

Implementing assessment protocols in compulsory school for students with intellectual disabilities: challenges and opportunities for teachers educating students with intellectual disabilities

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Abstract

Purpose – This study investigates the impact of integrating structured assessment protocols within the Japanese lesson study (JLS) framework in Swedish Compulsory School for Students with Intellectual Disabilities (CSSID). The purpose is to explore whether such integration can enhance teachers' professional certainty in assessing and supporting students with intellectual disability (ID), aligning educational practices with inclusive legislative mandates.

Design/methodology/approach – The study utilized structured assessment protocols during lesson study cycles, where teachers observed and discussed research lessons based on predefined learning objectives. Data were collected through questionnaires, assessment protocols and post-lesson discussions, then analyzed using narrative and descriptive statistical methods.

Findings – The integration of structured assessment protocols in lesson studies enhanced teachers' focus and clarity in assessing and supporting students with ID, improving their perceptions of student engagement, interest and understanding. However, challenges in adapting the protocols to varied teaching contexts and student needs limited the overall impact on professional certainty.

Practical implications – This study examines the adaptability of integrating lesson study with assessment protocols in special education settings. It demonstrates that structured assessment protocols used within the lesson study process provide a common focus on academic achievements for students with ID.

Originality/value – This study contributes to the field by demonstrating the potential of modifying traditional lesson study approaches to include structured assessment protocols, particularly in the context of

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I would like to extend my heartfelt thanks to Professor Emeritus Manabu Sato at The University of Tokyo, who generously shared his insights over the course of two weeks and allowed me to observe his work with Lesson Study at Schools of Learning Communities in Tokyo. After my visit, he kindly provided video recordings for further reflection. My gratitude also goes to Professor ASAI Sachiko and the doctoral students at the Graduate School of Education, Tokyo University, for their valuable assistance with translation from Japanese to English and Swedish. I would also like to thank the teachers at the school where I conducted my pilot project. Finally, I wish to express my deep appreciation to Professor Michael Arthur-Kelly at The University of Newcastle, Australia, for his invaluable feedback on a draft of this manuscript.



special education. It highlights the need for ongoing professional development and sustainable assessment strategies that support the diverse learning needs of students with ID.

Keywords Lesson study, Assessment protocols, Pilot study, Intellectual disabilities, Professional certainty, Inclusive education, Legislative mandates

Paper type Research paper

Introduction

Intellectual Disabilities (ID) are characterized by significant limitations in both intellectual functioning and adaptive behavior, affecting conceptual, social, and practical skills. These disabilities manifest before the age of 18 and require specialized educational approaches to support cognitive and developmental growth (American Psychiatric Association, 2022). In Sweden, students diagnosed with ID typically attend specialized educational settings rather than mainstream schools. This article explores the challenges and opportunities in assessing student knowledge within the Swedish Compulsory School for Students with ID (CSSID), with a focus on teachers' professional development. The discussion is framed by the Läsa, Skriva, Räkna [Learn, Write, Count] guarantee, which, as of July 1, 2024, includes students with ID. This guarantee mandates early identification of support needs, ensuring tailored interventions, aligning with Jönsson's (2008) emphasis on explicit criteria and well-defined assessment standards. Research by So *et al.* (2023) reveals that existing professional development models often fail to meet their objectives, primarily due to teachers' tendency to set low expectations for the academic advancement of students. Similarly, Swedish researchers Ineland and Silfver (2018) have identified significant challenges in grading and assessing students with ID, highlighting the need for structured strategies that promote fairness and inclusion. A key concept in addressing these challenges is "professional certainty" (Munthe *et al.*, 2001), which refers to the confidence teachers have in their professional knowledge and skills. This concept is closely related to self-efficacy (Bandura, 2012), or the belief in one's ability to influence outcomes in life and work. Research by Lauermann and König (2016) shows that these traits contribute to greater job satisfaction and lower burnout, while Munthe *et al.* (2001) emphasizes that professional certainty reflects a teacher's ability to make sound decisions even in uncertain situations, crucial for navigating the complexities of special education.

In the Klefbeck's (2022) research on professional development models for students with ID, the core elements of Lesson Study identified by Ono *et al.* (2013)—collaborative lesson design, observed execution, and reflective analysis—were used. However, the collaborative development did not persist post-intervention, suggesting some effectiveness may have been lost outside its original context. To ensure more sustainable outcomes, this study builds on the initial Lesson Study process. Seleznyov (2018) notes that critical aspects of Lesson Study are often overlooked in international adaptations, which may explain the inconsistent results.

