Parameters of instructional quality in geography: Perspectives of key stakeholders

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ABSTRACT This study examines how key stakeholders in Czech geography education – university educators, in-service teachers, and student teachers – think about the quality of geography instruction at the lower-secondary level (ISCED 2). The research is guided by three questions: (1) How do the main stakeholders conceptualize the scope of instructional quality in geography? (2) Which generic and which subject-specific parameters do they emphasize? (3) In what ways do their perspectives differ or converge? A thematic analysis of semi-structured interviews shows that most participants associate instructional quality primarily with the teaching process rather than with pupils' outcomes, though some mentioned both. Across the three groups, the identified parameters are largely generic, such as clarity, motivation, and formative assessment. Subject-specific aspects – such as geographical thinking, map skills, or the use of geographical concepts – appear less frequently but are recognized by all groups. Major differences among the groups were not observed; rather, variations emerged within groups, reflecting individual professional experience and perspectives.

KEY WORDS qualitative research – instructional quality – quality perception – geography instruction – geography education – lower secondary education

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1. Introduction

Instructional quality is a widely used and frequently referenced term in both expert discourse and public debate. It features prominently in national education policy documents, school curricula, and professional discussions among educators, as well as in broader societal conversations about schooling and learning. This widespread usage may create the impression that the concept is clearly defined, firmly established, and widely operationalised. However, despite being examined since the 1960s – beginning with the pioneering contribution of Carroll (1963) – there is no broadly shared understanding or consensus regarding what instructional quality actually entails (Heinitz, Nehring 2023; Janík 2012).

Given the sustained public and professional interest in improving education, there is a strong need to define instructional quality through well-structured parameters that can be evidenced, critically evaluated, and practically applied to enhance teaching and learning processes. These criteria should reflect both general aspects of pedagogy and those specific to individual school subjects. Meta-analytical evidence indicates that domain-specific criteria exert a particularly strong influence on student learning outcomes, highlighting the importance of subject-specific perspectives in evaluating instructional quality (Seidel, Shavelson 2007).

At the same time, perceptions of instructional quality are deeply shaped by personal experience, professional roles, and educational context, which makes the concept highly subjective and sensitive to perspective (Slavík et al. 2017). Different criteria of quality may therefore lead to different evaluative judgements (Scholten et al. 2024).

Despite growing interest in instructional quality research, geography as a school subject has received relatively little attention in this regard. While the general pedagogical literature offers numerous frameworks of instructional quality, geography still lacks clearly defined subject-specific quality parameters that would reflect both the nature of geographical thinking and the subject's didactic challenges. As Rempfler (2018) points out, the quality of geography instruction cannot be fully understood without identifying discipline-specific characteristics. Similarly, Scholten et al. (2024) argue that general frameworks of instructional quality often fail to capture the specificities of geography education, and therefore call for subject-specific conceptualisations.

This study aims to explore how key stakeholders in geography education – namely university educators, practising geography teachers, and student teachers – think about the concept of instructional quality in geography at the lower-secondary level (ISCED 2) in Czechia, where no set "standards" for the quality of geography teaching exist. It is assumed that this qualitative research will reveal gaps for further empirical research.

2. Key concepts: clarification and current state of knowledge

2.1. Instructional quality

Quality in education is often understood in three ways: as a normative ideal (i.e. what constitutes "high quality"), as a comparative judgement between different levels of the same phenomenon (e.g. lower vs. higher quality), or as a description of characteristic features of specific educational practices (Starý, Chvál 2009; Žák 2018).

Efforts to define high-quality instruction are closely linked to the broader concept of educational effectiveness. One of the earliest scientific contributions in this area was the model proposed by Carroll (1963), which examined the relationship between allocated learning time and a pupil's ability to acquire specific knowledge. Later research explored the link between teaching quality and student outcomes (Brophy, Good 1986), offering early indicators of what constitutes instructional quality. However, this approach tended to reduce quality to performance and output measures, thus aligning it closely with productivity and effectiveness. More recent work (Burušić, Babarović, Velić 2016) states that educational effectiveness primarily refers to the capacity of an education system or its components to achieve predefined goals and outcomes. It therefore involves meeting measurable standards and performance targets.

In contrast, instructional quality includes a broader set of attributes and conditions that contribute to meaningful teaching and learning. These include cognitive activation, classroom management, and learner support. Since the 1990s, the concept has expanded to incorporate "soft" elements such as classroom climate, respect, moral values, and emotional well-being (Oser, Dick, Patry 1992; Steffens, Bargel 1993). This evolution reflects a growing interest in how students experience instruction, not just what they learn. Instruction cannot be reduced to a mere transmission process but represents a social practice co-constructed by teachers and students around subject content, which underlines its dynamic, multidimensional, and context-sensitive nature (Christ et al. 2022).

Research highlights the importance of integrating affective, ethical, and relational aspects of instruction alongside cognitive outcomes (Blömeke, Olsen, Suhl 2016; Janík 2012; Praetorius 2014). As Janík (2012, p. 250) notes: "If there are pleasant ways to achieve good educational results (for pupils), let the term quality cover them."

