

Beyond Content Mastery: Rethinking Learning Outcomes through Competency-Based Education under NEP 2020

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ABSTRACT

The National Education Policy (NEP) 2020 calls for a reorientation of Indian education from content-heavy and examination-driven learning towards education that develops conceptual understanding, competencies, values, creativity, critical thinking, problem solving and the capacity to apply knowledge. However, a policy commitment to competency-based education (CBE) does not automatically explain how learning outcomes should be reconceptualised at the classroom level. This paper addresses that conceptual problem by examining the relationship among curriculum, pedagogy, competency development and assessment under NEP 2020. An integrative conceptual review and policy analysis was undertaken using NEP 2020, the National Curriculum Framework for School Education (NCFSE) 2023, PARAKH assessment initiatives, the OECD Learning Compass 2030, and selected peer-reviewed and scholarly literature on competency-based education. The analysis identifies four interdependent dimensions of the transition: (i) knowledge as a foundation rather than an end point, (ii) competencies as the capacity to mobilise knowledge, skills, attitudes and values, (iii) pedagogy as the process through which learners apply and transfer learning, and (iv) assessment as the evidence system through which demonstrated learning becomes visible. On this basis, the paper proposes an original conceptual framework for redefining learning outcomes as demonstrated, transferable and context-sensitive performance rather than mere coverage or recall of content. The framework connects educational goals, curriculum, pedagogy, learner engagement, authentic evidence and feedback in a single outcome pathway. The paper argues that CBE under NEP 2020 should not be reduced to changing question formats; it requires alignment among intended outcomes, learning experiences and evidence of competence. The paper concludes with implementation implications for teachers, curriculum developers, school leaders and assessment bodies, and identifies directions for future empirical research.

Keywords: Competency-based education, NEP 2020, Learning outcomes, Competency-based assessment, Holistic development

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I. INTRODUCTION

Educational systems are increasingly being asked to prepare learners for situations in which knowledge must be interpreted, applied, evaluated and combined with



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other forms of knowledge. The central educational question is therefore changing from how much content a learner can reproduce to what the learner can understand, do, create, communicate and decide responsibly with what has been learned. This does not make disciplinary knowledge less important. Rather, it places knowledge within a broader conception of learning in which understanding becomes meaningful when learners can mobilise it in authentic and varied contexts. NEP 2020 articulates this shift in the Indian context. The policy emphasises reducing curriculum content to core essentials, promoting critical thinking, inquiry, discussion, experiential learning, application and competency-based assessment, while also strengthening foundational literacy and numeracy, vocational exposure, flexibility and holistic development. The Ministry of Education's competency-based education materials similarly connect competencies and learning outcomes with holistic learner development. (Ministry of Education, 2020).

The policy direction has subsequently been given greater curricular and assessment specificity. NCF-SE 2023 establishes a progression from educational aims and curricular goals to competencies and learning outcomes, while PARAKH has developed assessment resources and Holistic Progress Cards intended to make learners' progress more comprehensive and competency-oriented. These developments suggest that competency-based reform is not simply a reform of examinations; it is a change in the alignment among curriculum, pedagogy and assessment.

Yet an important conceptual issue remains. In practice, competency-based education is sometimes interpreted as adding skills to an existing content-heavy curriculum or merely converting recall questions into application questions. Such an interpretation is too narrow. Competence involves the meaningful mobilisation of knowledge, skills, attitudes and values to meet demands in context. The OECD Learning Compass 2030 likewise treats competencies as more than isolated skills and emphasises the interdependence of knowledge, skills, attitudes and values, together with learner agency and reflection (OECD, 2019).

This paper therefore asks a central question: How can learning outcomes be reconceptualised under NEP 2020 so that knowledge remains a necessary foundation while competence, application, transfer, reflection and responsible action become visible dimensions of learning? The purpose is not to claim that content mastery should be abandoned. Instead, the paper argues for a progression from content acquisition to understanding, application, transfer and responsible performance.

II. REVIEW OF LITERATURE

Research on competency-based education shows that the field has developed multiple definitions and implementation models. Tahirsylaj and Sundberg (2020), in a systematic review of research on competences and competency-based curricula, identified substantial variation in how competence is defined and operationalised. This finding is important for the present study because policy language alone cannot guarantee conceptual consistency at classroom level.

Levine and Patrick (2019) describe contemporary CBE through a set of principles including explicit learning expectations, meaningful assessment, differentiated support, active learning, progress based on evidence of mastery and attention to equity. Their formulation suggests that CBE is a whole-system design rather than an assessment technique.