Seleznyov's framework consists of seven pivotal components of JLS: (1) identification of a focus, where a shared research theme is established, prioritizing long-term student learning goals over current capabilities. This is followed by (2) a collaborative planning stage, which necessitates engaging in detailed lesson preparation that involves kyozaï kenkyū, or the study of materials relevant to the theme at hand. (3) The Research Lesson, conducted by a designated teacher under the silent observation of peers aimed at gathering evidence of learning. (4) The process continues with a post-lesson discussion aiming to refine a collective understanding. This phase leads to (5) repeated cycles of research where insights garnered from post-lesson discussions inform the planning and teaching of new lessons. To enhance this cycle, the inclusion of (6) outside expertise through the advice of a koshi or external expert is deemed essential. Lastly, (7) the knowledge mobilization component emphasizes the

facilitation of sharing and applying insights across teaching groups, broadening the impact of the learnings.

Aim and research questions

To bridge the gap between the (Swedish National Agency for Education's, 2022; Skolverket, 2024) guarantee for early support interventions for students with ID and the challenges teachers face in assessing and recognizing learning among these students (So *et al.*, 2023; Ineland and Silfver, 2018), it is necessary to enhance special educators' teaching assessment repertoires. This study investigates the impact of integrating structured assessment protocols within the Japanese Lesson Study (JLS) framework in Swedish CSSID. The purpose is to explore whether such integration can enhance teachers' professional certainty in assessing and supporting students with ID, aligning educational practices with inclusive legislative mandates (United Nations, 1989; Convention on the Rights of Persons with Disabilities, United Nations, 2006).

The study was guided by the following research questions.

- RQ1. What challenges do participating teachers experience, and how does using structured assessment protocols in the lesson study cycle affect their professional certainty in assessing students with ID?
- RQ2. How does implementing a procedure of observations, assisted with structured assessment protocols and followed by post-lesson discussions, influence participating teachers' perceptions of students' engagement, interest, and comprehension of the learning object in the research lessons?
- RQ3. What did participating teachers report about the implementation of assessment protocols within the JLS?

Scope of inquiry and theoretical assumptions

In exploring the application and impact of assessment protocols within adapted educational settings for students with ID, it is crucial to consider the broader instructional context. Klang *et al.* (2020) compare instructional practices between Swedish mainstream and special educational environments for students with ID, noting that while time allocation between learner-centered and teacher-centered activities is similar in both settings, significant differences exist in teachers' expectations. Teachers in mainstream settings expect higher academic performance, whereas those in special educational settings focus more on enhancing social participation. This highlights the need for special educational strategies that develop social, emotional, and academic competencies (Klang *et al.*, 2020).

Ineland and Silfver's (2018) survey highlights the challenges in assessing and grading students with ID, focusing on issues like variability in performance, cognitive limitations, and communication difficulties. They advocate for more flexible assessment strategies that better reflect students' true knowledge. Waermö *et al.* (2019) addressed these challenges through a two-year study involving a collaboration between teachers and researchers in a Swedish CSSID. The study focused on refining a planning tool to better align teaching practices with curriculum goals, emphasizing the importance of analyzing both content and students' prior knowledge to support effective learning. Building on Klefbeck's (2020, 2022) findings, which highlight the benefits of the Lesson Study in improving educational outcomes and fostering teacher collaboration, this research underscores the role of collaborative practices and reflective teaching in enhancing teachers' professional certainty (Munthe *et al.*, 2001). Munthe's *et al.* (2001) concept of professional certainty, particularly when viewed through the lens of didactic, practical, and relational dimensions,

offers a robust framework for analyzing how collaborative practices like Lesson Study can empower teachers to navigate the complexities of special education with greater confidence. This framework is instrumental in understanding how reflective teaching not only enhances instructional strategies but also fortifies teachers' self-assurance in addressing the diverse needs of students with intellectual disabilities.

Engagement, interest, and understanding in the learning process

Engaging students with ID in their learning processes requires carefully selected strategies. [Stavroussi et al. \(2010\)](#) note that hands-on activities and inquiry-oriented science instruction benefit these students more than traditional textbook and lecture-based methods. By focusing on how certain lesson activities affect students' learning, educators can enhance their academic achievements. Building on this understanding, this study integrates critical components of engagement, understanding, and interest into the procedure.

Engagement is defined here as an individual's emotional and cognitive investment in learning, is linked with student performance. [Fredricks et al. \(2004\)](#) highlight that both intrinsic motivations (personal interest) and extrinsic motivations (external rewards or pressures) significantly influence learning outcomes.