Although some authors (Scholten et al. 2024) distinguish between instructional quality and teaching quality, these terms are often used interchangeably in educational research. In this study, they are considered synonymous, as both refer to the quality of the teaching and learning processes taking place in the classroom. For the purposes of this paper, instructional quality encompasses both

"good" teaching – aligned with ethical and professional standards – and "effective" teaching, focused on achieving measurable learning goals (Berliner 2005).

2.2. Instructional quality-generic and subject-specific approaches

Instructional quality has been conceptualised in various ways and described under different terminologies. Generally, two main approaches can be distinguished: a generic approach and a subject-specific approach (Rehm, Wilhelm, Reinhardt 2018). The generic approach seeks universal characteristics of high-quality teaching that can be applied across different school subjects. This has led to the development of diverse frameworks describing common areas, dimensions, components, criteria, and models of instructional quality (Hattie 2012; Helmke 2012; Klieme, Schümer, Knoll 2001; Kunter, Trautwein 2013; Lipowsky et al. 2009; Mayer 2004; Nilsen, Gustafsson 2016; Oser, Baeriswyl 2001).

The mentioned researchers have used varied terminology to describe similar constructs. For the purposes of clarity in this study, we consolidate these diverse terms under the unified concept of quality parameters. These parameters can typically be categorised into two groups: observable features, directly visible in classroom practice, and deep structures, which influence teaching quality indirectly and must be inferred through other indicators (Kunter, Trautwein 2013; Oser, Baeriswyl 2001).

In recent decades, generic frameworks have often served as the starting point for examining instructional quality within specific school subjects. One influential framework frequently adopted in this regard is the three-dimensional model, defining instructional quality via classroom management, cognitive activation, and supportive learning climate (Helmke 2012; Klieme, Schümer, Knoll 2001; Lipowsky et al. 2009). While these dimensions were initially considered universal, subject didactics researchers gradually recognised their limitations. Generic parameters alone could not sufficiently capture the complexity of instructional quality across diverse school subjects, each characterised by distinct epistemologies, methodologies, and educational aims.

Consequently, subject-specific didactics have developed tailored parameters of instructional quality to reflect unique disciplinary content and practices. For instance, mathematics education emphasises problem-solving processes and conceptual understanding, while science education focuses on inquiry-based methods and experimental reasoning; similarly, language education underlines communicative competence and cultural awareness (Blömeke et al. 2006; Decristan et al. 2016; Dorfner et al. 2019; Elsner, Gießler 2011; Hempel 2011; Herrmann et al. 2015; Wiprächtiger-Geppert, Stahns, Riegler 2021; Žák 2008; Žák, Martínková 2017).

2.3. Instructional quality of geography

While the quality of geography teaching is undoubtedly monitored, discussed, and even rewarded in practice – such as through the Geographical Association's Quality Mark in the UK (Cannell 2017) – research studies rarely define what instructional quality means in the context of geography as a distinct subject. Most existing contributions either apply generic models to geography instruction or examine isolated features of teaching and learning without developing a geography-specific conceptual framework.

An early example is the dissertation by Weinert (2005), analysing the quality of geography teaching in German upper-secondary schools using selected general indicators of effective instruction. Through teacher surveys and classroom observations, she highlighted a gap between instructional goals and actual practice, but did not develop subject-specific criteria.

A more curriculum-based approach was undertaken by the Swiss team led by Golay, Rempfler and Vettiger (2007), who introduced the Basic Modules of Geography (Basismodule Geographie) to support high-quality geography teaching at the lower-secondary level. While the associated empirical study (Golay, Rempfler, Vettiger 2012) identified three geography-specific quality dimensions – systems thinking, spatial orientation, and geographic working methods – these remained embedded within the curriculum model and were not further elaborated into a widely adopted framework.

A study by Kocalar and Demirkaya (2017) attempted to capture geography teachers' perceptions of effective instruction through semi-structured interviews. However, their conceptual framing of instructional quality is vague and inconsistent, lacking theoretical grounding or methodological clarity. The study does not offer any operationalised criteria or subject-specific insights and remains an example of how instructional quality can be discussed without being meaningfully defined.

One of the most comprehensive contributions is the work of Rempfler (2018), who conducted a structured expert inquiry among geography education specialists and secondary school teachers from German-speaking countries. Although the findings illustrate shared beliefs about effective geography teaching, the study did not result in a systematic set of quality parameters.

The most recent studies (Bienert, Mehren, Scholten 2024; Scholten et al. 2024) apply generic instructional models – primarily adaptations of the three-dimensional framework – to geography education. All three explicitly highlight the lack of research on geography-specific instructional quality and the need to define subject-specific criteria.

3. Theoretical premises

The specific aim of this research, our conceptualisation of instructional quality, the research design, and the interpretation of results were informed by several theoretical assumptions.

