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Making a municipal adolescent fitness initiative actionable: A practitioner-informed grounded process model

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Abstract

Background Adolescent physical health is a key education governance priority, yet municipal fitness mandates often falter in schools, homes, and communities. This study examines how such initiatives become actionable under resource constraints and competing academic pressures.

Methods Using a qualitative longitudinal design, we analyzed a three-year (2021–2023) municipal fitness initiative in China through semi-structured interviews with practitioners across the governance chain and supplementary policy documents.

Results Task-based cognition emerged as the core category, a governance-mediated interpretive frame converting abstract fitness targets into specific, verifiable tasks. Actionability unfolded through translation, coupling, contextual activation, and temporal stabilization, conditioned by a compliance dilemma: dense monitoring erodes legitimacy and autonomy, prompting performative adherence over durable routines.

Conclusions Findings specify how measurement infrastructures both build capability and generate surveillance, informing governance designs that foster participation without coercive compliance. Guided by constructivist grounded theory, we propose a process model linking governance instruments to routine formation.

Introduction

Children and adolescent physical health has become a prominent governance concern as sedentary lifestyles, widening fitness disparities, and rising overweight and obesity intersect with academic pressure and expanded screen time [1–2]. International organisations now treat youth fitness as cross-sector responsibility spanning education systems, public health agendas, and community provision rather than bounded school lessons or short-term campaigns [3–5]. In China, national surveillance and policy directives have elevated student health within education governance, while performance arrangements have encouraged municipalities to launch coordinated fitness initiatives [6–7]. The municipal level matters because policy targets, resources, and inspection routines become operational demands for schools and cross-sector coordination becomes concrete [8]. Yet a persistent implementation problem remains. Targets and inputs do not reliably translate into stable routines organising daily life across schools, households, and communities [9–10]. The problem is not only compliance but actionability [11]. Governance initiatives should yield activities that schools can schedule, teachers supervise, and families support when time, space, and attention remain scarce [9, 12–13]. They must operate within unequal capacity and competing priorities, particularly where high-stakes examinations shape institutional focus and household strategies [11, 14–15]. Research therefore needs explanations of how municipal initiatives become actionable in practice and why they produce uneven routine formation.

Existing literature offers partial leverage but seldom explains how governance instruments become embedded in routine practice. Policy implementation research shows organisational responses rarely follow formal design; translation depends on interpretation, prioritisation, and local capacity [10, 14, 16–19]. Organisational research emphasises discretion shaping how frontline actors reconcile policy demands with limited resources and competing obligations [20–22]. Practice-oriented scholars suggest sustained activity depends on arrangements making participation feasible and legitimate—time allocation, space access, equipment,

supervision, and shared understandings of educational value [23–24]. Accountability research adds that metrics and inspection routines can secure attention yet redirect effort toward documentation and display, privileging what is measurable over what changes participation [25]. These literatures identify implementation elements but remain adjacent, leaving unclear how targets, reporting, and resources reshape conditions supporting participation across contexts [10, 14].

The central gap concerns process explanation linking governance instruments to actionability. Research often catalogues facilitators and barriers, academic pressure, facilities, parental support, community provision [9–10, 14, 20]. but less often specifies how municipal coordination reorganises schedules, redistributes responsibility, and reshapes what actors recognise as legitimate participation [8]. Under new policy, authorities and schools negotiate boundaries between autonomy and coordination when standardisation meets curriculum demands, staffing constraints, safety obligations, and parental expectations [8, 10, 16–17, 23]. Decisions arise about monitoring protected activity time, producing performative compliance through events and records satisfying evaluation without extensive routine change [9, 11–12, 14, 22], and extending responsibility beyond schools when unequal household resources shape participation and potentially reproduce inequality [14, 25]. Outcomes depend on how actors interpret responsibility, negotiate legitimacy, and manage friction points where educational hierarchies intersect with health objectives[26]. What remains missing is a grounded account specifying mechanisms and conditions through which municipal initiatives become doable and durable.

