

Developing a KSV Framework for School Teachers with a Competency Assessment Mechanism towards 21st Century Learning Design

Divya Soma Kumar¹, Dr. E. Ramganesh², Dr. S. Amutha³

¹ Research Scholar, Department of Educational Technology, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India. Email: divyarkphd@gmail.com

² Senior Professor, Department of Educational Technology, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India. Email: dreramganesh@bdu.ac.in

³ Assistant Professor (SG), Department of Educational Technology, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India. Email: amutha@bdu.ac.in

HOW TO CITE:

Divya Soma Kumar, E. Ramganesh, S. Amutha (2026). Developing a KSV Framework for School Teachers with a Competency Assessment Mechanism towards 21st Century Learning Design. International Journal of Special Education, 41(11s), 484-498

ABSTRACT:

The current demands placed on school teachers require not only subject knowledge but also overall professionalism in terms of teaching competencies, skills, and professional values. Yet, current models of teaching competency tend to be conceptualistically fragmented in the sense that knowledge, skills, and professional values are viewed separately without any provision for measurable indicators needed to direct the process of professional development at the component and stage-wise levels. It becomes even more problematic within the context of India, which mandates teachers' competency in terms of knowledge, skills, and professional values through its National Education Policy of 2020. This paper makes its attempt to develop the KSV framework for assessing teacher competencies within schools, through application of three proven theories; the Pedagogical Content Knowledge (PCK) theory proposed by Shulman (1987); the partnership for 21st century learning's (2019) four-competency framework; and professional ethics and the ethics of care theories. Through conceptualization, it proposes ten elements of the framework in three major categories: Knowledge (learner knowledge, content knowledge, pedagogical knowledge); skills (critical thinking, creativity, collaboration, communication); and values (care, respect, responsibility). Each category is further broken down into progressional levels that can be measured and applied through indicators for each. It is worth noting that while knowledge and skills have a five-level progression with clear criteria, values have a different four-depth progression based on their nature as professional dispositions rather than add-on competencies.

COPYRIGHT STATEMENT:

Copyright: © 2026 Authors.
Open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

Keywords: Teacher competency, KSV framework, pedagogical content knowledge, 21st century skills, professional values, quality teaching; SDG 4.

Introduction

Teacher competence is among the top determining factors impacting learner outcomes (OECD, 2019). Globally, the nature of teacher quality, skills and knowledge require for excellence in the profession as well as the values that should guide professional practice. This has engaged policy makers and scholars alike for decades. However, despite such interest in the issue, teacher competence still remains inadequately conceptualised and operationalised for the purpose of guiding teachers' professional development and performance appraisal in meaningful ways.

Indeed, Teaching and Learning International Survey of OECD (2019) indicates that many teachers are unprepared in pedagogy not because they lack subject matter knowledge, but due to the fact that their training assumed the wrong assumption that knowledge of subject matter is enough. As Shulman (1987) suggests, good teaching involves knowledge transfer for diverse learners, design complex tasks for promoting higher-order thinking, and interact with students with genuine respect and care.

Moreover, the problem is compounded in the context of 21st-century learning and graduates' demand to be equipped with critical thinking, creativity, collaboration and communication (the 4 Cs). Indeed, according to a recent systematic literature review by Almazroa and Alotaibi (2023), teachers tend to be inadequately prepared for nurturing such competencies, partly owing to the fact that the relevant professional development courses and programmes have not been guided by a conceptual model of teacher competency that defines the needs of teachers. One cannot learn something one does not even understand the principles of.

The need to promote teachers' competency is recognised explicitly within the National Education Policy 2020 (Ministry of Education, 2020) in the Indian education system. According to the Policy, ideal teachers are those who are competent in the knowledge of subjects in designing and delivering lessons for fostering critical skills and values, and devoted to professional ethics and care for

students. Although such a vision of the ideal teacher is inspiring, the problem is that it merely states desirable attributes and does not define them as an integrative framework.

As far as the literature is concerned, the problem seems to be common to most countries. Whereas frameworks that focus on the knowledge dimension, such as Shulman's (1987) pedagogical content knowledge, exist and have proven their utility. Frameworks focusing on skills have mainly been used in relation to students rather than teachers' professional competency. Finally, some frameworks have focused on values in teaching (Hargreaves & Fullan, 2012; Noddings, 2012; Gay, 2018). In any case, however, none of these frameworks incorporates all three dimensions of teacher competency and provides progressive level descriptions with evidence sources, thus failing to become both a conceptual model and a measurement tool.

The present research proposes the Knowledge-Skills-Values (KSV) framework for assessing school teachers' competency with a mechanism. Specifically, it intends to make three main contributions. First, three different traditions integrated into a single framework, shows that Knowledge, Skills and Values are mutually irreducible and cannot be combined in pairs. Second, a change of paradigm in defining competencies of teacher professional development and demonstrate its evidence basis with substantial implications for programme design is highlighted. Third, a difference in measurement methods between the two aspects of competence is justified to explain why measuring values requires an approach different from that used for measuring knowledge and skills.