Drawing on the theory of the social construction of reality (Berger, Luckmann 1991), we consider each model of instructional quality to represent a distinct interpretative construct. It reflects what high-quality teaching means to a particular group of educational experts, shaped by their disciplinary knowledge, experience, pedagogical priorities, and value frameworks. The practical viability of such a model depends on the extent to which it is accepted by key actors in geography education – in other words, on how closely it aligns with their personal conceptions of what constitutes high-quality geography instruction. These conceptions may evolve over time, influenced by new experiences, emerging knowledge, and ongoing interactions among stakeholders in education (Janík 2012). This perspective is supported by the understanding of quality as a multidimensional and context-dependent concept (Harvey, Green 2000).

We further assume that instructional quality is primarily shaped and interpreted by those directly involved in the teaching of pupils and teacher education. This view is informed by the principle of accumulated professional knowledge – conceptualised by Janík (2012) as the "accumulated wisdom of school practice" – and exemplified, for instance, by earlier research on instructional quality in physics education (Žák 2008). Accordingly, the research sample included three stakeholder groups – academics, in-service teachers, and pre-service teachers – whose perspectives provide both theoretical and practice-based insights into the nature of instructional quality. This focus also corresponds with recent conclusions by Scholten et al. (2024), who emphasise that instructional quality frameworks in geography are particularly relevant for teacher educators, in-service teachers, and pre-service teachers – groups that are central to both research and professional development in the field.

Our research design and interpretation of findings also draws on an analytical approach to educational quality as proposed by Terhart (2000). Rather than aiming to establish universal quality standards or to measure learning outcomes, this approach focuses on exploring the meanings attributed to instructional quality by different actors and on identifying potential tensions and discrepancies in their perspectives. This analytical perspective stands in contrast to the normative (e.g. Golay, Rempfler, Vettiger 2007) and empirical (e.g. Bienert, Scholten, Mehren 2024) approaches found in earlier research, and supports the reconstruction of subject-specific quality parameters for geography instruction.

4. Research aim and questions

The main aim of this study is to gain a deeper understanding of how key actors in geography education – namely lower-secondary (ISCED 2) geography teachers, experts in geography education, and student teachers of geography – think about the quality of instruction in their subject.

This general aim is addressed through the following three research questions:

1. How do the main stakeholders in geography education conceptualise the scope of the concept of instructional quality in geography at the outset?
2. Which generic and which subject-specific parameters of instructional quality in geography do the main stakeholders emphasise?
3. In what ways do the perspectives on instructional quality differ or converge among the main stakeholders in geography education?

5. Research methods

Given the epistemological nature of teaching quality (see theoretical premises) and the main objective of the study, a qualitative research design based on semi-structured interviews was adopted in order to capture the subjective and contextually embedded perspectives of participants.

This design aligns with the general principles of qualitative inquiry, which aims to understand how participants construct meaning and interpret their experiences in relation to the phenomenon being studied (Creswell, Poth 2018; Švaříček et al. 2007).

5.1. Research sample

The research sample reflected the structure of the key stakeholder groups in geography education and was divided into three groups based on professional roles and core characteristics. The number of participants was aligned with previous studies of a similar type (e.g. Kocalar, Demirkaya 2017; Rempfler 2018; Žák 2008) and adjusted to reflect the availability and relevance of respondents, as well as the emerging effect of thematic saturation. Data collection was stopped once new interviews no longer provided additional conceptual patterns, which indicated that thematic saturation had been reached (Creswell, Poth 2018). In total, three teachers did not respond to the invitation and two individuals (one academic and one student teacher) explicitly declined to participate.

The first group, referred to as ACADEMICS, consisted of five university educators (four men and one woman) involved in the preparation of future geography

teachers. This group was the smallest, reflecting the limited number of university educators who actively specialise in geography education didactics in Czechia. Participants were selected based on their expertise in teacher education and their direct involvement in the development of national curricular documents and geography textbooks. The academics were affiliated with two leading universities. For reasons of anonymity, the universities are not named. All participants had long-term experience with geography teacher education, and some had prior experience teaching geography at the lower secondary level.

The second group, referred to as TEACHERS, comprised in-service geography teachers working at lower secondary schools. The group included six teachers (three men and three women) employed in Prague, the Central Bohemian Region, and the South Moravian Region. Their teaching experience ranged from one to thirty-seven years. The group included both qualified and non-qualified teachers of geography, and represented diverse approaches to teaching. Several participants held formal leadership positions at their schools, such as subject coordinators or deputy headteachers. In addition, some served as mentors for pre-service teacher trainees.

The third group, referred to as STUDENTS, consisted of pre-service teachers enrolled in geography teacher education programmes. The group included eight students (four women and four men). All participants had prior experience with teaching practice at lower secondary schools. Seven participants were enrolled in Master's programmes in geography teacher education, while one was participating in a supplementary teacher training programme.

5.2. Design and structure of the semi-structured interview

The interview questions were designed to address the study's research questions. In several cases, the wording was deliberately aligned with questions used in the study by Rempfler (2018), in order to enable a comparison with previous research conducted in the German-speaking context.

