curriculum (Eisner, 1979) operates through spatial and temporal structures.

The impact of this time pressure is evident in students' complaints about enormous amounts of time-consuming work at home and teachers' acknowledgment of students

struggling with workload. One student interpreted the function of the curriculum as "supporting ongoing learning, where home becomes a place of learning, and homework – a way of learning", (S14) highlighting how the boundaries between school and home are blurred by time pressure. These observations and experiences align with existing research on workload and information processing. Studies show that work overload often results from setting goals without considering factors such as expertise level, available time, and task uncertainty (Sutcliffe & Weick, 2008). As noted by Tushman and Nadler (1978), information overload arises when the demands for data processing exceed the capacity to handle them, with both needs and capacity measured in terms of available time. The combination of physical classroom layout, curriculum structure, and overall school environment creates a complex system that significantly impacts students' experiences of time pressure and workload. This multifaceted influence shapes how students perceive, manage, and respond to the temporal demands of their educational journey, often describing it as "waves of timed tasks".

A race against time

Another theme related to time was keeping up with the curriculum. Although the academic curriculum and preparation for academic learning were seen as a positive attribute (Photo 5 illustrates an example of the academic curriculum, showing calculations or problem-solving exercises), there was a perception among some teachers of being "left behind" by the fast-moving curriculum practices (i.e. teaching) due to the exams. The control of school time to meet the mandates of the testing regime serves to demoralise students as there are fewer and fewer opportunities in the rigid structuring of the school day for authentic learning. This might be due to the fact that many educational authorities, around the world like IBO, in charge of educational policy in International Schools, have decided to officially recognise the importance of self-regulated learning within curriculum. However, the previous research nevertheless shows that students still encounter difficulties when they try to effectively regulate their learning within curriculum (Ananiadou & Claro, 2009; Perry et al., 2004; Winne, 2005). The school lesson was a time for learning for the students, developing knowledge and skills, however, the teacher's interpretation of the purpose of the lesson was that the time needed to prepare for the exam distorted the lesson time. This race against time was accompanied by the impression of work overload, however, in the opinion of teachers, students perceive work overload as a "good time", understood as interesting and revealing. The observations also revealed that the students were willing and sufficiently engaged to interact with the teacher when the teacher used various methods of work and allowed the students room for discussion. Time in educational settings is also associated with social relations, as a mental configuration that helps humans experience the world. In this understanding, time influences interactions in social relations that occur in social spaces and in this context it informs judgments about people's behaviours (e.g. comparing students' abilities as friendly/unfriendly or patient/impatient) (McRuer, 2017; Samuels, 2017). Interestingly, students told in post-observation conversations that they like to spend time in school, mostly because of social interactions with peers.

Conclusions and discussion

One of the aims of our study was to find out, how classroom practices shape the way students and teachers experience time. The study showed prioritising fixed schedules and rhythmic classroom practices and the power of fixed schedules within curriculum delivery, what we would call "clock-time hegemony". Thus, students function according to three time scales: the institutional scale, the collectively (socially) constructed scale, and the individual (psychological) scale. The meanings of these scales may be contradictory and even give rise to conflicts. During both observations, it was evident that the formal end of the lesson surprised the students, as they were ready to study longer. In contrast, early morning lessons, despite being formally scheduled, often did not align with students' optimal cognitive functioning periods, affecting their learning effectiveness, as demonstrated by studies from Kelley et al. (2015), Hummer and Lee (2016), and Wahlstrom and Owens (2017). Students' response to the "clock-time hegemony" are their social practices of constructing time and giving it meaning. Social time in international schools consists of patterns of temporal behaviour, ideas of time (i.e. duration, change, consequences), time common to students. Social time is created by students in the mutual interactions, shared experience, internalisation, composed of customs, norms, values and creating a symbolic structure.

Leaton Gray (2017) considers three categories of time, each with a particular function: "fixed time", for example, clock time, "biological time" – for example, school levels for certain age groups and "social time", the social construction of time displayed in school terms. Our study shows that the "clock-time hegemony" within curriculum implementation is a determinant of activities aimed at obtaining the attained curriculum within a specified time (to fulfil the requirements of the planned curriculum). But what was interesting during the observation of the lessons was that "rushing" was not noticed, and it was noticeable that the classroom environment was supportive and motivating. This created a sense of calm and focus, reducing the likelihood of students and teachers feeling rushed. This observation aligns with classroom management strategies proposed by Pedota (2007) and Simonsen et al. (2008). Pedota emphasises creating a class culture that values collaboration, teamwork, and constructive feedback while building students' self-esteem. Similarly, Simonsen et al. (2008) highlight the importance of maximising structure and predictability, actively engaging students, and using strategies to acknowledge appropriate behaviour. These approaches create a supportive and motivating environment conducive to efficient time use without rushing.