Theoretical Framework

The KSV framework encompasses three independent academic frameworks, providing the theoretical foundation for each of the three dimensions. The coherence of the KSV framework emerges not only from the synthesis of these three traditions but also from the fact that each of the three dimensions deals with a uniquely distinct

aspect of teacher competency which cannot be substituted or replaced by the other two.

Knowledge — Shulman's Pedagogical Content Knowledge

The theoretical foundation of the Knowledge dimension is the groundbreaking conceptualization of teacher knowledge proposed by Shulman (1987). According to this conceptualization, the central intellectual effort involved in teaching as a practice (which distinguishes teaching from mere subject matter knowledge) lies in making subject matter intelligible to learners. To that end, Shulman identified content knowledge, pedagogical knowledge, and pedagogical content knowledge (PCK) as three essential categories, stating that pedagogical content knowledge—the knowledge of how to represent subject matter in pedagogically useful ways—is the “missing paradigm” in theories of teacher knowledge. Specifically relevant for the purposes of the KSV framework is the proposition made by Shulman (1986) that teachers' knowledge extends to knowledge of learners themselves, including learners' existing concepts, likely sources of difficulty, and individual characteristics that shape how they engage with learning new material. The component of Learner Knowledge has been designated in the KSV framework in order to account for the area of teacher knowledge that has largely been overlooked by most other theories of teacher knowledge, treating it as a form of informal knowledge rather than professionally relevant competency.

Skills — The P21 Four Competencies Framework

The theoretical basis of the Skills dimension is provided by the Partnership for 21st Century Learning (P21, 2019), according to which the 21st-century context requires Critical Thinking, Creativity, Collaboration, and Communication (the “4Cs”) as the essential professional competencies. The distinguishing characteristic of this theory is that it recontextualizes the notion of the 4Cs from competencies to develop in students to professional competencies that teachers must master in order to cultivate them in students. The rationale behind this theoretical redefinition lies in

the findings of research on effective professional development for teachers (e.g., Darling-Hammond et al., 2017) indicating that teachers cannot cultivate in students competencies that they themselves lack or have never had the opportunity to develop as learners. For instance, without consistently applying evaluative and evidence-based reasoning, teachers will not know what critical thinking involves; without collaborating as learners, teachers will not be able to help students collaborate as learners. According to the KSV framework, Critical Thinking, Creativity, Collaboration, and Communication are professional competencies that teachers need to master, implement, and design.

Values — Ethics of Care, Professional Responsibility, and Culturally Responsive Practice

Three scholarly traditions contribute to the theoretical foundation of the Values dimension. Drawing upon the ethics of care, Noddings (2012) proposes that the essence of teaching lies in its relationality, while Care is fundamental to the act of teaching. That is, the orientation toward the child as an individual human being, which underlies any interaction with a child, constitutes teaching as much as the content of the interaction. Similarly, according to Hargreaves and Fullan (2012), whose work defines the concept of professional capital, responsibility—the commitment to the desired educational outcomes which motivates teachers to investigate their practices rather than attribute shortcomings to students—is essential to effective teaching. Finally, according to Gay (2018), Respect is expressed as culturally responsive teaching, or as a pedagogical practice which draws on learners' cultural and prior knowledge. Together with NEP 2020 guidelines for the professional development of teachers (Ministry of Education, 2020), these traditions lay out the theoretical and practical foundation for the Values dimension of the KSV framework.

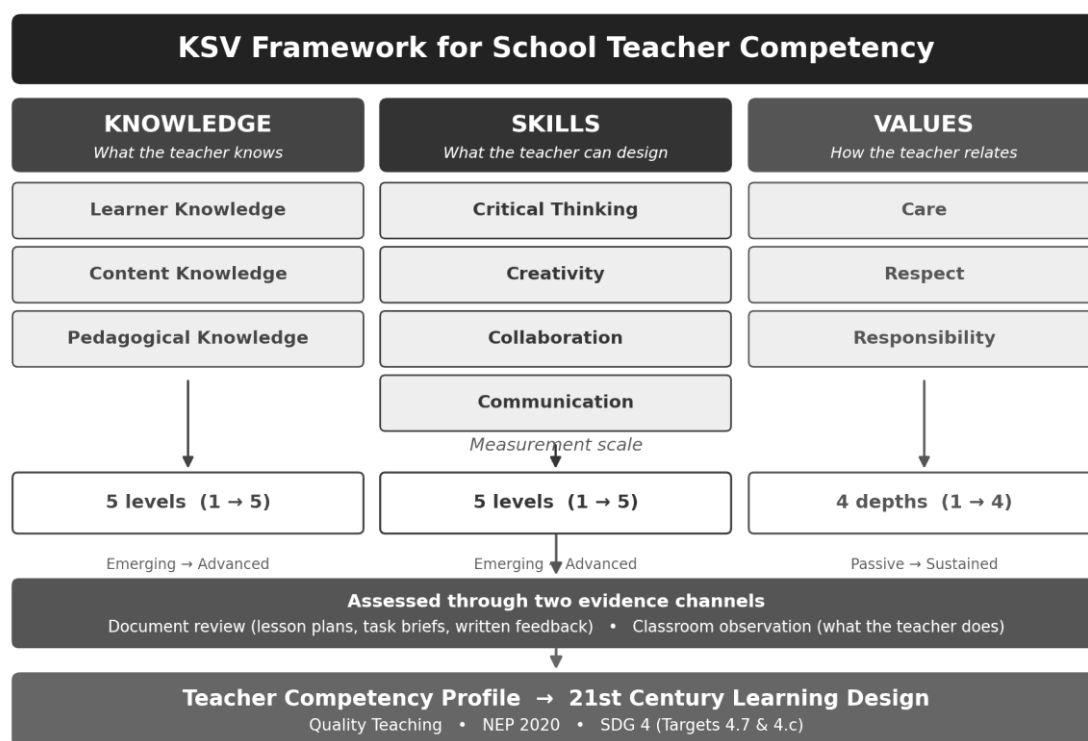
The KSV Framework: Architecture and Logic