The interview schedule was divided into three sections, following a stepwise structure that allowed for a gradual deepening of the respondent's thinking: from general conceptualisations, through the formulation of concrete criteria, to evaluative aspects.

The first section focused on the initial definitions of instructional quality in geography. Respondents were asked: "Could you describe what you imagine under the term 'quality of geography instruction' at the lower-secondary level (ISCED 2)?"

Between the first and second sections, respondents were provided with an explicit clarification of key terms through brief definitions and examples. This phase was designed in line with Terhart's (2000) analytical approach, which

intentionally allows for individual conceptualisations of instructional quality in the initial phase, including possible terminological variation. The clarification was intended to support the internal validity, dependability, and comparability of responses in the subsequent parts of the interview.

The second section explored proposed criteria for assessing the quality of geography instruction, with emphasis on subject-specific features and possible examples of high-quality teaching. Respondents were asked: "Which criteria would you propose for assessing the quality of geography instruction?" This was complemented by prompts such as: "How can high-quality instruction be recognised?" and "What is evidence of high-quality geography instruction?" To capture the subject-specific dimension, respondents were further asked: "Geography has a distinctive position among school subjects. In your view, what is specific about its role and mission?" and "In what ways should the quality of geography instruction differ from that of other school subjects?" A further probe followed: "Which of the criteria (or pieces of evidence) you proposed are specific or typical for geography?"

The third section focused on evaluative aspects of instructional quality in geography. Respondents were asked stepwise questions about predefined dimensions, including teacher activity, pupil activity, material conditions, organisational factors (e.g. time allocation), and perceived obstacles to achieving high-quality geography instruction. In addition, questions also addressed the role of the national curriculum, including how revisions or a potential reduction of geography instruction might affect its quality. Due to the limited scope of this article, responses from this section are not analysed further.

5.3. Data collection

The interviews were conducted either online (via Google Meet) or in person (in two cases). All interviews were conducted in spoken Czech, recorded, and subsequently transcribed. The average duration of the interviews was approximately thirty minutes, with the longest interview lasting fifty minutes. All participants were informed in advance about the purpose of the research, the recording of the interview, and the anonymised use of their responses. They provided informed consent prior to participation. The option to review and authorise the interview transcripts was offered but not requested by any participant. Given the scope and non-invasive nature of the research, formal ethical approval was not required.

5.4. Data analysis methods

The data obtained from the semi-structured interviews were analysed exclusively through thematic analysis as described by Braun and Clarke (2006), with a systematic organisation of responses according to the relevant research questions.

Research questions RQ1 and RQ2 were addressed using the same procedure. Through open coding of individual responses, specific parameters of instructional quality were identified and subsequently organised into broader thematic categories in line with the focus of each research question (RQ1: process vs. product, measurability/observability vs. deeper structure; RQ2: generic vs. subject-specific parameters). These categories and subcategories were developed inductively from the dataset by grouping semantically related parameters, while ensuring that their meaning and contextual relevance were preserved. Although some of them may resemble formal categories, they were not predetermined but emerged from the data.

In addressing RQ2, geography-specific parameters were defined as those explicitly referring to the content, aims, or methods of geography instruction – such as map work, the development of geographical thinking, and geography-specific skills (Reinhardt, Rehm, Wilhelm, 2018). In contrast, parameters such as motivation, classroom management, and formative assessment were categorised as generic.

The third research question (RQ3) was addressed through an analysis that compared thematic similarities and differences among the three stakeholder groups across the interview questions. This approach enabled the identification of both shared perspectives and specific viewpoints of the participant groups (Miles, Huberman, Saldaña 2014). The comparison was not based on frequency counts but on qualitative contrasts: whether a theme appeared across groups, how it was expressed, and in which contexts.

All participants were anonymised using codes indicating their group and the order of the interview (e.g., T2 = second teacher).

To reduce subjectivity of interpretation, the coding was conducted in three phases: first, two authors carrying out the analysis jointly coded the first three interviews in order to calibrate their approach and ensure alignment in the coding procedure; second, they coded the subsequent interviews independently; and third, the coding results were compared and,mostly minor, differences discussed. This procedure ensured the reliability of the coding process.

6. Results

6.1. Perceived scope of instructional quality

At the start of the interview, respondents were invited to describe what they associate with the term "quality of geography instruction" at the lower-secondary level. No definition was given, in order to capture their initial conceptualisations.

The thematic analysis of responses to the first interview question focused on the breadth of respondents' conceptualisations of instructional quality – that is, whether they emphasised the instructional process, learning outcomes, or a combination of both. Most of the identified parameters referred to the instructional process. These varied in their orientation, character, and degree of generality. Based on their semantic proximity, they were grouped into five broader didactic-pedagogical categories: teacher, pupil, teacher–pupil relationship, content and mode of instruction, and contextual conditions of teaching. The categories "teacher", and "content and mode of instruction" were further divided into eight subcategories.