This study uses constructivist grounded theory to develop a process model of how municipal adolescent fitness initiatives become actionable [27]. It aims to generate integrated explanation grounded in practitioner accounts of coordination under institutional constraint [28]. Concepts from policy enactment, organisational discretion, practice organisation, and accountability inform initial analytic orientation as sensitising concepts [29–30], preserving openness to categories arising from the field, including those challenging assumptions about coordination, compliance, and meaningful participation [31]. The analysis treats implementation as organisational work through which actors define problems, allocate responsibility, and assemble routines coexisting with academic priorities and limited capacity [4]. It treats governance as a process shaping what actors recognise as legitimate activity and reasonable burden [32]. By focusing on actionability, the study links governance instruments to routine formation while avoiding assumptions that more coordination, resources, or tighter measurement necessarily produce sustained participation.

The paper addresses two questions. How do practitioners describe processes through which a municipal fitness initiative becomes actionable across school, household, and community domains? What process model specifies mechanisms, contextual triggers, and friction points shaping translation and routine formation under institutional constraints? The study contributes to sociological debates on governance and health-related practices in education by specifying how municipal targets, inspections, and reporting intersect with discretionary practice inside schools [1, 11]. The resulting model offers a basis for research on municipal health governance and provides implications for policy design seeking durable participation without burdens inviting performative responses.

Methods

Research design and ethics

This study adopted a qualitative longitudinal case study design that examined a municipal adolescent fitness governance initiative implemented in Haitong (pseudonym) from 2021 to 2023. The analysis drew on constructivist grounded theory procedures to develop an implementation mechanism model grounded in practitioner accounts, with interviews as the primary evidence base [27]. This study obtained ethical approval from the first author's university ethics committee (SSHRE23-APP03-FED). Participants provided written informed consent before data collection.

Participants and sampling

The study used purposive sampling [33] to recruit practitioners who engage in the initiative implementation. The sample comprised 15 participants drawn from positions in the governance chain, including municipal or district education administrators, school principals, physical educators, a community sport coordinator and a parent representative. Eligibility required direct involvement in the initiative from 2021 to 2023, capacity to describe how municipal requirements translated into school routines and home and community coordination, and substantial professional experience in relevant roles. Most participants reported more than 16 years of related experience. Table 1 summarises participant characteristics by role category, governance level, and years in role.

Table 1
Participants' demographic information.

Pseudonym	Position	School level	Gender	Age at interview	Years of service	Interview date	Length of interviews
David	Municipal official	N/A	Male	44	21	2023-12-21	110 minutes
Benjamin	District official	N/A	Male	45	20	2023-05-18	97 minutes
Ethan	Principal	Primary	Male	49	26	2023-11-01	65 minutes
Leo	Principal	Middle	Male	48	25	2023-11-03	95 minutes
Jonathan	Principal	Middle	Male	45	21	2023-11-04	100 minutes
Noah	Principal	Primary	Male	53	30	2023-12-05	72 minutes
Kai	Vice-principal	Primary	Male	53	30	2023-11-06	77 minutes
Robert	Head of physical education	Primary and middle	Male	58	34	2023-11-05	106 minutes
Lisa	Physical education teacher	Middle	Female	52	29	2023-05-12	86 minutes
Charles	Physical education teacher	Primary	Male	51	28	2023-11-02	68 minutes
Nicholas	Homeroom teacher	Middle	Male	41	16	2023-03-08	86 minutes
Frank	Homeroom teacher	Middle	Male	50	27	2023-04-02	65 minutes
John	Community sports coordinator	Primary	Male	59	35	2023-05-08	88 minutes
Emma	Parent representative	Primary	Female	48	N/A	2023-03-15	80 minutes

Context

Haitong is a prefecture-level city in southern China. The initiative began after provincial spot checks in 2020 showed that the city did not reach the benchmark for student health-related physical fitness performance, that the fitness test includes cardiovascular fitness, muscular fitness, speed, and flexibility. The municipal education authority then launched a campaign that aimed to improve student fitness through coordinated

action across education administration, schools, families, and community partners. It used several governance instruments, including tiered responsibility agreements that specified obligations across administrative levels, school-specific improvement, and student-specific exercise prescriptions. Schools also adopted measures that ensured curriculum time for physical education lessons, organised daily physical activity, and expanded participation through events and competitions. The initiative further allows community access to school venues under local safety protocols. Provincial fitness performance improved during the three-year initiative. These indicators serve to characterise the policy environment and performance pressures that structured implementation, they do not support causal claims about programme effects.