The KSV framework consists of three dimensions—Knowledge, Skills, and Values, each comprising distinct components from its tradition. Specifically, the Knowledge dimension comprises

Learner Knowledge, Content Knowledge, and Pedagogical Knowledge; the Skills dimension consists of Critical Thinking, Creativity, Collaboration, and Communication; the Values dimension consists of Care, Respect, and Responsibility. Figure 1 presents the architecture.

Figure 1 is intended to be read top-to-bottom as one logical flow. The three columns represent the dimensions of competency – the knowledge a teacher possesses, the designs he or she can create, and how he or she interacts with students – and underneath each is the set of components for that dimension. In the middle row is seen how each

dimension is measured, namely by the knowledge and skills scale from ‘emerging’ to ‘advanced’ and the values from ‘passive’ to ‘sustained’ scale discussed further into the paper. The grey row indicates the two ways evidence is obtained – by reviewing the documents created by a teacher and observing his or her actions. Figure 1 is not merely a listing of components; it depicts the flow from the components of competency, to the scales used to measure those components, to the evidence for those measurements, and finally to the end result of all these processes, the teacher competency profile needed to facilitate learning in the 21st century as outlined by NEP 2020 and SDG 4.



Integration principle: all three dimensions are necessary — no two are sufficient without the third

Figure 1. The architecture and assessment logic of the KSV framework.

Each dimension of the KSV framework is operationalized using progressive level descriptors to serve as a needs-assessment tool and a developmental rubric at once. For each of the knowledge and skills components, five progressively advancing levels (Emerging, Developing, Practising, Proficient, and Advanced) are established based on cumulative criteria. At each level, teachers exhibit a new dimension of the

respective competency. Observable evidence is specified for each component to identify the competency in question.

For the values dimension, however, a completely different measurement methodology was developed, for a theoretical reason. Namely, values reflect an underlying orientation and thus cannot be defined as observable discrete actions accumulated through successive advancement across the levels.

Rather, a teacher either manifests a particular value passively or demonstrates it actively. Therefore, the Values dimension is measured using a four-level scale ranging from Passive/Neutral/Compliant through Reactive/Sensitive/Responsive to Proactive/Inclusive/Reflective and ultimately Sustained/Affirming/Accountable.

The KSV Assessment Mechanism

As the tool is intended to be employed not only as mere descriptive explanation, the process of

empirical assessment needs to be specified in a clear manner. The later stage relies upon information provided at the former stages and is considered in the following sections: evidence gathering, level assignment based on comparison with level descriptors, and the combination of results in order to form a profile indicating the development priorities for the teacher. It can be viewed as an orderly series in Figure 2 :

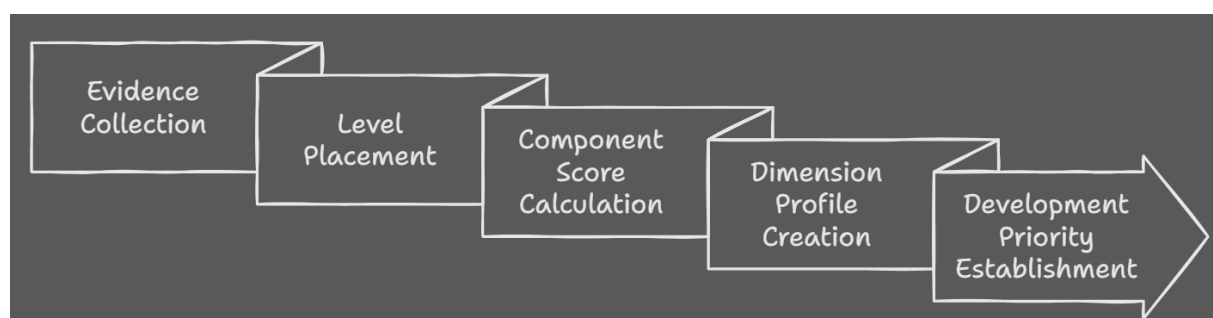


Figure 2. KSV Competency Assessment and Profiling Process.