Understanding. According to John [Dewey \(1938\)](#), understanding entails not just absorbing information but interpreting and applying it meaningfully, integrating new knowledge with what is already known. [Holmqvist \(2021\)](#) distinguishes between conceptual understanding, which allows learners to grasp principles and apply knowledge across contexts, and procedural understanding, which focuses on executing tasks without necessarily understanding the underlying principles.

Interest. Defined here as the emotional response that drives an individual toward engagement and thorough exploration of a topic. Interest is pivotal in fostering a growth mindset, as described by [Dweck and Leggett \(1988\)](#). Recognizing effort as a path to mastery and success, interest enhances motivation, encouraging learners to tackle challenges and persevere through difficulties.

Assessment protocols in lesson study: insights and applications

During JLS, observers—not the teaching teacher—complete the lesson notes (referred to here as assessment protocols). This allows the teacher to focus on the lesson while observers provide an objective view of student behavior and learning, free from potential biases ([Seleznov, 2018](#)). The combination of open class lessons, structured observations, and post-lesson discussions offers multifaceted feedback on students' engagement, interest, and understanding (See [Figure 1](#) for clarification).

Method

In this study, a range of data collection methods, incorporating both qualitative and quantitative elements, was utilized. The research approach is most aptly described as exploratory, as outlined by [Creswell et al. \(2006\)](#). The various methods of data collection were conducted as part of the lesson study procedure, in this study assisted by assessment protocols. This methodological approach allowed for a comprehensive examination of the efficacy of structured assessment protocols in supporting the learning and development of students with ID within a collaborative and reflective teaching framework of JLS ([Seleznov, 2018](#)).

Research context

The present study took place in a special educational setting, which means that students were taught in segregated classes consisting only of students with ID, while the school was



Note(s): The assessment protocols applied in this study were inspired by insights gained during a scholarly expedition in June 2023. The researcher had the privilege of observing Professor Manabu Sato conducting lesson studies in Tokyo, Japan (Schools as Learning Communities, Suzuki, 2022). The image shown here is a cropped version of a photo taken by Manabu Sato, included with his permission. It serves as an aspirational visual for the assessment process. To support post-lesson discussions, elements of time and location are emphasised

Source(s): Author's own creation

Figure 1.
Assessment protocols
used within schools as
learning communities

locally integrated within a mainstream educational environment located in a small municipality in southern Sweden.

Participants

The study sample comprised 16 educators, including 5 males and 11 females, all serving as teachers. The teachers developed lessons for 38 students with ID, their ages ranging from 6 to 20 years. It is important to note that the researcher collected data exclusively from the teachers, this meant that the researcher, when reviewing the assessment protocols, focused the analysis on the teachers' assessment competencies (not on student behaviors, or student achievements). For clarification, see [Table 1](#) Participants.

Assessment protocols deigned with inspiration from schools as learning communities

In this study, an adapted and translated version of the assessment protocol used by Schools as Learning Communities by Manabu Sato was piloted in practice (for clarification, see [Appendix 1](#)).

Ethics

This study placed significant emphasis on ethical considerations, adhering to the Swedish Research Council's guidelines ([Vetenskapsrådet, 2017](#)) and the [ALLEA \(2018\)](#) European Code of Conduct for Research Integrity. Respect, honesty, reliability, and accountability were the foundational principles guiding the ethical framework and decision-making process. This emphasis was particularly crucial given that the study focuses on teachers who educate students with ID.

The research was conducted with respect for participants, peers, and the community, adhering to ethical standards for consent, confidentiality, and the application of research outcomes. Sensitive personal information was not collected, and participant identifiers were

Participant number	Age group (years)	Gender	Years as teacher in special education (years)	Number of completed assessment protocols (day/month)
1001	31–45	Male	3	2 (10/10; 8/11)
1002	31–45	Female	1,5	1 (8/11)
1003	46–60	Female	4	2 (5/10; 8/11)
1004	31–45	Female	4	1 (5/10)
1005	46–60	Female	9	2 (10/10; 8/10)
1006	31–45	Female	0.5	2 (5/10; 8/11)
1007	31–45	Female	6	3 (10/10; 8/11; 6/12)
1008	46–60	Male	2	4 (5/10; 10/10; 10/11; 8/12)
1009	46–60	Female	3	2 (8/11; 6/12)
1010	46–60	Male	1.5	2 (5/10; 10/11)
1011	46–60	Female	15	2 (5/10; 10/11)
1012	Over 60	Female	5	3 (10/10; 8/10; 6/12)
1013	25	Female	0	1 (5/10)
1014	46–60	Male	26	1 (8/11)
1015	31–45	Male	19	3 (5/10; 10/11; 8/12)
1016	Over 60	Female	1.5	1 (10/10)

Source(s): Author's own creation

Table 1.
Participants

removed during the pilot phase. Transparency was maintained throughout, with all participants providing informed consent and being reminded of their right to withdraw at any time. To ensure reliability, the study employed anonymized surveys and reviews of assessment protocols, protecting participant identity and maintaining data integrity. Confidentiality was crucial, with protocols designed to de-identify participants before sharing, ensuring that personal information remained untraceable (ALLEA, 2018).