Evans, Landl and Thompson (2020) reviewed implementation and outcomes research in K-12 CBE and found that facilitators and barriers varied by context and stage of implementation. Their review also found mixed evidence regarding achievement, motivation and other outcomes. Particularly relevant is their observation that assessment is central to CBE but was absent or underdeveloped in many studies. This reinforces the argument that assessment must be treated as an integral component of the competency model.

Açikgöz and Babadogan (2021) reported conceptual agreement around learning outcomes and skills but continuing ambiguity concerning competence, proficiency and qualification. Their analysis also highlights the relationship between demonstration of competence and formative assessment. Such conceptual ambiguity makes it necessary for Indian policy implementation to clarify the relationship between competencies and learning outcomes.

Internationally, the OECD Learning Compass 2030 conceptualises competencies through the interaction of knowledge, skills, attitudes and values, and links them with agency, reflection and responsible action (OECD, 2019). This perspective is useful for NEP 2020 because it prevents competency from being reduced to employability skills alone and keeps holistic development within the learning framework.

In the Indian policy context, NEP 2020 provides the broad reform vision, while NCF-SE 2023 gives a more explicit curricular progression towards competencies and learning outcomes. PARAKH's current work on Holistic Progress Cards further demonstrates how assessment can capture multiple forms of learning evidence, including learner reflection, activities, projects, observation and other competency-related evidence. Together, these developments provide the policy architecture for the conceptual shift proposed in this paper.

Research Gap

The reviewed literature reveals three connected gaps. First, CBE research contains definitional variation, meaning that the term 'competency' may refer to different combinations of knowledge, skills, dispositions, performance and qualifications. Second, implementation studies frequently examine particular components—such as pedagogy, assessment, teacher preparation or learner outcomes—without providing a simple integrative pathway showing how these components jointly produce observable learning outcomes. Third, in the Indian context, policy documents clearly articulate the direction of reform, but classroom-level interpretation still requires conceptual clarification about how content, competencies, pedagogy and evidence should be aligned.

The rationale for the present paper is therefore not to repeat that NEP 2020 supports competency-based learning. That proposition is already established. The contribution is to specify what 'rethinking learning outcomes' should mean



operationally: knowledge remains foundational; competencies describe the mobilisation of knowledge and other resources; pedagogy creates opportunities to practise and transfer competence; assessment produces evidence of performance; and feedback supports refinement. This alignment constitutes the paper's central conceptual contribution.

III. OBJECTIVES

Research Questions

- What are the concepts and key principles of Competency-Based Education (CBE)?
- How does NEP 2020 support the shift from content mastery to competency-based learning outcomes?
- How can learning outcomes be rethought through CBE under NEP 2020?

Specific Objectives

- To examine the concept and key principles of Competency-Based Education (CBE).
- To analyze the shift from content mastery to competency-based learning outcomes under NEP 2020.
- To develop a conceptual framework for rethinking learning outcomes through CBE under NEP 2020.

IV. METHODOLOGY

The present paper adopts a conceptual and analytical methodology. It is based on a systematic review of relevant policy documents, educational frameworks, and scholarly literature related to learning outcomes, content mastery, competency-based education, and NEP 2020.

The collected literature was analyzed thematically to examine the shift from content-oriented learning to competency-oriented learning. The analysis focuses on key aspects such as knowledge, skills, application, critical thinking, problem-solving, and assessment of demonstrated competence.

A comparative analysis was used to highlight the differences between conventional content mastery and competency-based learning outcomes, along with the implications of this shift for teaching, learning, and assessment under NEP 2020.

V. CONCEPTUALISING CONTENT MASTERY AND COMPETENCY

Content Mastery as a Foundation

Content knowledge is indispensable to meaningful learning. A learner cannot critically evaluate an argument without relevant knowledge, solve a scientific problem without conceptual understanding, or communicate accurately without language resources. The problem arises when coverage and recall become the dominant definition of educational success. In a content-dominant model, learning

outcomes can become closely tied to the reproduction of information: define, list, identify, state or recall. Such outcomes are relatively easy to test but may provide limited evidence about whether learners can transfer knowledge to unfamiliar situations.

Competency as Mobilization of Knowledge

Competency-based education retains knowledge but changes its educational function. Competency is demonstrated when a learner can mobilise relevant knowledge, skills, attitudes and values to perform a task or respond appropriately to a situation. Levine and Patrick (2019) emphasise explicit and measurable learning expectations, meaningful assessment, differentiated support, active learning, evidence of mastery and equity. Evans et al. (2020) further show that CBE is a systems-change approach and that its outcomes cannot be separated from the way implementation is designed.

A useful distinction is therefore: content answers the question 'What should the learner know?'; understanding asks 'What does the learner make of that knowledge?'; competency asks 'What can the learner do with it?'; transfer asks 'Can the learner use it in a new context?'; and reflection asks 'Can the learner evaluate and improve the way the knowledge is used?' These dimensions are complementary rather than mutually exclusive. Table-1 provides a further elaboration of the above approaches.