Data collection and data management

The study conducted semi-structured face-to-face interviews in conference rooms at participants' workplaces. Interviews were audio-recorded and transcribed verbatim. The interview examined how implementation became feasible and sustained in practice. It asked participants to describe target setting and monitoring, translation of fitness goals into schedulable and teachable school routines, organisation of home-school-community coordination, responses to barriers and resistance, unintended effects, and strategies that aimed to maintain change over time. To contextualise interview accounts, the research team compiled supplementary materials that participants referenced and that were available for research use, the semi-structured interview guide used in this study is provided as Supplementary File 1. These included municipal notices and documents, agreements, school plans, exercise prescription templates, meeting records, mobilisation communications, and reports. Selected quotations of interviews and excerpts were translated from Chinese to English and checked translations against the original text to preserve meaning and institutional terminology.

Data analysis

The analysis used NVivo 20 (Lumivero, Denver, CO) and followed constructivist grounded theory procedures [27]. Open coding was conducted to attend closely to actions, interpretations, and conditions in each segment of text and that remained near participants' terms where possible. Axial coding then consolidated recurrent and analytically productive codes into categories. Selective coding specified relationships among categories, with attention to sequencing and conditionality, and supported development of a process model that linked governance instruments to actionability and routine formation. Constant comparison is used across participant roles, organisational levels, and references to different phases of the initiative. Analytic memos documented category development, decision points, and model revisions.

Trustworthiness

Credibility relied on transcript checking, triangulation across interviews and supplementary materials, and negative case analysis [33]. Dependability used an audit trail and team-based coding. Confirmability drew on reflexive memos, peer debriefing, and researcher role clarification. Transferability was supported through thick description of governance architecture and explicit boundary conditions: Haitong's strong administrative capacity and resource access may limit applicability to constrained settings.

Results

We used a railway metaphor to develop a practitioner-informed process model of actionability (see Fig. 1) in which task-based cognition emerged as the core category linking governance instruments (targets, responsibility agreements, inspections, and reporting routines) to routinised student physical activity. Across accounts, implementation unfolded through interlinked mechanisms of translation, whereby fitness targets were rendered into specific, checkable tasks; coupling, whereby a responsibility chain and activity network aligned accountability with participation opportunities; contextual activation, whereby shared spaces and digital platforms increased salience and coordination across school-home-community settings; and temporal stabilisation, whereby protected time, staged progression, and partner networks supported repetition and habit formation. The analysis also surfaced a cross-cutting compliance dilemma. When multi-actor coordination accumulated into dense monitoring, it could erode perceived legitimacy and elicit performative adherence rather than durable routine formation.

Task-based cognition as a translation mechanism

Participants described a recurrent translation mechanism through which municipal fitness targets and assessment expectations were rendered actionable in everyday settings. They reported that students, supported by teachers and parents, interpret policy goals as specific, checkable, and staged tasks, rather than as diffuse aspirations. We label this interpretive frame task-based cognition, which is a practical way of making fitness improvement doable by attaching it to observable actions, short feedback loops, and incremental progression. Practitioners used measurement infrastructures, fitness-test components embedded into routine lessons, mock tests, and exercise-prescription templates, to make deficits legible and to specify next steps. Further, they reframed participation as socially valued such as belonging, recognition, parent-child connection, so that tasks felt worth doing rather than merely required. Principals emphasised translation depended less on episodic mobilisation than on redesigning instruction and participation platforms so that activity became repeatable and evaluable within the school day, as Leo noted:

The school takes the responsibility to cultivate students' interest in sports… The focus must be the classroom. We reformed physical education instruction so that students enjoy the lessons, … movement …, and ensure that students master at least two sports…

Frank, a homeroom teacher, likewise described how routine design absorbed constraints (time, weather, uneven competence) by adapting rules and creating indoor alternatives, thereby stabilising participation as a daily accomplishment rather than an occasional event:

We extended recess to 20 minutes…, adjusted basketball rules for lower grades…, guaranteed an uninterrupted daily 1,600 metres run, and developed nine sets of desk-based and indoor exercises for rainy days.

Seemingly minor scheduling and organisational adjustments also reshaped the social experience of mandated activity. Nicolas, another homeroom teacher, described replacing solitary running with small-group formats that redistributed responsibility to peers and converted monitoring into mutual encouragement:

Now they run in groups of four…, rotate the role of pace-setter… The kids remind each other to keep going… It becomes their thing, not just a school thing.