Study design and methods used for collecting and analyzing research data

Creswell *et al.* (2006) emphasize the benefits of giving qualitative research a primary role in mixed methods studies to enhance the overall research process. In this study, an exploratory design was employed in the overall qualitative study design, with multiple forms of data collected during the piloting of the JLS (see Appendix 2 for details). The following methods were used for data collection and analysis:

Questionnaires. Two types of questionnaires were distributed in this study. Both questionnaires combined quantitative questions using Likert scale items with open-ended responses to capture experiences. The first, focused on *experienced teacher certainty* in assessment tasks, guided by Munthe's *et al.* (2001) concepts of professional certainty, encompassing didactic, practical, and relational dimensions (used with Munthe's permission, dated September 25, 2023, and translated into Swedish for this study). This questionnaire was administered during the first and last sessions (see Appendix 3 for details). The second questionnaire explored teachers' experience of *perceiving students' engagement, interest, and understanding* when using the assessment protocols during the intervention. This survey was distributed during the second, third, and fourth sessions (see Appendix 4).

Analysis of the questionnaires. This study employed a descriptive analysis to examine the Likert scaled responses, focusing on teachers' experiences of *professional certainty* (Munthe *et al.*, 2001) vs teachers experience of *perceiving students' engagement, interest, and understanding*. An inductive approach was used in the analysis of teachers' free text responses.

Research lessons. The research lessons were conducted as part of the regular teaching schedule in the CSSID. During each research lesson, one teacher led the lesson, while the others (the number of observers was determined by workplace circumstances) acted as observers and filled in the assessment protocols. The observing teachers were instructed to, if possible, not intervene in the lesson, or interact with fellow students or the teacher, so as to devote all their attention to the proceedings. During the research lesson, field notes were taken by the author.

Assessment protocols. The protocols were prepared in advance, as the teachers who had volunteered to conduct the lesson had previously answered two key questions: (1) "I want the student to develop knowledge in the following areas: . . ." and (2) "How is the lesson planned to make the above possible?" (see [Appendix 1](#)). Prior to the research lessons, the author ensured that participating observers were provided with sheets of assessment protocols, writing pads, and pens.

Post lesson discussion. Due to the participating teachers' working hours, it was not possible to hold the post-lesson discussion immediately following the research lessons, as is customary in JPL ([Seleznyov, 2018](#)). Instead, the post-lesson discussion was conducted in the evening, within one or two weeks after the lesson. The author made audio recordings of the final post-lesson discussion, which, after transcription verbatim, were incorporated into the analysis.

Analysis of post lesson discussion. In examining the transcription of the final post-lesson discussion, an inductive narrative analysis inspired by [Bamberg's \(2012\)](#) principles was outlined. The methodology began with an initial reading of the transcriptions to grasp the narratives and interactions conveyed by teachers, focusing on how they assess and reflect on assessments when teaching students with ID. Key narrative components such as statements relating to teachers' experiences of students' interest, engagement, and understanding, along with significant aspects that highlighted teaching strategies or adjustments, were the focal points.

The JLS procedure: emphasizing [Seleznyov's \(2018\)](#) seven core aspects

The researcher held four group sessions (Meeting 1–4) from 4 p.m. to 7 p.m. to accommodate all participants. Between the group sessions, six research lessons were conducted, where one teacher taught while others observed and completed pre-designed assessment protocols, following the JLS procedure. The schedule of the entire research procedure is illustrated in [Appendix 2](#). (The Proceeding of the LS: Including the Elements of the 7 JLS Aspects.)

Results

This section outlines the findings from the study, specifically addressing the posed research questions in sequence.

Teacher challenges and the impact of structured assessment protocols on professional certainty

To address the first research question, the study will report on measured teacher certainty, detailing measured results before and after the intervention. The results of measured professional certainty are derived from questionnaire responses and analysis of collaborative discussions. The analysis of experienced teacher certainty was conducted over two rounds (Round 1: pre-intervention and Round 2: post-intervention). A higher numerical value indicates greater agreement or a stronger sense of experienced professional certainty. For example, "Completely True" corresponds to the highest score of 6, indicating

Table 2.
Experienced teacher
certainty

complete agreement or the utmost experience of professional certainty. For clarification, see [Table 2](#).