The most frequently mentioned parameters were associated with the "teacher" category, referring to personality traits, professionalism, classroom conduct, or instructional strategies. For example, respondent A3 stated that quality is reflected in the way the teacher teaches and acts. Some respondents articulated their views more specifically by linking quality to their own educational philosophy. Respondent T1, for instance, described their teaching in Year Nine as a space for shaping pupils' attitudes and opinions about real-world issues, drawing on their personal experiences. They added that they see instruction as a space for interdisciplinary connections and the development of cross-curricular competencies.

Another frequently mentioned category was "pupil", especially in relation to pupil engagement and activity during lessons. For example, T4 stated that instruction is high-quality when pupils are actively involved, think critically, and participate in classroom activities.

The "content and mode of instruction" category was also prominent in the analysis, particularly due to its four subcategories. Most often mentioned were "teaching methods and forms" (e.g., S1: whether the instruction took place in a standard classroom, computer lab, or outdoors) and "general characteristics of geography instruction." The latter comprised decontextualised statements describing instruction using adjectives such as effective, useful, interesting, age-appropriate, or moderately demanding. The remaining two subcategories – namely the method of assessment during instruction and the content focus of teaching – were represented by only one or two individual quality parameters, respectively.

Approximately half of the respondents also commented on learning outcomes, with some of them also referring to process-related quality parameters. These statements can be divided into two groups: (1) intended learning outcomes, and

(2) achieved learning outcomes. Intended outcomes were often introduced with conditional phrases. For example, T3 stated that instructional quality is reflected in "the geographical knowledge and skills that pupils should acquire", while A1 emphasised useful knowledge and skills. Some respondents referred to planned educational objectives, which varied in focus (often targeting cognitive development) and specificity. For instance, A5 mentioned objectives defined by professional organisations such as the International Geographical Union (IGU).

Achieved learning outcomes were described with varying degrees of detail. T2 indicated that quality is reflected in the achievement of expected outcomes outlined in curricular documents, while A2 referred to the effective fulfilment of relevant and cognitively demanding objectives. A4 presented a more specific view: quality instruction enables pupils to think critically about the world and make informed decisions in everyday situations. Similarly, T5 suggested that high-quality geography instruction results in pupils who understand the contemporary world in its complexity, can locate essential information, evaluate its quality, and interpret it correctly.

All academics stressed that the quality of the instructional process and the quality of learning outcomes are interconnected. This was not always the case among teachers and student teachers, some of whom focused solely on one dimension.

As part of the analysis of the first research question, it also became evident that measurable indicators of instructional quality were mentioned only occasionally. Such references occurred mainly in relation to contextual or institutional conditions (e.g., teaching hours, school profile, classroom equipment), as illustrated by S1. The limited presence of measurable indicators is likely linked to the breadth of how respondents conceptualised instructional quality, with many answers remaining at a high level of generality. In the few instances where specific examples were given (e.g., two cognitive skills), it remained unclear whether these could be regarded as relevant measurable indicators.

6.2. Generic and geography-specific parameters of instructional quality in geography

The second part of the interview focused on criteria for assessing the quality of geography instruction. These data serve as the primary basis for answering RQ2: Which generic and which subject-specific parameters of instructional quality in geography do the main stakeholders emphasise? The responses were categorised thematically and classified into generic and subject-specific criteria based on a predefined classification principle. The distinguishing criterion was whether the parameter was embedded in a geographical context (see Table 1). In the following section, the findings are presented according to the main didactic-pedagogical categories identified in the analysis.

Table 1 – Generic and geography-specific criteria for instructional quality mentioned by respondents

Category		Generic criteria	Geography-specific criteria
Main category	Subcategory		
Teacher	Personality and professional competence	T2, T5 S6, S7	A3 T3
	Teaching activities and approaches	A1, A2, A3 T4, T5, S1, S2, S4, S8	A1, A4 T2, T3 S6
Pupil	Pupil activities during instruction	A2, T1, T4, T5, S2	A1, A2, T3, T4, S2, S3, S5, S8
	Pupil outcomes	A1, A2, A3, A4, A5 T1, T5, S4, S7, S8	A1, A2, A5 T1, T3, T5 S3, S4, S8
Classroom climate and relationships		A2 T2, T3 S2, S7	
Instructional content and methods	Characteristics of instruction	A1, T4, S4	
	Content focus	A5, S2, S5	A3, A5 T3 S4
	Teaching methods and forms	A2, A3	A1, T3, T4, S1, S4, S6, S7
Instructional materials and resources		A2, T1, S7	A3
Contextual (external) conditions	Curricular documents	T2, T2	A5
	Assessment methods	A5, S5	
	School profile and conditions	T3	S1

Source: Authors

6.2.1. Teacher

The category Teacher was one of the most frequently represented. It is divided into two subcategories. The first contains statements referring to personal or professional characteristics of the teacher. Generic parameters mentioned by respondents include either broad descriptors (T5: expertise, individuality; T2: pedagogical and didactic competence) or specific professional skills such as the ability to make content accessible to pupils, respond appropriately to crises, use feedback, and build rapport with pupils (S6, S7).