Together, these processes enabled students to recognise tasks, anticipate improvement, and justify participation in everyday terms, thereby linking municipal governance instruments to routine formation in schools and, where parents joined in, at home.

Coupling through a responsibility chain and an activity network

Participants indicated that making the initiative actionable required a coupling of accountability and opportunity infrastructure. Practitioners described a responsibility chain that distributed obligations across administrative tiers and schools, and an activity network that provided recurring and attractive participation occasions. Either component on its own was portrayed as responsibility without opportunities invited compliance theatre, whereas opportunities without responsibility were readily displaced by timetable crowding and fluctuating leadership attention. The responsibility chain was organised through signed responsibility agreements, top-leader accountability, school visits, and school-level implementation plans. Participants framed these instruments as clarifying who should act, what should be delivered, and how progress will be monitored, and crucially, as protecting physical education time by increasing the organisational costs of non-compliance under exam-oriented pressures. In parallel, the activity network consisted of tiered team structures, leagues, competitions, and school sport events that widened entry points and allocated visible roles to students. As Robert, the head of physical education, put it:

"*Schools need to build multi-level competition platforms, establish a tiered school team system, and create incentive mechanisms that cover all grades. This ensures that every student can find a sense of belonging and achievement in sports.*"

Vice-principal, Kai, emphasised that sustaining participation required ongoing adaptation of recess activities and competition rules to keep engagement feasible and motivating:

" *School leaders must deeply engage… dynamically adjusting recess exercise content, innovating competition rules… We integrate… physical literacy and skills into these activities.*"

David, a municipal official, described deliberate alignment of inspection routines with on-the-ground activity to reduce paperwork-oriented compliance:

" *Now we combine the inspection with a site visit during a league game period… We don't just ask them for a plan, we watch whether the kids are on the courts… The accountability pulls the activities into existence, and the activities make the accountability real.*"

Across interviews, coupling functioned as an implementation mechanism. Accountability instruments secured attention, time, and staffing, while the activity network translated those obligations into socially meaningful pathways through which students could participate. In this way, coupling operationalised governance demands into routinised school practices rather than episodic mobilisation or purely documentary compliance.

Contextual activation through shared spaces and digital platforms

This category specifies contextual activation, the situational conditions that made the translated tasks described above salient and practically executable across school, household, and community settings. Shared-space arrangements included opening school venues to community use under local safety protocols and managing access through reservation systems. Participants also described community equipment provision and school-community sport events that extended practice opportunities beyond the school day. These arrangements were not only material supports, but they also signalled municipal endorsement and helped normalise exercise as an ordinary component of local life, thereby strengthening legitimacy for schools and parents operating under academic pressure. Additionally, cultural and digital cues functioned as triggers that attached meaning and coordination to routine activity. Some schools drew on culturally resonant programmes (e.g., campus Wushu) to embed physical activity in narratives of identity and persistence. As Jonathan, a principal, put it:

"*Physical activity should be given a prominent place and treated as an important part of life. When students are exhausted or feel like they've failed, they can still enjoy engaging in any type of sport.*"

Digital tools, especially messaging-platform check-ins and photo-sharing, were described as low-friction coordination devices that connected teachers and parents around concrete tasks and made participation socially visible. John, a community sports coordinator, noted that these tools sometimes shifted parental engagement from oversight to celebration:

" *Within weeks, parents were sharing photos… It became a positive competition… The application wasn't tracking compliance, but it was creating a shared space where physical activity became something to celebrate together.*"

However, participants also reported a critical conditional variation consistent with the paper's broader compliance dilemma. When check-ins accumulated across actors and were repurposed for ranking, evaluation, or intensified supervision, the same visibility that facilitated coordination could be experienced as surveillance, undermining autonomy and inviting resistance. Lisa, a physical education teacher, reflected on this boundary: "*The tool that was supposed to help has become a source of stress.*"

Benjamin, a district official, described attempts to preserve a "coordination—not evaluation" frame and to prioritise variety and enjoyment over numeric optimisation:

"*When principals start using the data to rank classes… it changes the atmosphere… We now emphasise… variety and enjoyment, not just numbers.*"

Overall, contextual activation operated as a bridge between organisational arrangements and lived participation. When shared spaces and digital cues remained enabling and low friction, they supported routine enactment; when they amplified scrutiny and reduced perceived choice, they risked backlash and performative compliance.