Pre-, vs post intervention	Category	Average score
Pre	Didactic Certainty	4.26
	Practical Certainty	4.57
	Relational Certainty	4.84
Post	Didactic Certainty	4.62
	Practical Certainty	4.62
	Relational Certainty	4.94

Source(s): Author's own creation

Although the survey responses indicated a high level of perceived professional certainty among the participating educators, the free-text responses revealed a somewhat different and more nuanced picture, suggesting underlying professional uncertainty. A narrative analysis of the free-text responses identified the following key trends in the challenges that teachers expressed regarding the assessment task (responses measured pre-vs post-intervention):

Didactic certainty: Assessing the Fluctuating Knowledge of Students with ID. Before the intervention several teachers noted that the primary challenge in assessing students' progression, and knowledge levels was linked to the students' varying daily performance. This led to didactic uncertainty in both assessment and lesson planning. One teacher explained,

My greatest challenge at work is the difficulty in measuring students' knowledge progression over a brief period, as much depends on their daily condition. . . . / For a more valid and reliable evaluation of individual students' knowledge development, a longer observation period would be preferable. This academic year, I started with a new group of six students, and it's challenging to observe their development over a 3–4-month period (Pre-intervention, participant 1007).

Another didactical concern was about the curriculum adaptability, with teachers noting that it often did not accommodate the varied needs of all students, especially those with special educational requirements. One teacher expressed,

The curriculum and its intentions are difficult to adapt to meet the needs of all student groups. Sometimes it feels as though the course objectives are more about ticking a box in the statistics than they are about benefiting my students (Pre-intervention, participant 1001).

Post-intervention, a similar didactical concern about curriculum adaptability was discerned. One teacher stated,

It requires an enormous amount of interpretation work to fit the students I work with into the framework of the curriculum. Although the curriculum for individual programs is broad, it can be difficult to find suitable requirements/evaluations for students at a 1-month developmental level. This is especially challenging at the high school level when they need to meet students at such an early stage of development (post-intervention, participant 1014).

Characteristics of practical certainty. Aspects mentioned, which can be linked to experienced practical certainty before the intervention, include group size, the ability to assess students' knowledge both within and outside of regular teaching, and challenges related to finding time to instruct teaching assistants on how to evaluate students' knowledge. The teachers also noted that balancing practical skills versus theoretical knowledge was challenging. After the intervention one teacher mentioned,

Since I teach a practical aesthetic subject, it's about being there in the moment when the student is trying something, in order to guide them forward (post-intervention, participant, 1016).

High prevalence of statements regarding perceived relational (Un)/certainty. Several of the teachers' statements have a relational character, as they relate to challenges in seeing, discovering, and reflecting on signs of joy in students. At the same time, relational aspects were mentioned as factors that facilitated the assessment task. One teacher expressed,

As a newcomer, it's hard to read the students, which I hope the relationship can help with. There's also the challenge of finding time to observe and reflect, both individually and as a team (pre-intervention, participant, 1003).

Effects of structured assessments on teachers' perceptions of student learning

This paragraph reports how structured assessment protocols within the JLS impacted on teachers' perceptions of student interest, engagement and understanding.

Perception of students' interest. In the questionnaires distributed at the second, third, and fourth collaborative meetings, teachers were asked questions about their experiences using the assessment protocols. In analyzing the responses to the statement "I observed the students' interest during the lesson" across the three surveys, the following distribution is observed. For clarification, see [Table 3](#).

After the first survey, responses were evenly split between "Completely true" and "Very true," showing that most respondents felt they could effectively observe students' interest. Following the second survey, a significant increase in "Completely true" responses occurred, suggesting an improved perception of participants' ability to perceive students' interest. The third survey showed a distribution similar to the first, with an addition of "Partially true," indicating a more nuanced understanding or variable lesson contexts. The trend indicates that participants' ability or perception of their ability to perceive students' interest improved notably after the second survey but diversified in the third, possibly reflecting deeper reflection on student interest or variations in observed contexts.

Perception of students' engagement. When comparing the responses to the statement "I observed the students' engagement during the lesson" across the three surveys, the following distribution was observed. For clarification, see [Table 4](#).