The evidence shall be collected in two directions. On the one hand, document review involves examination of the teacher's lesson plans, task descriptions and assessment items, and written feedback given to students. All this illustrates the intentions and design techniques of the teacher. On the other hand, classroom observation allows seeing what the teacher actually performs during the lesson, namely the sequence of presentation of content, formulation of questions, grouping of students, and assistance provided to those having difficulties. Both directions of assessment work complementarily because their inconsistency provides additional insightful information. The last column in rubrics (Tables 2–4) contains information about the evidence sources which should be prioritized for each component.

The assessment proceeds component by component. For each of the ten components, the assessor compares the evidence gathered with the corresponding level descriptors and assigns the level which describes the practice closest to the performed one. The numerical coding of the assignment takes place: on the knowledge and skills components, a teacher receives a score from 1

(Emerging) to 5 (Advanced); on the values components, from 1 (Passive) to 4 (Sustained). The numeric score corresponds to the agreement with the described practice, not the subjective impression, and ensures criterion-referenced judgment, which is especially important when assessing such vulnerable aspects as professional values.

After that, the component scores are combined in order to obtain the dimension scores. The dimension score is the mean of the corresponding component scores: Knowledge is the mean of three components, Skills of four, and Values of three. As the levels used are ordinal categories, not interval scales, the mean value serves only as convenient summary statistic rather than actual measurement; the real basis for development judgment remains the descriptors, not the arithmetic average. The framework produces the three-part profile, not one overall score; such structure provides much more information about overall competence, as well as the particular strengths and gaps, and, due to cumulative nature of the levels, about the next development step. For instance, the teacher placed on the Practising level of Pedagogical Knowledge

will understand exactly what is needed to get to the Proficient level.

Example of use: Assessment of Teacher A

The mechanism is illustrated using one diagram. Take, for example, an assessor examining Teacher A's lesson plans and tasks she gives, observing several lessons. On the basis of that evidence, each criterion is placed to the level that describes this evidence best. Lesson plans show that she takes into account what knowledge her students have and adapts to that, but there is no sign of adjusting her future lessons on the basis of observation of students' behaviour individually. Hence, on the scale in Table 2 these places her Learner Knowledge on Practising (3) level, not a higher one. She provides accurate explanations and considers possible misconceptions, so her Content Knowledge is assessed on the Proficient (4) level. Even though her lessons are sequenced well, they rely on a small set of teaching strategies and thus are rated Practising (3) on the Pedagogical Knowledge criterion.

As for the Skills category, her tasks usually ask students to explain or apply their knowledge but not to evaluate or create something, so critical thinking and creativity are 'Developing (2)'. Her tasks include group work, some roles assigned to students but with little attention paid to collaboration process, thus collaboration is 'Practising (3)'. Feedback provided by her is focused mostly on the correctness of information but not on its explanation, hence communication is assessed 'Developing (2)'. In values category, evaluated across the whole sequence of lessons, not just one, she reacts to the difficulty observed in students and seldom helps students even before they ask for that (Care, Depth 2), treats all her students equally without considering diversity (Respect, Depth 2), and when results are not satisfactory, re-teaches and assigns blame partially to students (Responsibility, Depth 2). All the placements above can be summarized in Table 1.

Table 1. Example — Teacher A's competency profile across the three dimensions

Dimension	Component placements (level)	Dimension mean
Knowledge	Learner Knowledge 3 · Content Knowledge 4 · Pedagogical Knowledge 3	3.3 / 5
Skills	Critical Thinking 2 · Creativity 2 · Collaboration 3 · Communication 2	2.3 / 5
Values	Care 2 · Respect 2 · Responsibility 2	2.0 / 4

As an assessment, the picture provides immediate information. Teacher A possesses relative strengths in knowledge because she is clearly strong in her content knowledge, but she lacks skills the most in the skills dimension and is always in reactive depths when it comes to her values. The framework does not serve for assessment only; it gives instructions on what to do next. As the levels build upon each other, the best course of action for development is

to raise critical thinking and creativity from 'Developing' to 'Practising' levels. In practice, this means assigning students activities where they have to reason, justify, and create, instead of explaining and applying. This is equally true for her values; in order to move from 'Depth 2' to 'Depth 3', she should stop reacting to difficulties and start initiating contacts before being prompted to do so. This cannot be expressed in one number; this can

be done in the picture, and this is the reason why there are three dimensions.

Competency assessment mechanism of the Knowledge Dimensions

Learner Knowledge

Learner Knowledge can be defined as the teacher's actual and detailed understanding of the learners involved: including the existing body of knowledge of each one of them, the factors that influence learning and intra-classroom variations that require differentiated teaching strategies. In terms of fundamental knowledge, learner knowledge is missing altogether: instruction does not vary according to the needs of students and responses are only triggered if the difficulty experienced by the students becomes apparent. In advanced knowledge, on the other hand, learner knowledge is specific, adaptive and predictive: teachers know exactly which of the students find difficult specific aspects of specific topics and are able to make modifications in real time, based on observation in order to design future lessons in a more informed way. The key boundary between proficient and advanced level of knowledge therefore lies in transitioning from real-time adaptation to future planning based on learner knowledge.