Temporal stabilisation through protected time, progression, and partners

Participants described temporal stabilisation as the process through which translated and contextually activated tasks became durable routines through repeated enactment. They identified three conditions that

supported this shift from episodic participation to habit-like regularity. Protected time was treated as a foundational precondition. Interviewees emphasised norms and timetable arrangements that insulated physical activity from academic encroachment (e.g., extended breaks and mandated daily activity). As Lisa stated, *"Physical education classes should not be encroached upon. Students should gain pleasure and a sense of achievement from them*".

Progression referred to deliberate staging of tasks by age and competence, from playful foundational movement to more structured sport-specific learning and, where relevant, personalised exercise prescriptions. Participants presented progression as sustaining engagement by aligning challenge with capability, thereby reducing disengagement associated with repeated failure or boredom. Partner networks, including peer leaders, peer teaching, and family co-participation, were described as the relational infrastructure that made tasks shared rather than solitary. Nicholas recounted how student-leadership arrangements expanded participation and sustained return:

" *Now we have student-run clubs during lunch… The older kids teach the younger ones… When students feel they're part of something that peers value, they keep coming back…*"

Emma, the parent representative, underscored that how adults partnered mattered as much as whether they partnered, distinguishing supportive co-participation from supervisory checking:

" *Some parents treat fitness tasks as homework to be checked… That creates stress, not support. But when parents join weekend hiking groups… the child sees it as time together, not as inspection.*"

At the same time, participants noted a conditional risk consistent with the broader compliance dilemma. When partnering shifted toward stringent oversight and verification, it could convert participation into stress-laden, compliance-oriented enactment rather than autonomous routine formation. In sum, stabilisation was described as a governance achievement insofar as protected time made repetition possible, progression kept tasks developmentally viable, and partners supplied encouragement without intensifying surveillance.

Compliance dilemma and conditions for durable change

Across categories, participants identified a cross-cutting tension that refined the mechanism model. Multi-actor coordination could tip into collusive pressure when delegated responsibilities became mutually reinforcing supervision concentrated on the student. In these accounts, the same infrastructures designed to make participation doable (task specification, monitoring, home-school coordination) could also render it compulsory, surveilled, and psychologically external. Charles, a physical education teacher, captured this instrumentalisation through metaphor:

For Xiaolin, skipping rope is just another box to check on the daily schedule, no different from reciting a Tang poem.

Robert described how reciprocal demands between schools and families could accumulate into an experience of omnipresent scrutiny:

Parents ask us to manage more, we ask parents to supervise more, and in the end, the child feels like the whole world is watching him run alone.

These accounts suggest that governance alignment and resource mobilisation did not automatically translate into student commitment. Translation remained contingent on how students experienced the task system, whether tasks communicated competence and meaning or signalled surveillance and obligation. Frank's classroom evidence illustrated how intensive monitoring could induce performative compliance rather than sustained engagement:

"*I asked my students to write a fitness log. One of my students wrote: My mom checks my pulse after I run… If my heart rate isn't high enough, she makes me go again… I started running in place in my room, so she'd hear footsteps, then sit down.' The parents think they're being supportive; the kid learns to perform compliance. The activity becomes something you do to satisfy adults, not something you do for yourself.*"

When students primarily interpreted physical activity through instrumental, compliance-oriented task frames, additional inputs from schools, families, or communities appeared to yield diminishing returns unless they changed the quality of engagement (autonomy, competence, meaning). Protected and non-intrusive time and space functioned as an enabling condition: they allowed partner networks to form organically and helped shift tasks from externally enforced compliance toward internalised routine.

Discussion

This study explains how a municipal adolescent fitness initiative becomes actionable, developing a practitioner-informed grounded process model linking governance instruments to routine formation across school, home, and community settings. The central finding is that task-based cognition operates as the translational hub converting targets, inspections, reporting routines, and responsibility agreements into specific, checkable, repeatable tasks that can be scheduled, supported, and monitored in school life. Actionability unfolds through translation, contextual activation, and temporal stabilisation. The model specifies a consequential tension: coordination strengthens engagement when building competence and meaning but undermines durability when dense monitoring is experienced as surveillance, eliciting performative compliance rather than routinised participation [10, 34]. This contribution moves beyond cataloguing barriers to provide a mechanism-based explanation of when governance designs support durable activity and when they risk compliance without lasting change [4, 10].