This comparison illustrates the evolution of participants' experiences in observing student engagement over time. Initially, responses were split between "Absolutely true" and "Very true," indicating a high level of perceived ability to observe engagement. After the second survey, the "Absolutely true" responses increased significantly, suggesting an improvement in observation skills. The third survey showed a broader range of responses, including a "Partially true" option not seen in earlier surveys, indicating a more nuanced

Response option	Survey 1	Survey 2	Survey 3
Completely true	2	10	2
Very true	6	2	3
Quite true	0	0	0
Partially true	0	0	1
Quite untrue	0	0	0
Not at all true	0	0	0

Table 3. Teachers' perception of students' interests

Note(s): This comparison vividly illustrates the evolution of participants' experiences in observing students' interest over time

Source(s): Author's own creation

understanding or variability in the lessons observed. Overall, the trend indicates an improvement in the ability to observe engagement by the second survey, with more varied perceptions emerging in the third.

Perception of students' understanding. In comparing the responses to the statement "I observed the students' understanding during the lesson," which, by mistake, was posed only in surveys 1 and 3, the following distribution is observed. For clarification, see Table 5.

After the first survey, most responses leaned towards "Very true," indicating that many participants felt they could perceive students' understanding during the lesson. In the third survey, the distribution of responses remained consistent with the first survey, with slight variation, including one response indicating "Partially true." This trend suggests that participants' perceptions of observing students' understanding during the lesson remained relatively stable between the first and third surveys.

Post-lesson discussions targeting students' interest, engagement and understanding

The analysis of the transcripts revealed several aspects that contribute to a more nuanced picture of teachers' experiences with students' interest, engagement, and understanding. Here are some central themes, highlighted through narrative quotes.

Teachers' awareness of students' interests. Through the post-lesson discussion, it became apparent that the research procedure had enabled a refined approach to recognizing students' interests. The broadened perspective is exemplified in the dialogue below.

Speaker 3: . . . it's easy to overlook the student's interest in the activity, because you're so focused on what you are supposed to do next.

Speaker 6: Yes, it is, as an educator . . .

Speaker 3: For example, during the morning class, I am wondering if I am hitting the drum loudly enough to be heard. / . . . / But if you sit on the side (as in the open class session), you can see those small things.

Response option	Survey 1	Survey 2	Survey 3
Absolutely true	4	11	2
Very true	3	2	2
Somewhat true	1	1	1
Partially true	0	0	1
Somewhat untrue	0	0	0
Not at all true	0	0	0

Table 4.
Teachers' perception of students' engagement

Source(s): Created by author's

Response option	Survey 1	Survey 2	Survey 3
Completely true	2	N/A	2
Very true	5	N/A	2
Quite true	1	N/A	1
Partially true	0	N/A	1
Quite untrue	0	N/A	0
Not at all true	0	N/A	0

Table 5.
Teachers' perception of students' understanding

Note(s): Due to an error in the form, the question about teachers' perceptions of students' understanding was inadvertently omitted in Survey 2

Source(s): Author's own creation

Speaker 1: There are many interpretations, is it focus, or is it a spasm? Was it epilepsy, or were you (refers to the students) interested in what I said? Yes, it's difficult. (Excerpt from the last post-lesson discussion).

In the dialogue, teachers note that simply observing without presenting helps them discern students' genuine interests or initiatives, which could otherwise be mistaken for spasms.

Teachers' awareness of students' engagement. The intervention did not allow all teachers to take on the role of performing teacher. One of the teachers was discussing how she, working with students at a very early developmental stage, could really have benefited from the reflections of other teachers to discern students' engagement. The teacher expressed,

I would have very much liked to receive tips, especially with certain students, where it is very challenging to see any engagement. It is tough when the students have no voluntary movements, when the student is blind and deaf and lacks spoken language. I thought it would have been fantastic to have more perspectives on this. (Excerpt from the last post-lesson discussion.)

Teachers' awareness of students' understanding. An illustrative situation occurred during a review of a reading comprehension lesson where the application of assessment-supported observation enabled the teachers to identify that a lack of vocabulary understanding hindered the students' comprehension of the content in the book. The lesson took place just before Christmas.

Speaker 1: She (referring to the teacher who read a book aloud during the lesson) had a challenging plan, but the intention was likely to spark the students' curiosity about the text's content.

Speaker 2: Yes, I think so. But the part about Jesus was difficult.

Speaker 3: Exactly. It was a difficult text. I mean, I understand it, but it's hard. Is it a fairy tale? No. I couldn't see any understanding from the students. But then, when she went out to help other students sitting in another room and the teaching assistant came in, something happened. The teaching assistant read the text and explained the words at the same time. Then I saw something else in the students; it was cool. So, yes, who could this be? (Here speaker 3 refers to how the teacher-assistant explained some core concept of the story, as Jesus, Bethlehem, and the three wise men.)