Content Knowledge

Content knowledge includes not only the understanding of the subject matter itself, but also a syntactic understanding of the manner by which claims are generated and validated within the specific disciplinary field (Shulman, 1986). According to KSV framework, the critical transition in terms of content knowledge happens with a change from the accurate presentation of subject matter to its anticipation in terms of likely errors. In the advanced level of knowledge, teachers anticipate specific mistakes that will be made by students due to the nature of subject matter and try

to mitigate them before they happen. This is the most important aspect of pedagogical content knowledge described by Shulman (1987).

Pedagogical Knowledge

Pedagogical Knowledge pertains to the general understanding of how instruction is to be carried out and includes all aspects of lesson design and sequencing, instructional methods and formative assessments that apply in any disciplinary context. The important transitions in this knowledge domain pass through four thresholds, starting from establishing a coherent lesson structure, then to moving from easier to increasingly more difficult subject matter and then use different kinds of instructional methods and adapting instructions based on formative assessment. The defining characteristic of advanced pedagogical knowledge (similar to quality learning design by Biggs & Tang, 2011) lies in the ability to stop mid-way through a lesson, determine the exact area of confusion and adjust the strategy of the lesson.

Table 2 displays the knowledge dimension as a functional checklist. In each row is a unique element, while the following five columns indicate the emergence of the element in increasingly higher levels from 'Emerging' to 'Advanced'. The elements are stated as observable actions, making it possible for the assessor to review the evidence provided by the teacher row-by-row, until arriving at the highest level that still corresponds to the evidence, and assigning the teacher the corresponding level, whose number (1-5) becomes the score. The last column shows where to find the evidence: in the lesson plan, in the teacher's reaction to the mistakes made by the students, and in the structure of the taught lesson. In this way, Table 2 should be read not as a recapitulation of what has been said before, but as the tool for assessing the dimension in question.

Table 2. KSV Framework — Knowledge Dimension: Progressive Levels and Observable Indicators

Component	Level 1 Emerging	Level 2 Developing	Level 3 Practising	Level 4 Proficient	Level 5 Advanced	Observable Evidence
Learner Knowledge	Teaches uniformly; no prior knowledge check; responds only to students who approach	Checks prior knowledge before teaching; instruction unchanged regardless of result	Knows which students find specific topics difficult; responds differently in questioning	Adapts explanation or task mid-lesson for specific students who are not following	Uses lesson observations on individual students to plan next lesson differently	Teacher–student interaction; lesson plans across time
Content Knowledge	Errors or oversimplifications in delivery; textbook examples only; topics taught in isolation	Accurate delivery; real-world examples added beyond the textbook	Connects concepts within the subject; students see how topics relate to each other	Addresses common misconceptions after they arise; corrects errors when students make them	Anticipates subject-specific misconceptions proactively — addresses before errors occur	Classroom observation of explanation quality; teacher response to student errors
Pedagogical Knowledge	No clear lesson structure; content in any order; single method throughout; no understanding check	Clear beginning, middle and end; content not sequenced; one explanation method	Sequences content from simple to complex; scaffolding visible in task design	Uses multiple methods of explanation; varies instructional approaches within lesson	Checks understanding mid-lesson and visibly adjusts — changes pace, method or task	Lesson plan review; classroom observation of delivery structure and adjustment

Competency assessment mechanism of the Skills Dimensions

Critical Thinking

Critical thinking, as a teacher competency, refers to the ability to plan tasks that will require higher order thinking skills (as opposed to lower order thinking

skills like simple memorisation). With respect to the updated Bloom's taxonomy (Anderson & Krathwohl, 2001), the progression moves from the planning of tasks focused on recall to the planning of tasks in which evaluation and justifications for answers are structurally necessary, as well as in which there are multiple valid answers. The critical

difference between Level 5 and the preceding levels lies in open-endedness, whereby the teacher plans tasks such that the answers cannot be found through recall but must instead be generated from original thought. The teacher's critical thinking competency is evident in task planning and the cognitive challenge embedded within tasks.

Creativity

Creativity, as a teacher competency, refers to the ability to plan tasks that will require originality of the students' output. The threshold between Level 3 and Level 4, and hence a marker of creativity as a teacher competency, is the move away from allowing student choice in tasks to structurally requiring students' reproduction of material as part of completing the task. Level 5 tasks require creativity linked with a genuine purpose and intended audience for the student output. Such link with real-world purpose corresponds to Hargreaves and Fullan's (2012) definition of teaching as professional practice geared towards the actual development of real people.

Collaboration

The concept of collaboration as a teacher competency borrows heavily from Johnson and Johnson (1994)'s cooperative learning theory. This component of collaboration hinges on the understanding of the difference between collaborative learning, as a teaching skill, and group work, as an instructional strategy. That is to say, putting students in groups is one thing, while structurally requiring each of their contributions in tasks, actively facilitating collaboration, and

evaluating its effectiveness, is quite another matter entirely. Collaboration is considered, at Level 5, a professionally developable skill.