The findings support a process model in which governance instruments shape school and community conditions, yet effects on student participation are mediated by task-based cognition [34]. Responsibility instruments and programme resources become behaviourally consequential insofar as converted into daily, checkable tasks [35–36]. Shared spaces and culturally resonant or digital cues activate tasks by increasing salience and feasibility across settings [37]. Protected time, staged progression, and partner networks stabilise repetition into routine [38–39]. The model specifies reinforcing and countervailing dynamics: early visible progress strengthens perceived competence and legitimacy, supporting continued uptake [39], whereas dense supervision reconfigures coordination into collusive pressure, undermining autonomy and producing symbolic compliance [40]. The model extends social-ecological accounts by specifying translation mechanisms through which cross-level inputs become actionable within everyday practice, not only what influences behaviour across levels, but how governance is converted into doable routines.

The analysis refines task-based cognition as a governance-mediated interpretive frame. Although aligning with action-planning scholarship in highlighting specificity and cueing [41], it differs in two respects. Task-based cognition emerged as collective accomplishment co-produced by administrators, schools, families, and students through measurement infrastructures, exercise prescriptions, and event systems rather than individual self-regulatory technique. It is normatively charged because tasks are tied to accountability and evaluation; the same infrastructures operate either as capability-building supports (enhancing competence, belonging, legitimacy) or as surveillance technologies eliciting resistance and performative compliance [42–43]. This duality is consequential for governance accounts: task infrastructures may expand agency or constrain it depending on how monitoring and meaning are configured [37, 42]. Practically, durable engagement is more likely when task systems are staged and competence-building while preserving autonomy and meaning [38, 43], when accountability couples with accessible participation opportunities rather than paperwork [40], when contexts provide low-friction triggers (shared spaces, culturally meaningful programmes and digital tools support coordination rather than ranking, and when protected time and space enable repetition and partner networks without coercive oversight.

Limitations

Several limitations qualify interpretation. Absent student interviews or direct observation, inferences about students' meaning-making derive from practitioner accounts rather than first-person evidence. The single-city case limits transfer to contexts with different administrative capacity, facility access, digital infrastructure, and cultural repertoires. Participants' leadership roles may shape accounts through social desirability or institutional narrative alignment, notwithstanding deviant-case analysis and triangulation. Administrative indicators provide policy context and perceived performance pressure but do not permit causal claims. Future research should foreground student-centred qualitative designs (interviews, diaries, participatory methods) to capture micro-level affect, autonomy, and perceived surveillance; conduct comparative case studies including resource-constrained and rural settings to test boundary conditions; and use mixed-method process evaluations tracking perceived task autonomy, legitimacy, surveillance, and social partnering alongside participation and fitness outcomes over time.

Conclusion

This study developed a practitioner-informed grounded process model to explain how a municipal adolescent fitness initiative becomes actionable in everyday implementation. In Haitong, governance instruments and resources did not translate directly into student behaviour, their influence operated through task-based cognition, which rendered policy goals into daily, checkable tasks, and through contextual activation and temporal stabilisation, which made these tasks salient, feasible, and repeatable until they became routine. The model also identifies a defining tension. Coordination can protect time and mobilise support, yet it can also become collusive pressure when monitoring intensifies into surveillance and erodes autonomy and meaning, producing symbolic compliance rather than durable engagement. By positioning task-based cognition as a translational hub within a translation-activation-stabilisation cycle, the study offers a mechanism-oriented refinement of social-ecological accounts and practical guidance for designing governance that builds capability and participation without amplifying coercive compliance.

Declarations

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Authors' contributions

Cai Zhaojian: Responsible for the collection and analysis of research data and the full text writing of the paper; **Siu Ming Choi:** Responsible for the conception and expression modification of the thesis outline; **Wang Guozhi:** Responsible for theoretical support and writing guidance of the research.; **Shaocong Zhao:** Conceptualization and supervision of study and development and editing of manuscript. All authors have read and approved the manuscript.