The teacher's personality is also assessed through the lens of geography. A high-quality teacher is described as "enthusiastic about geography, capable of geographical thinking, and understanding the nature of the subject" (T3). This

indicates a strong professional identity in which the teacher acts as a geographer. Such identification is seen as essential, as it influences the interpretation of topics and the overall epistemological framing of instruction (A3).

The second subcategory, Teacher activities and approaches in instruction, is closely linked to the teacher's personality. It includes statements describing actions or approaches taken before or during lessons. Many of these parameters are applicable to any school subject. Some concern lesson planning ("the teacher thinks about how to engage pupils" – T4; "there is structure in the teaching" – A1), others are observable during instruction ("the teacher speaks engagingly, varies methods" – A3; "asks questions of varying complexity and answers correctly" – S8; "engages in open dialogue with pupils" – S4; "uses formative assessment" – T5; "supports pupil self-assessment" – S2). For T5, it is also important that "the teacher enjoys teaching".

Geography-specific parameters in this subcategory can be grouped into three types. The first refers to principles of geographical thinking. According to A4, the teacher "guides pupils to identify interrelations behind social and natural processes and their changes, to consider possible futures". The second connects content-specific features of geography with instructional methods (T3: "uses suitable methods to help pupils perceive society and nature together"). The third includes teacher skills related to the use of maps, GIS, new technologies, and fieldwork (A1, T2, S6).

6.2.2. Pupil

The most densely populated category in terms of specific quality parameters was Pupil, particularly the subcategory Pupil outcomes and products, which appeared in all respondent groups. Identified generic parameters differed across three aspects. First, by the type of outcome: some respondents referred only to knowledge – extent or depth of understanding (A1, A4, T5, S4), others to skills (T5 – how pupils respond to questions). One student teacher stressed a broader view: "pupils take away skills or attitudes, not just knowledge" (S4). Second, the parameters varied in measurability – some represented measurable outcomes (A5: "can solve a problem task"; A1: "knows key terms"), others were less tangible (S7: "pupils are satisfied and learn something"). Third, they differed in their reference frame. Some assessed pupil performance in relation to the curriculum (A2: "performance criteria tied to curriculum"), others used personal teaching conceptions (T3: "I know it when they remember what we discussed"), or the benchmark was unclear (T1: "has general knowledge about places and events").

Geography-specific pupil outcomes took the form of desired or achieved cognitive skills. Respondents mentioned broad concepts like spatial orientation (T1) or geographical thinking (T3), and specific skills aligned with geographical

thinking, such as applying general principles to regions (A1) or understanding causal interconnections (A5). Mentioned were also skills in using and creating maps (T5) and working with web-based information tools (S3). Summarising indicators include "a geographically literate pupil" (A2) or measurable outcomes such as "participation in the Geography Olympiad" (S4).

The subcategory Pupil activity in lessons includes parameters representing pupils' in-lesson engagement. Generic parameters were most often cited by teachers, e.g. "pupils are actively working on something" (T4), "they show interest and enthusiasm" (T1, T5).

Geography-specific activity parameters included the use of maps and other sources of information (A1, A2, T3, S5, S8) and the development of geographical thinking. These were expressed broadly ("pupils are advancing in geographical thinking" – T4; "developing it through geographical concepts" – A2), or through specific principles ("seeing interconnections between phenomena" – S2, S3, S5; T3: "linking nature and society, viewing problems from multiple perspectives").

6.2.3. Classroom climate and relationships

Some categories included only generic parameters. One such is Classroom climate and relationships, where quality was linked to atmosphere and interaction (A2, T2, S2): "a good classroom climate" (T3), or "pupils smiling at the teacher, asking if they'll have them again" (S7).

6.2.4. Instructional content and methods

This category comprises three subcategories: Instructional qualities, Content focus, and Instructional methods and forms. All are depersonalised statements on quality.

The first includes generic adjectives describing any lesson (A1, T4, S4: useful, not boring, engaging, practical).

The second targets the content focus. Generic content parameters are often vague: "content we want to teach" (S5); "meaningful, life-oriented content" (A5); "content meeting objectives" (S2). Geography-specific parameters address coherence (A2: comprehensive geography); relevance to contemporary issues (S5: helps pupils understand spatial structures and processes); local relevance (T3: link to pupils' place of residence); or theme selection (S4: "more media education"; A5: topics not addressed in other subjects, e.g., inequalities, urban/rural development, crime).

The third subcategory includes generic parameters such as effectiveness of methods (A2), and block or project teaching (A3). Geography-specific ones include fieldwork (A1), "proportional inclusion of fieldwork" (S1), or its integration into

everyday teaching (T3, T4, S6, S7). There is a strong view that fieldwork is essential for quality geography education because it enables pupils to observe and analyse phenomena in authentic spatial contexts. Other methods include map and GIS use (S4).

6.2.5. Instructional materials and resources

This category has no internal subcategories. Generic parameters describe the required quality using adjectives (A2, T1, S7: high-quality, current, useful, diverse, accessible). Geography-specific parameters refer to maps, atlases, visuals, and digital tools as indicators of quality when they support geographical learning (A3).