Communication

The concept of communication as a teacher competency draws heavily from Alexander (2008)'s dialogue teaching model and from Hattie and Timperley (2007)'s feedback model. The threshold between Level 2 and Level 3, hence a marker of teacher competency in communication, is the teacher's provision of feedback on students' communicative abilities. If the teacher's feedback concerns only correctness of content, the students' learning is restricted to subject knowledge alone. Level 5 communication requires teachers to name communicative skills explicitly as well as teach them.

In Table 3, the Skills component is laid out in a rubric format. Like Table 2, the rows correspond to the components, and the columns indicate increasing levels, whereas the cells indicate specific practice instead of characteristics. The key point to be taken into account in designing this rubric is structural demand, i.e., whether the task could be performed through mere replication or whether it actually requires the particular skill being tested. The assessor will decide on the highest level at whose definition the teacher's tasks and actions continue to accomplish, award the particular score from 1 to 5 and identify the evidence, such as the task description, the questions asked, the way the feedback is given, and how the group work is arranged.

Table 3. KSV Framework — Skills Dimension: Progressive Levels and Observable Indicators

Component	Level 1 Emerging	Level 2 Developing	Level 3 Practising	Level 4 Proficient	Level 5 Advanced	Observable Evidence
Critical Thinking	Tasks require recall and reproduction only; one correct answer expected	Tasks require understanding beyond recall; students explain ideas in own words	Reasoning explicitly required in task design; students must justify why or how	Analysis structured into tasks; students compare, connect and examine information	Evaluation required; students judge and defend with evidence; multiple valid responses possible	Task instructions; questions posed; assessment criteria designed by teacher
Creativity	Prescribed exercises; students complete or copy; reproduction sufficient to complete task	Students produce an output; format and content fully prescribed by teacher	Genuine student choice in approach or form built into task design	Original output structurally required; reproduction insufficient to complete task	Original output required; task connected to real purpose and audience beyond the classroom	Task brief; nature of student output — can it be completed by copying notes?
Collaboration	Students work individually; group seating without group task design	Group tasks assigned; students self-organise; no role structure designed by teacher	Specific roles assigned to each member; individual accountability built into task	Active facilitation during group work; teacher moves between groups with purpose	Structured reflection on how the group worked designed into task as an explicit skill	Lesson plan; teacher facilitation behaviour; end-of-task process reflection
Communication	Unplanned student speaking; teacher directs all communication; Q-and-A format only	Structured opportunities for students to express thinking planned into lesson	Teacher gives feedback on HOW ideas are expressed — clarity, structure, reasoning	Communication tasks designed with defined audience and genuine purpose	Communication explicitly named as a skill; criteria shared before task; teacher models	Task design; teacher feedback quality; criteria given before communication tasks

Competency assessment mechanism of the Values Dimensions

The application of the Values dimension to the KSV framework is based on a theoretical rationale: the Values aspect consists of dispositional

orientations rather than additive behavioural criteria. Four depths can be identified with regard to each value component, although different manifestations are possible at each depth level.

Care

The Care value, based on the ethics of care by Noddings (2012), implies the teacher's focus on students as holistic individuals, through observation, engagement, and concern, regardless of their academic results. Transition from Depth 2 to Depth 3 becomes especially critical since it reflects the shift from reaction to observed behaviour to noticing what was invisible before. Although the teacher may be professionally friendly toward students, he/she might not see that some students have not talked during the last three weeks. As a professional value, care does not rely on positive attitudes; instead, it involves the professional attention to student paths and the corresponding actions.

Respect

Respect, in the context of culturally responsive teaching by Gay (2018), is reflected in the professional commitment of a teacher to ensure the full involvement of all students and consider diversity an asset rather than burden. The difference between the 'Inclusive Depth 3' stage and the 'Affirming Depth 4' stage is determined by whether a teacher deals with students' differences as a challenge to be overcome or tries to use them to add to the existing content. As argued by Gay (2018), culturally responsive teaching does not involve accommodating diversity but transforming it.

Responsibility

The Responsibility value, within Hargreaves and Fullan's (2012) framework of professional capital, is represented by teachers' accountability concerning students' learning. Thus, it refers to whether the teacher critically assesses his/her professional practices in light of students' learning achievements, or whether he/she assigns responsibility to students only. The difference between 'Depth 3' and 'Depth 4' concerns the systemic character of the approach rather than personal intentions. While a reflective teacher analyzes his/her practice after failures, an accountable one includes such analysis into the cycle of lesson planning and implementation.

The values dimension is presented in Table 4, and here is the significant difference in structure between Tables 2 and 3. In this case, the columns will be four depths of dispositions from Passive to Sustained rather than five ascending levels of competence as in the other tables. Thus, reading Table 4 involves looking not at the amount of expression of a particular value by a teacher but at the degree of this teacher's disposition towards it, whether it is caring, respectful or responsible attitudes that he or she exhibits in the usual context of work or just reacts to something. The assessor has to determine the degree which reflects the characteristics of a teacher's conduct the best, record his or her score from 1 to 4, and then check the information in the last column – patterns of attention to students over several lessons, assumptions about task design, and change in practice due to results obtained.