Table-1: From Content Coverage to Competency-Oriented Learning Outcomes

Dimension	Content-Dominant Emphasis	Competency-Oriented Emphasis	Evidence of Learning
Primary Question	What information was covered?	What can the learner understand and do?	Observable performance
Role of Knowledge	End point of learning	Foundation for application and reasoning	Explanation, use and transfer
Pedagogy	Lecture, exposition, repetition	Inquiry, discussion, projects, practice and reflection	Learner products/processes
Assessment	Recall and one-time testing	Formative, authentic and varied evidence	Tasks, rubrics, portfolios, observation
Learner's Role	Receiver/reproducer	Active meaning-maker and problem solver	Agency, collaboration and reflection
Outcome	Retention and examination performance	Transferable competence and responsible action	Performance in meaningful contexts

Source: Author's compilation based on reviewed literature

VI. NEP 2020, NCF-SE 2023 AND THE COMPETENCY ORIENTATION

NEP 2020 proposes a broad transformation in the purposes and processes of education. It calls for less content overload and greater emphasis on conceptual understanding, critical thinking, creativity, problem solving, experiential learning and competency-based assessment. It also connects education with holistic development, vocational exposure, flexibility, values and responsible citizenship (Ministry of Education, 2020).



NCF-SE 2023 strengthens this direction by organising curriculum development through a progression from aims and curricular goals towards competencies and learning outcomes. This progression is significant because it prevents learning outcomes from becoming isolated lists of measurable statements. Instead, learning outcomes are positioned within broader competencies and curricular purposes. A competency-oriented curriculum therefore asks teachers not only what content is to be taught but also what learners should demonstrate after engaging with that content.

PARAKH provides an emerging assessment infrastructure for this policy direction. Its Holistic Progress Card is designed to report progress in relation to curricular goals and competencies and to use varied evidence rather than relying only on conventional marks. This illustrates an important principle: if educational systems want learners to develop competencies, assessment must make those competencies visible. A policy shift cannot be sustained if classroom incentives continue to reward only recall.

VII. PROPOSED CONCEPTUAL FRAMEWORK: THE KNOWLEDGE-TO-COMPETENCE ALIGNMENT MODEL

Based on the synthesis above, this paper proposes the Knowledge-to-Competence Alignment Model (KCAM). The model is the original conceptual contribution of the paper. It does not position content mastery and competency as opposing educational goals. Instead, it represents a developmental sequence in which knowledge becomes the foundation for understanding, application, transfer, reflection and responsible performance (Table-2).

Table-2: Knowledge-to-Competence Alignment Model

Stage	Core question	Illustrative Evidence
Knowledge Foundation	What essential concepts, facts and procedures must be understood?	Accurate explanation, conceptual map, demonstration
Meaning-making	Can the learner interpret and connect ideas?	Explanation in own words, comparison, interpretation
Competency Mobilisation	Can knowledge be used with relevant skills, attitudes and values?	Performance task, case analysis, practical activity
Transfer and Application	Can the learner apply learning in a new or real-life context?	Problem solving, project, authentic task
Reflection and Improvement	Can the learner evaluate performance and identify next steps?	Self-assessment, reflection log, feedback response
Responsible Performance	Can the learner communicate, collaborate and act ethically in context?	Portfolio, group product, presentation, community-linked task

Source: Author's conception

Conceptually, the model can be represented as: Educational aims → Essential knowledge → Meaningful understanding → Competency mobilisation → Application and transfer → Authentic evidence → Feedback and reflection → Demonstrated learning outcomes. The arrows are iterative rather than strictly linear: feedback can

send the learner back to knowledge, understanding or practice when evidence shows a learning gap.

Rethinking Learning Outcomes

Within the proposed framework, a strong learning outcome should contain more than a content reference. It should identify an observable performance and, where appropriate, a context, quality criterion or transferable action. For example, instead of an outcome such as 'students will understand environmental pollution', a competency-oriented formulation could be: 'students will analyse a local environmental problem, interpret relevant evidence, propose feasible solutions and justify their recommendations using scientific concepts and ethical considerations.' The second formulation does not remove content. It requires content to be used.

Learning outcomes should therefore be designed across multiple cognitive and performance levels. Some outcomes may appropriately assess foundational knowledge; others should assess explanation, application, analysis, creation, collaboration, communication and reflection. The balance will depend on the subject and stage of education. A competency-based approach should not imply that every lesson must be a project or that every assessment must be complex. Rather, the overall learning system should provide sufficient opportunities for learners to demonstrate increasingly complex performance.