At the same time, however, clocks were noticeable in all classrooms placed on the wall in a visible central place in the classroom. Power "over" is – according to Erich Fromm (1941) domination over the environment and its individual elements (such as time, space, and material goods). Work by Thompson and Cook (1967), Foucault (1998), Fabian (1983), Chakrabarty (2000) understands time as a unique form of power that often resides in the exploited body as something that feels like a natural fact. Yet this second nature has also been accompanied by resistance or noncompliance in the form of alternative rhythms, tempos, historical practices, and models of futurity. The visibility of the clocks was evident symbolic power of time, however, not within the curriculum but rather as an invisible agent of the repetition of the school day activities, emphasising the power of fixed schedules, divisions of the school day into 45–90 min lessons, marking

the beginning and end of the lesson, however, not influencing what is happening timewise in the classroom, being outside of the practices related to the implementation of the curriculum.

This study also aimed to identify how time impacts the implementation of curricular activities. We found that rhythmic time practices play a significant role in curriculum delivery. Routines that are performed as part of regular procedures, rather than for a special reason, give each lesson a similar structure. We refer to this kind of classroom time as "rhythmic time". The amount of time dedicated to each procedure varies from lesson to lesson, depending on the subject matter of the task. Drawing on Lefebvre's (2004) concept of social rhythms, our observations showed that hidden within the curriculum are rhythmic extensions or shortenings of the practices (repetitions of the classroom instruction) within classroom routines due to specific limitations of time imposed on those who have to complete the task. The power of available time (45/90 min within a lesson) can mean that classroom practices may be repeated as a result of the pragmatic management of students' and teachers' time. In this understanding, following the theory of social practices of Schatzki (2002), time controls classroom practices determining their length, pace, and duration of individual events and intervals, however, repetitions of classroom practices are not always apparent as they are never the same in terms of duration or subject matter. In this understanding, school time is not just an accurate scale for measuring school practices or an exact frame of reference. It is primarily an immanent property of school practices, because time within practices contained in events has an individually defined meaning and sense.

In our study, we explored how teachers and students negotiate time in the classroom to achieve the goals of curriculum implementation. We found that both teachers and students actively discuss how to best use the available time to ensure that learning objectives are met. Our results suggest that simply reducing the duration of course delivery does not guarantee the achievement of learning outcomes. Instead, it requires collaborative efforts between teachers and students to create a learning environment that is both efficient and effective. Our findings align with existing literature on intensive mode delivery, which highlights both benefits and challenges. For example, intensive courses can enhance student concentration, time efficiency, and flexibility (Allen et al., 1982; Ellis, et al., 2009; Finger & Penney, 2001; Scott & Conrad, 1992). However, they can also lead to challenges such as time pressures, information overload, exhaustion, and increased attrition rates, especially when the course content is not well-structured (Dean, 2006). These issues highlight the importance of careful planning and structuring of intensive courses to mitigate potential drawbacks.

Our study shows that the curriculum imposes time only apparently (which we would call "apparent time") and this is perceived in linear time as a lesson. However, the autonomy of the individual who works within the curriculum and their experience of that curriculum, and how operational autonomy of matter denotes that classroom activities happen at the right time and moreover, what the right time is, depends on how it is perceived by individuals concerning how much time really matters to them. The study suggests that while the curriculum imposes an apparent linear structure of time through weekly schedules and hourly lessons, the lived experiences of teachers and students reveal a more fluid and negotiated sense of time within classroom practices. This negotiated time, or "Kairotic time", as conceptualised by Czarniawska (2004), emerges from the autonomy and

operational realities of how individuals engage with the curriculum; rather than being bound by predetermined time frames, teachers and students actively negotiate and adapt the use of time to align with the goals and needs of the curriculum implementation. Hidden within the curriculum is time that runs across teachers and students and is not tied to schedules planned separately for teachers and students but time is rather tied to a community of knowers of the curriculum (meaning students and teachers) that decided about the time of performed practices. Teachers and students reproduce a particular time hegemony, however, the power of time is not as strong as the norms of time being negotiated within curriculum practices.