Table 4. KSV Framework — Values Dimension: Depth Levels and Observable Indicators

Value	Depth 1 Passive / Neutral / Compliant	Depth 2 Reactive / Sensitive / Responding	Depth 3 Proactive / Inclusive / Reflective	Depth 4 Sustained / Affirming / Accountable	Observable Through
Care	Responds only when directly required; students who do not approach are not noticed or followed up	Notices and responds to visible signs of student difficulty within the lesson moment	Reaches out proactively before being asked; follows up with students beyond the lesson	Monitors students consistently across lessons; adapts teaching; involves support systems when needed	Pattern of teacher attention across lessons; follow-up behaviour; proactive outreach without visible trigger
Respect	Equal treatment regardless of different student needs; diversity not addressed in lesson design	Avoids visibly exclusionary situations; sensitive to observable student differences	Actively designs for diverse participation; adapts tasks, examples, and access for all students	Uses student diversity as a pedagogical resource; all backgrounds explicitly enrich classroom learning	Task design; examples and contexts chosen; participation structures; assumptions about student experience
Responsibility	Fulfils required duties; poor student outcomes attributed primarily to student effort or prior preparation	Responds to poor outcomes with re-teaching; responsibility framed as shared with students	Examines own teaching contribution when students do not learn; makes specific changes to practice	Treats student outcomes as professional data; redesigns practice systematically; strengthens monitoring	Reflection on student results; evidence of lesson revision in response to outcomes; monitoring practices

The Integration Argument: Why All Three Dimensions Are Necessary

The foundational theoretical proposition in the KSV framework lies in the argument that knowledge, skills, and values are all required dimensions, where the absence of one of the other two makes the dimension without the other useless and incomplete. A teacher with high knowledge, but low skills, would understand both the subject matter and the learners, but would not be able to

construct learning engagements that foster critical thought processes and creative output or collaboration amongst learners. In such a scenario, the teacher's instructional strategies could be educational, but not mentally challenging to the learner, hence resulting in what Biggs and Tang (2011) refer to as a surface approach to teaching, producing surface approaches to learning. On the other hand, a teacher who displays high skills, but lower Knowledge, will develop interesting activities that do not correspond to the learners' current

understanding or do not go into the content sufficiently. Finally, a teacher with high skills and knowledge, but low values, may instruct competently but does not have a relationally-oriented approach towards learners that makes them understand the struggling ones, create learning experiences for students from diverse backgrounds that may not match the implicit curriculums, or reflect on their part in cases of negative results.

This argument holds true not only at the dimension level, but also at the component level. For instance, a teacher possessing only content knowledge, without learner knowledge, will provide an explanation that is technically correct, but not necessarily understandable. With regard to values, a responsible teacher without care creates an accountable approach to his or her teaching practice based solely on its consequences for the subject being taught. Conversely, a careful teacher without responsibility generates a warm attitude towards learners that is void of action when learning fails.

Advances made by the KSV Framework compared to Previous Approaches

In addressing the body of literature regarding teacher competency development, the KSV framework adds value through its ability to tackle three main limitations inherent in other frameworks used. First, most existing frameworks tend to have the problem of theoretical one-dimensionality, which means that while a particular framework may be well-established, it tends to focus solely on one aspect of the concept. For example, although Shulman's (1986, 1987) Pedagogical Content Knowledge (PCK) framework is well-cited and has been influential, it mainly focuses on the theoretical dimension of knowledge without much involvement of skills or values as another competency dimension. The same problem is encountered in the P21 framework of 2019, which identifies the 4Cs as core learning competencies but does so without giving sufficient emphasis to the fact that teachers have to embody these traits as competencies.

Secondly, the framework presents an integration thesis where all three dimensions are not simply added up but transform into something else once combined. For example, content knowledge transforms into something else once coupled with learner knowledge, because the way a teacher understands disciplinary content is shaped by his/her understanding of how a certain learner will engage with such content. Similarly, collaborative skills are transformed by adding respect to the mix, as collaboration in this scenario entails task designing that helps ensure participation of learners with diverse participation and cultural backgrounds. Such transformation is unique to this multidimensional approach to competency.

Third, reconfiguring the 4Cs as teacher professional competencies is an original move on my part. According to the systematic review by Almazroa and Alotaibi (2023), there is a noticeable absence in literature regarding professional development frameworks designed to target student 21st-century skills while questioning whether the teacher who would cultivate these skills in their learners possess them as professional competencies. The KSV framework provides a clear response to this gap by providing a Skills dimension that details critical thinking, creativity, communication, and collaboration.

Contribution to Teacher Professional Development

The practical contributions of the KSV framework stem from its ability to serve simultaneously as a needs analysis tool and developmental rubric. The KSV framework's five-tier system for knowledge and skills components will allow school leaders, professional development coordinators, and individual teachers to ascertain where on the developmental continuum they stand, and thus understand the exact competence transition they should aim at in order to achieve further development. Such a degree of specificity is missing from existing frameworks, which define competent teaching but lack insights into how these competencies are developed and, crucially, how this process could be facilitated. According to Darling-Hammond et al. (2017), the four key elements of effective professional development are long-term,

engaged learning, content-relatedness, and professional collaboration – a philosophy consistent with a framework-driven approach to designing professional learning experiences, and fundamentally incompatible with the prevailing workshop-based model of professional development.