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics approval and consent to participate

This study was approved by the Research Committee of the University of Macau (SSHRE23-APP03-FED). All protocols are carried out in accordance with relevant guidelines and regulations. In accordance with the Declaration of Helsinki, participants and/or their parents/guardians provided informed consent, were informed that they were free to withdraw from the study at any time and confirmed their consent for their data to be used in the study.

Consent for publication

Non applicable.

Competing interests

The author declares no competing interests.

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Figures

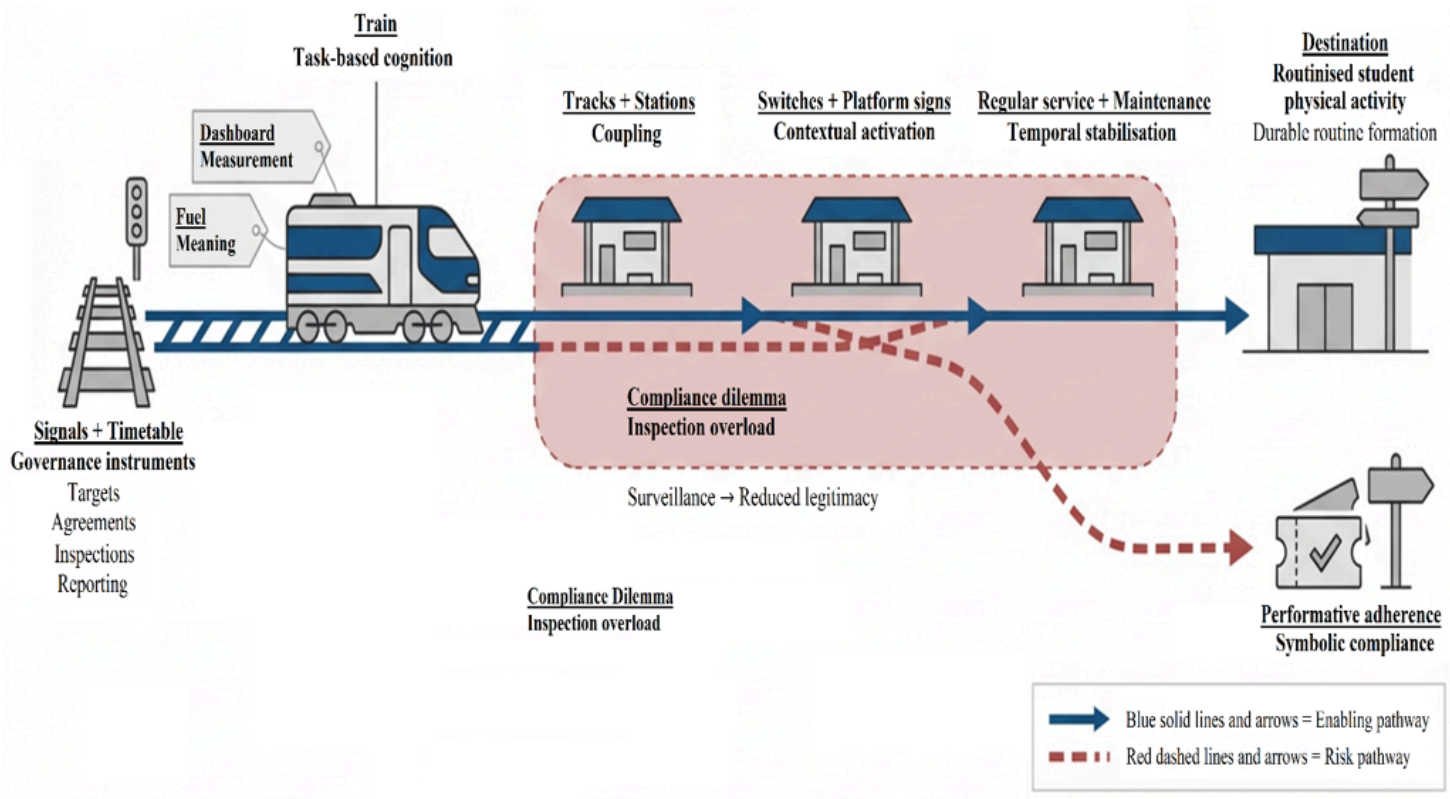


Figure 1

Railway metaphor for the practitioner-informed process model of actionability.

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