The results of qualitative observation suggest that teachers' agency is perceived as an individual's action that is conditioned by a variable mix of creativity, autonomy and reflexivity which opens up the potential for innovation and the unexpected. Grabham (2014) claims that acting is framed into time what "requires adaptive negotiation" (Grabham, 2014, p. 6) and that choices relate or conflict with the temporal infrastructures of our workplace. Our study shows that hidden within time dedicated to curriculum implementation are negotiated norms of time that emerge through engagement with tasks. The agency to negotiate manifests within time and is dedicated to mutual interactions between teachers and students to attain the goals of the curriculum. The negotiation of time and curriculum implementation observed in our study can be further understood through the lens of leadership styles in education. Bass (1990) and Day et al. (2016) discuss transactional and transformational leadership styles, which can be applied to classroom management. Transactional leadership in the classroom might involve strict adherence to set time schedules, while transformational leadership could allow for more flexible, negotiated use of time. Our observations suggest that teachers' agency and adaptability in managing classroom time align more closely with transformational leadership. This style fosters an environment where teachers inspire and engage students, promoting effective learning through a more fluid and responsive approach to time management.

We examined how teachers and students manage classroom time and found that effective time management is vital for maximising learning and reducing waste. However, pursuing efficiency can lead to "time abuse", where overplanning results in multitasking. While this may challenge imposed chrononormative values (Freeman, 2010), it can also cause errors and reduce work quality. Our observations suggest that multitasking reflects a form of temporal binding, where time is used to enforce maximum performance, limiting flexibility and freedom against norms of "maximum productivity" (Freeman, 2010). Within this temporal structure framework, agency is repressed and controlled by structures, such as the curriculum (Freeman, 2010). Scheerens et al. (2013) highlights the distinction between gross and net time in schools, with gross time referring to allocated time and net time reflecting the actual time used after deducting organisational and technical matters. Research by Stallings and Mohlman (1981) indicates that effective time utilisation in lessons is around 85%, with 15% of class time wasted on organising and maintaining order. However, we acknowledge that the notion of "effective" time utilisation is context-dependent and may vary according to the wider curriculum ambitions of the IB, which might require some of that 15% "wasted" time for fostering creativity, critical thinking, and collaboration among students. Therefore, we use the term "productivity" to refer to the alignment of time management with the intended

curriculum goals, rather than the mere completion of tasks within a given timeframe. Time abuse within the classroom is symptomatic of a larger problem. Our study reveals that teachers and students are aware of time lost during lessons and have adopted various strategies, including multitasking, preparing lessons at home, and utilising applications and technological tools to improve organisation and better use of allocated lesson time. Our observations demonstrate that curriculum implementation often fills school time to capacity. The extension of learning time beyond the classroom is another strategy employed to manage the demands of curriculum implementation. Cooper (1989) defines homework as "tasks assigned to students by school teachers that are meant to be carried out during non-school hours" (p. 7). The perceived benefits of homework, such as reinforcing learning and developing autonomous work capacities (Cooper et al., 2006; Corno & Xu, 2004), align with our observations of teachers and students preparing lessons at home and using applications for better organisation. These practices can be seen as attempts to maximise learning time and efficiency, reflecting the broader strategies of time management we observed in the classroom. However, it is important to note that the effectiveness of these extended learning practices depends on their alignment with curriculum goals and their ability to engage students meaningfully, rather than simply extending "clock time" beyond school hours. Teachers, cognizant of the extensive content, employ multiple strategies to manage their time effectively. These strategies encompass various elements of school temporality, such as work planning, meeting deadlines, maintaining linear sequences of tasks, adapting to different work paces, utilising time's physicality (e.g. bell, clock, Pomodoro, Trello) for order and time management, and employing multitasking to improve work, accelerate progress, and distribute responsibilities between teachers and students. These approaches foster time management skills, independent learning, and accountability for completed tasks among students.

This study on temporal dynamics in Polish international schools, while insightful, presents several limitations. The research was confined to a limited number of international schools in Poland, constraining the generalizability of findings. The qualitative data, though rich, is specific to these environments and not broadly applicable. The study's scope focused on temporal aspects of curriculum implementation, potentially overlooking complex time-related issues in the classroom. Additionally, the research was limited to international education programmes, which typically serve more affluent populations, thus not capturing time management experiences across diverse socioeconomic backgrounds within the Polish education system. Our focus on curriculum implementation challenges excluded other temporal perspectives within the classroom environment. The sample size and data collection methods preclude generalisation to all time management experiences across diverse contexts in Polish education. Nevertheless, the findings underscore the necessity to explore alternatives to traditional time models in education. The study highlights the inadequacy of rigid schedules and linear curricula in accommodating diverse learning paces and developing critical thinking skills essential in the contemporary world. Future research should investigate flexible time management strategies, student-centered pedagogies, and interdisciplinary approaches across a broader range of educational settings. This expanded focus could address the challenges of overcrowded curricula and better prepare students for modern demands, while providing a more comprehensive understanding of temporal dynamics in Polish education.

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