Values depth allows us to propose a unique method of professional development – structured reflection on the set of orientations underlying teachers' decisions. A teacher who tends to blame bad student performance on the lack of effort (Depth 1 Responsibility) will not be brought to a higher level by a discussion of the importance of being professionally responsible – this requires analyzing particular cases, evaluating one's decision-making patterns, and changing them. By serving as the basis for this process, the KSV framework provides an opportunity to engage in values-centered professional development. In this vein, the framework can help realize the NEP 2020 policy vision, as it provides a means of operationalizing the concept of caring for, respecting, and taking responsibility for students (Ministry of Education, 2020).

Contribution to SDG 4 Quality Education

The KSV framework contributes to SDG 4 at a foundational level—the quality of the teachers—instead of contributing to SDG 4 at the level of curricula, accessibility to education, or standards for assessment, which might be regarded as more immediate dimensions of SDG 4. According to UNESCO (2015) Education 2030 Incheon Declaration and Framework for Action, “availability of qualified and trained teachers” is the pre-requisite for realizing SDG 4 Target 4.c. The KSV framework provides, as opposed to the existing national and international frameworks, an academically and empirically informed definition for qualification and training results of a teacher, represented in component-based competencies with indicator criteria and progressive levels of proficiency.

SDG 4 Target 4.7 emphasizes the need for all learners to gain “the knowledge and skills necessary for sustainable development and global

citizenship.” These capabilities can be realized only if there are teachers who can effectively promote Critical Thinking, Creativity, Collaboration, and Communication skills (KSV Skills) and who exhibit their teaching orientations in accordance with the principles of Care, Respect, and Responsibility (KSV Values). It would not suffice for teachers to lack one or two of these essential elements, and the learners would not benefit from it either, because a teacher without Learner Knowledge cannot accommodate the needs of students in quality education contexts; a teacher without 4C Skills cannot develop graduates for sustainable development; a teacher without Care, Respect, and Responsibility cannot serve as models for global citizens.

Conclusion

The paper presents a new, theoretically coherent framework for measuring teacher competency. This framework incorporates knowledge (learner knowledge, content knowledge, pedagogical knowledge), skills (critical thinking, creativity, collaboration, communication), and professional values (care, respect, responsibility), with each category defined progressively alongside corresponding observable indicators and evidence sources. The contribution of the proposed KSV framework to teacher competency theory comes from integrating three existing frameworks into a unified approach, shifting the 4Cs paradigm towards professional competencies of teachers, and showing that professional Values require a fundamentally different measurement technique because of their dispositional nature.

In essence, the proposed framework is based on a very simple yet profound idea: the quality of teaching at schools is dependent on what the teacher knows, what he or she can do, and what his or her professional Values are. In light of SDG 4 and its focus on quality education, all three domains mentioned above should be developed systematically during a teacher's entire professional career. The operationalized KSV framework with a clear measurement technique for each domain provides a theoretical foundation for accomplishing this goal.

Conflict of interest: The author(s) declared no potential conflicts of interest.

References

- Alexander, R. J. (2008). *Towards dialogic teaching: Rethinking classroom talk* (4th ed.). Dialogos.
- Almazroa, H., & Alotaibi, W. (2023). Teaching 21st century skills: Understanding the depth and width of the challenges to shape proactive teacher education programmes. *Sustainability*, 15(9), 7365. <https://doi.org/10.3390/su15097365>
- Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's educational objectives*. Allyn & Bacon.
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Open University Press.
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute. <https://learningpolicyinstitute.org/product/effective-teacher-professional-development>
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice* (3rd ed.). Teachers College Press.
- Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. Teachers College Press.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/00346543029874>
- Johnson, D. W., & Johnson, R. T. (1994). *Learning together and alone: Cooperative, competitive, and individualistic learning* (4th ed.). Allyn & Bacon.
- Ministry of Education. (2020). *National education policy 2020*. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
- Noddings, N. (2012). The caring relation in teaching. *Oxford Review of Education*, 38(6), 771–781. <https://doi.org/10.1080/03054985.2012.745047>
- OECD. (2019). *TALIS 2018 results (Volume I): Teachers and school leaders as lifelong learners*. OECD Publishing. <https://doi.org/10.1787/1d0bc92a-en>
- P21 Partnership for 21st Century Learning. (2019). *Framework for 21st century learning definitions*. Battelle for Kids. <https://www.battelleforkids.org/networks/p21>
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14. <https://doi.org/10.3102/0013189X015002004>
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1–22. <https://doi.org/10.17763/haer.57.1.j463w79r56455411>
- UNESCO. (2015). *Education 2030: Incheon declaration and framework for action for the implementation of Sustainable Development Goal 4*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000245656>