Speaker 1: Exactly.

Speaker 3: When she (the teacher-assistant) explained it, it was as if there was a different understanding. (Excerpt from the last post-lesson discussion.)

By highlighting the linguistic complexity, the teachers were able to reveal a crucial factor in understanding students' cognitive barriers and adapting teaching methods accordingly.

Participating teachers experiences of using the assessment protocols

To examine teachers' experiences with the assessment protocols, the final meeting's audio recordings were analyzed along with free-text responses from questionnaires distributed during the 2nd, 3rd, and 4th meetings.

Insights and Reflections After the Second Meeting. The analysis revealed that the implementation of the assessment protocols provided teachers with new insights into their teaching practices. Participant 1006 noted that it was "*exciting and rewarding to notice things that one might become 'home blind' to.*" This suggests that the protocols helped teachers identify aspects of their teaching that had previously gone unnoticed. Another participant (1011) highlighted that the structured nature of the protocols helped refine observations, indicating that the clear framework provided by the protocols allowed for more focused and manageable assessments.

The collaborative nature of the meetings was another key aspect, with teachers finding value in sharing and discussing their observations. Participant (1006) stated, "*This exchange*

of perspectives was enriching and contributed to a deeper understanding of both teaching and learning processes.” Furthermore, participant 1011 highlighted the consistency in observations among the teachers: *“It was interesting that we observed the same things and could analyse students’ interest and engagement based on the teacher’s engagement.”* The same participant also noted, *“It was interesting to consider students’ procedural and conceptual understanding.”*

However, the process was not without challenges. One participant (2012) described it as *“interesting but difficult,”* reflecting the complexity of applying the protocols in practice. Additionally, the need for better preparation was noted by participant 1008, who stated, *“I realize that I need to spend more time preparing when observing a lesson and perhaps plan together with my colleagues.”* This underscores the importance of preparation and collaboration in the assessment process. A similar response was given by participant 1015, who explained, *“Interesting but somewhat new, this approach has the potential to offer a lot. However, to fully comprehend its benefits, I think I have to test it multiple times.”*

Insights and Reflections After the Third Meeting. The third meeting responses indicated participating teachers identified additional benefits with the assessment protocol procedure. One participant (1004) noted it was *“interesting, clarifying in learning processes when writing things down”*. However, in the answers from the third meeting the challenges that the participants experienced were frequently mentioned. For one participant (1015) admitted, *“I have to be stricter in my observation”*. Another (participant 1009) expressed a similar thought, *“It’s interesting, but difficult to find time to write everything down . . .”* Participant 1005 expressed; *“It is not entirely easy to know what to look for, but after evening lectures and practice in observing, it has become a bit easier”*.

Collaboration within the faculty was valued, as indicated by the comment, *“That we support each other within the faculty”* (participant 1001).

The need for specific and focused observations was underscored by several participants. One noted, *“The importance of narrowing down objectives and not being too broad (participant 1008)”*. Another expressed; *“It is fun to practice focusing on specific areas or concepts during the observation (participant 1006)”*.

Teacher Feedback on Refining Protocols After the Final Meeting. During the final meeting, which was audio recorded, teachers reported that the protocols enhanced their focus and clarity, facilitating more effective observation and reflection on specific aspects of teaching and learning. However, participants also identified the need for a more flexible protocol structure to better accommodate different teaching contexts. Some suggested that concentrating on one element at a time could provide deeper insights, highlighting a desire for more targeted observations.

The questionnaires from the final meeting indicated similar benefits and challenges. The benefits were expressed as follows: *“It enabled me to critically review my own teaching better than before”* (participant 1008); *“. . . to dare to be observed and then discuss what was good and what I can improve in my teaching”* (participant 1005); *“. . . interesting to visit another classroom and see how they work”* (participant 1002); *“. . . how to read them when they understand, how they become engaged”* (participant 1014); *“I find that I reflect more on my teaching”* (participant 1009); and *“It is very positive and educational to observe each other. It has also opened up the climate among us teachers”* (participant 1004).

The teachers’ suggestions for areas of improvement focused on making the assessment procedure more regular, *“. . . that we work with observations more often . . . ”* (participant, 1005). Another teacher expressed a similar desire for a pre-planned schedule for following up on the observations (participant 1014). Some suggested improvements to the protocol itself, as a more flexible structure (participant 1002).