6.2.6. Contextual (external) conditions

This category includes three subcategories, mostly covered by generic parameters. The first links quality to alignment with curriculum requirements (T2, S2). A5 regards national curricular frameworks and IGU recommendations as starting points for subject-specific quality.

Only three parameters concerned assessment. One mentioned skill-based test items and parent praise (A5), another feedback from colleagues (S5).

Finally, some respondents associated quality with School profile and conditions, such as curricular profile, interdisciplinary collaboration, or the existence of outdoor classrooms (T3). A geography-specific parameter is the number of geography lessons (S1).

6.3. Converging and diverging views among the main stakeholders

The third research question examined whether the perspectives of the stakeholder groups differed. A comparison of responses across the interview questions led to two main conclusions:

Firstly, no significant differences in opinions were found among the three examined stakeholder groups regarding the concept of instructional quality. We observed only certain nuances in their reasoning and communication styles. This is reflected, for example, in the responses of academics who, compared to other participants, all pointed out the complexity of the topic and expressed themselves more extensively, using more abstract language and concepts. All academics also perceived the concept of instructional quality in a more comprehensive manner, i.e. they linked the teaching process with pupils' learning outcomes. For some teachers and student teachers, their conceptualisation of instructional quality was clearly influenced by their professional experience. Specifically, some teachers defined

quality teaching in terms of how they themselves teach, effectively equating the concept with their personal teaching style. Some student teachers described quality instruction based on reflections of their own positive or negative experiences from previous studies at various types of schools, including universities.

Secondly, the meanings attributed by respondents to the concept of instructional quality differ across groups in several respects. First, some focus on the quality of the teaching process, while others emphasise the quality of pupils' outcomes (see RQ1). Second, there are evident differences in whether respondents mention generic or geography-specific parameters of quality (see RQ2). Third, respondents' statements vary in their level of generality and measurability. For instance, some used the term "geographical thinking", while others cited a specific skill considered part of this concept (e.g. "the pupil understands the causes and consequences of phenomena"). In the first case, the demand for developing geographical thinking does not, due to its generality, represent a measurable indicator of quality; in the second, the mentioned partial skill is measurable, but it remains questionable whether it alone captures the broader concept of geographical thinking.

7. Summary of results and their discussion

Based on the synthesis of the results of the three research questions, the following trends were identified.

7.1. Multidimensional perspective on instructional quality

The identified didactic-pedagogical categories and subcategories of quality parameters indicate a wide semantic range of the concept of instructional quality and simultaneously reflect various dimensions through which quality can be evaluated. This breadth is partly due to the fact that some respondents perceive instruction within a broader context, while others focus exclusively on the teaching process itself.

The main categories recorded, as well as most subcategories, are consistent across first two research questions (RQ1, RQ2). It should be noted that some quality parameters and their associated (sub)categories overlap or reoccur. This is mainly because some respondents attribute a particular parameter to the pupil (e.g. "the pupil uses maps"), others to the teacher (e.g. "the teacher uses maps in class"), or to depersonalised categories such as the lesson itself (e.g. "maps are used in the lesson").

The main categories identified (i.e. teacher-related aspects, pupil-related aspects, teacher–pupil relationships, content and instructional methods, and

contextual conditions) also correspond to components of didactic models based on Herbart's triangle (teacher, pupil, content) and to earlier empirical studies and models focused on the factors and dimensions of instructional quality (Reinhardt, Rehm, Wilhelm 2018).

In terms of the representation of individual didactic-pedagogical categories, it appears that respondents most frequently mentioned parameters related to the teacher and pupils, especially those linked to in-class activities and concrete learning outcomes. The emphasis by many respondents on the teacher's professionalism and specific in-class practices as a significant quality parameter corresponds with findings from research focused on factors influencing pupil achievement. According to Straková (2010), a meta-analysis showed that the most significant predictor of learning outcomes is the pupil's family background and capabilities, while the second most significant factor is the teacher.

7.2. Prevalence of generic over geography-specific parameters of instructional quality

Despite being explicitly instructed to focus on the quality of geography instruction, respondents' answers were dominated by general pedagogical parameters. Only just over one-third of all identified indicators related to the geography-specific context – either as references to geographical thinking, map use, or specific instructional goals and methods. This finding is consistent with the results of a secondary analysis by Bienert, Scholten and Mehren (2024), which showed that evaluations of geography instruction in German schools are dominated by generic criteria, while subject-specific features remain partially hidden or unnamed.

The same team (Scholten et al. 2024) proposes improving the assessment of geography instruction quality through a hybrid approach that combines traditional generic dimensions (e.g. clarity of instruction, cognitive activation, classroom management) with subject-specific indicators that better capture the essence of geographical education. These include activities that promote:

1. work with geographical concepts such as scale, space, interconnectivity, place, or region
2. development of geographical thinking, i.e. the ability to integrate natural and social processes and analyse problems from multiple perspectives
3. use of geographical tools, such as maps, GIS, spatial analysis, and working with data
4. development of geographical literacy, i.e. the ability to apply geographical knowledge and reasoning to real-world problems.