Discussion

This study examined the impact of structured assessment protocols on teachers' professional certainty in assessing and supporting students with ID. The protocols enhanced focus and clarity in recognizing students' interest, engagement, and understanding, though challenges remained in adapting to diverse teaching contexts and fluctuating student abilities. Teachers reported increased confidence in understanding student needs but faced difficulties with curriculum adaptability and variability in student performance. Balancing practical and theoretical knowledge, effectively instructing teaching assistants, and interpreting students' emotions and behaviors—such as discerning interest from involuntary actions—were significant challenges.

The study also highlighted the benefits of collaboration in Lesson Study for improving teachers' ability to recognize students' understanding. For instance, during a Christmas-themed reading comprehension lesson, students initially struggled with terms like "Jesus" and "Bethlehem." After a teaching assistant clarified these terms, student comprehension improved, demonstrating how structured observations and discussions can uncover learning barriers and guide adaptive strategies. Integrating these assessment practices into regular teaching could promote more reflective and informed approaches. The enhanced clarity that structured assessment protocols brought to teachers' professional certainty resonate with [Munthe's et al. \(2001\)](#) concept, which emphasizes the importance of confidence in professional knowledge and skills. Both [Munthe et al. \(2001\)](#) and [Bandura \(2012\)](#) stress that professional certainty involves the ability to navigate areas of uncertainty with confidence, especially when clear answers are lacking. This ability is crucial to manage diverse instructional situations, as highlighted by [Lauermann and König \(2016\)](#), who noted that professional certainty contributes to greater job satisfaction and lower burnout rates. But even though the results of this study indicated that the collaborative exchange between teachers had the potential to increase their ability to manage uncertainty, the results also showed that uncertainty remained. These findings are consistent with [Ineland and Silver's \(2018\)](#) research results, underscoring the need for more flexible and nuanced assessment strategies—a call echoed by participants in this study, who suggested a more adaptable structure within the protocols. While structured approaches provide a solid foundation, further refinement is necessary to meet the diverse needs of students with ID. Furthermore, the collaborative efforts described by [Waermö et al. \(2019\)](#) in aligning teaching practices with curriculum goals are reflected in the observed benefits. For example, statements like, '... it's easy to overlook the student's interest in the activity because you're so focused on what you are supposed to do next (speaker 3, final post lesson discussion),' suggest that the JLS structure provided teachers with support to elevate their practice rather than becoming stuck in the act of "doing". [Holmqvist's \(2021\)](#) distinction between conceptual and procedural understanding is particularly relevant here. By utilizing assessment protocols and collaborative discussions, as piloted, teachers can design learning experiences that, regardless of disabilities, move students' learning conditions beyond procedural knowledge to foster deeper, conceptual understanding.

Limitations and future research directions

Future research on professional development for educators of students with ID could benefit from incorporating both shared assessment protocols and a common academic focus. As [Klang et al. \(2020\)](#) suggest, educational organization for students with ID varies with their learning conditions, and a shared academic theme could help unify participating teachers. Professional development targeting academic improvements for students needing extensive support due to disabilities remains under-researched ([Stavroussi et al., 2010](#); [Klebeck, 2020](#), [2022](#)). Therefore, adopting [Seleznov's \(2018\)](#) methodology, which emphasizes sharing knowledge both within and beyond the group, could enhance these efforts.

Subsequent studies could strengthen the present exploratory design by embedding further independent cross-checks of the emergent data set and ideally, including more independence in designated roles, for example, by separating the roles of the facilitator and the expert (koshi), as advocated by Selleznyov (2018).

Method discussion and study limitations

An exploratory method (Creswell *et al.*, 2006) was employed, focusing on practical, relational, and didactic aspects of teacher certainty as conceptualized by Munthe *et al.* (2001) and aligned with key components of the JLS framework (Seleznyov, 2018). While effective for observing trends and designing future studies, a fuller adaptation of Seleznyov's (2018) core aspects might enhance the validity of results in subsequent research.

This study focused on analyzing changes in teachers' professional certainty rather than directly assessing student learning outcomes, in alignment with ALLEA's (2018) ethical guidelines. However, drawing fully reliable conclusions about the assessment protocols' effectiveness requires deeper analysis of student data, particularly for students with ID. Consistent with the present study, follow-up studies should also undergo thorough ethical review to ensure that student data is analyzed responsibly, allowing for a more comprehensive examination of the assessment protocols' impact on teaching and learning. It is hoped that these preliminary findings shed light on this complex area of investigation and will serve to inform more robust research designs in the future.

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Further reading

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Supplementary material

The supplementary material for this article can be found online.

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