A complementary perspective is offered by the Swiss study by Golay, Rempfler and Vettiger (2012), which introduced the concept of "Basismodule Geographie" as an

attempt at explicit operationalisation of instructional quality in geography. This framework includes three geography-anchored dimensions, aimed at developing the following pupils' competences: systems thinking, spatial orientation, and geography-specific skills.

Our research confirms that a number of respondents mentioned these quality parameters—some explicitly, others more vaguely.

7.3. Nuances in reasoning and communication across stakeholder groups

The thematic analysis across interview questions did not reveal major differences in opinions among the main stakeholders (see RQ3). Rather, only certain nuances in reasoning and communication were identified. These are likely the result of differences in disciplinary knowledge, professional experience, and value priorities (Janík 2012). Variations in how respondents talked about instructional quality point not only to different styles of expression but also to the use of an inconsistent conceptual apparatus, which may constitute a barrier to professional communication. As Slavík et al. (2017) argue, what matters is not only an understanding of the concept of instructional quality but also the ability to communicate about it within the professional community.

These findings are in line with international research showing that evaluations of instructional quality are strongly perspective dependent. As summarised by Heinitz and Nehring (2023), students, teachers, and external observers tend to agree only on some criteria, and the applicability and interpretation of these criteria vary with the evaluator's standpoint.

7.4. Implications for further research

Some responses include suggestions for further research, as they reflect certain barriers that affect how quality instruction in geography is perceived and promoted. Three examples are worth highlighting.

First, the frequent use of the term "geographical thinking" stands out. The operationalisation of this concept into measurable steps provokes some debate among academics (see Bendl et al. 2024). It remains unclear whether users of this term among teachers and student teachers are able to operationalise it – and if so, how.

Second, some responses reflect uncertainty when specifying the educational potential of school geography. For example, respondent T2 considers the distinctiveness of geography compared to other subjects a criterion of quality, but adds that "geography, being at the interface of all subjects, uses knowledge that doesn't

entirely belong to it… yet it shouldn't be said to steal from other sciences – It can't function without them, but is a powerful tool in itself."

Third, the analysis revealed a notable convergence between some student teachers and academics, with certain responses showing an almost identical wording. Given the affiliation of these students, it is plausible that this overlap reflects the influence of their university teachers, suggesting that some student teachers already share the professional vision of their educators. This finding points to a potential research issue: the concept of a "shared vision of teaching", described by Kang and van Es (2019) as an important goal of pre-service teacher education.

8. Limitations

Although the research design and interview protocol were developed with a strong emphasis on reliability and conceptual clarity, several limitations must be acknowledged.

First, despite efforts to clarify key concepts during the interviews, some respondents encountered difficulties in distinguishing between closely related terms such as "quality" and "effectiveness" or "teaching" and "lesson". In one instance, significant semantic confusion led to the exclusion of a respondent whose answers could not be reliably interpreted.

Second, as this was a qualitative study based on a limited number of interviews, the findings are not intended to be generalised to the broader population of geography teachers in Czechia. However, thematic saturation was achieved: additional interviews were conducted beyond the initial target sample, and responses began to converge across respondent groups.

Finally, this study was conducted across three linguistic and educational contexts: the empirical research was carried out in Czech, a considerable part of the relevant literature is in German, and the article itself is written in English. This creates potential limitations, as terminology in geography education does not always translate seamlessly across languages and educational systems, and even within English there are notable differences in usage among the UK, Ireland, and the USA.

9. Conclusions

Almost all respondents considered the interview topic challenging, and it was evident that most had not previously formulated a clear concept of what quality geography instruction entails. Academics tended to perceive instructional quality as a system of interconnected parameters, while other respondents referred more

to isolated indicators. This finding represents a challenge not only for research, but also for professional discussions among academics, teachers, and student teachers regarding a reference framework for instructional quality, measurable geography-specific quality parameters, and effective means of achieving and assessing this quality. These discussions are needed not only to clarify conceptions of instructional quality, but also to provide arguments for defending quality geography instruction and the conditions that enable it – particularly when communicating with non-geographers.

Evaluating the quality of instruction will always rely on a combination of generic and subject-specific parameters. An open question remains: in what proportion? It is important that generic parameters do not dominate the evaluation and are not judged in isolation (e.g. "the teacher does or does not have organisational skills"), but are assessed in the context of the subject – for example, whether a teacher can organise effective instruction in the field.

Promoting a stronger emphasis on subject-specific quality parameters at the national level is not an easy task, as the selection of quality criteria is influenced by contextual conditions. In Czechia, for instance, geography instruction (as well as other subjects) is typically evaluated by school inspectors (the Czech School Inspectorate) using a methodology that emphasises generic criteria, primarily due to their transferability across subjects and comparability. For the geography education community in Czechia, the effort to ensure, and also to assess, the quality of geography instruction – both at the national level and within individual schools – represents a major challenge.

This contribution has helped to gain a deeper understanding of the meanings that the respondents ascribe to the concept of instructional quality.

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