Alignment of Curriculum, Pedagogy and Assessment

The central implication of the proposed model is alignment (Table-3). Curriculum determines what is worth learning; pedagogy determines how learners encounter, practise and apply that learning; assessment determines what counts as evidence. Misalignment occurs when curriculum documents emphasise competencies but classroom teaching remains primarily transmissive and examinations remain dominated by recall.

Table-3 Curriculum Alignment

Component	Traditional Tendency	Competency-Oriented Alignment	Examples
Curriculum	Content coverage	Essential content linked to competencies and outcomes	Concept + competency + context
Pedagogy	Lecture and repetition	Inquiry, discussion, modelling, practice, projects and reflection	Case study, experiment, debate, problem task
Assessment	Recall-heavy, one-time testing	Multiple sources of evidence across time	Rubric, portfolio, performance task, test
Feedback	Marks as final judgement	Actionable feedback for improvement	Descriptive comments, peer/self-assessment
Learner's Role	Receiver	Active participant with increasing agency	Choice, collaboration, reflection

Source: Author's conception

Discussion

The first implication is that competency-based education should not be interpreted as an anti-content movement. Knowledge is a necessary foundation. The reform lies in changing the relationship between knowledge and performance. Learners should be given opportunities to use knowledge to explain, investigate, solve, create, communicate and make decisions.

Second, the framework makes assessment central rather than peripheral. If competence is defined through demonstrated performance, then assessment must collect credible evidence of that performance. PARAKH's emphasis on holistic and competency-based reporting illustrates the direction of this reform. At the same time, varied assessment should remain purposeful and feasible; adding numerous activities without clear outcomes can increase workload without improving learning.

Third, teacher competence becomes a condition for successful CBE. Teachers need assessment literacy, task-design skills, knowledge of rubrics and feedback, and confidence in learner-centred pedagogies. Professional development should therefore move beyond one-time orientation programmes and include sustained practice, collaborative planning, moderation of assessment evidence and reflection.

Fourth, equity must be treated as a design principle. Flexible pathways and multiple forms of evidence can create opportunities for diverse learners, but only when schools have adequate resources and teachers are prepared to provide differentiated support. Otherwise, competency-based assessment may reproduce existing inequalities by rewarding learners who have greater access to enrichment opportunities outside school.

Fifth, the transition requires institutional alignment. School leaders, examination boards, curriculum bodies and teachers need a shared understanding of competencies and evidence. A competency-oriented curriculum paired with unchanged high-stakes assessment will produce mixed signals for teachers and students.

Finally, the proposed framework is deliberately presented as a conceptual model rather than as an established causal theory. Its usefulness should be tested through empirical studies across subjects, school stages and contexts.

VIII. CONCLUSION

Summary

NEP 2020 provides a strong policy basis for moving Indian education beyond narrow definitions of content coverage and examination performance. The central challenge, however, is to translate this direction into a coherent learning architecture. This paper argues that the solution is not to discard content knowledge but to reposition it as the foundation for understanding, application, transfer, reflection and responsible performance.

The proposed Knowledge-to-Competence Alignment Model offers a conceptual pathway linking educational aims, essential knowledge, meaning-making, competency mobilisation, authentic application, evidence, feedback and demonstrated learning outcomes. Its principal contribution is therefore an explicit alignment perspective: competencies become meaningful only when curriculum specifies them, pedagogy provides opportunities to develop them, and assessment generates credible evidence of them.

Competency-based education under NEP 2020 should consequently be understood as a systemic redefinition of what counts as learning. The goal is not simply to produce learners who know more, nor merely learners who possess isolated skills, but learners who can use knowledge thoughtfully, solve problems, communicate and collaborate, reflect on their learning, adapt to unfamiliar contexts and act responsibly. Whether this conceptual promise translates into improved outcomes will require rigorous empirical investigation. The framework proposed here provides one basis for undertaking that work.

Educational Implications of the Study

For Teachers

- Translate curricular competencies into a manageable set of observable learning outcomes.
- Use a deliberate mix of direct instruction, inquiry, discussion, practice, projects and reflection.
- Design assessment tasks that require application and explanation, not only recall.
- Use rubrics and descriptive feedback to make quality of performance visible.
- Provide differentiated support and opportunities for learners to revise work.

For Curriculum Developers

- Reduce unnecessary content load while protecting essential disciplinary knowledge.
- Map curricular goals, competencies and learning outcomes explicitly.
- Ensure progression in complexity across stages rather than repeating the same skill labels.
- Provide exemplars of competency-oriented tasks and assessment criteria.

For School Leaders and Teacher Educators

- Build sustained professional learning in pedagogy and assessment literacy.
- Create collaborative planning and moderation opportunities.
- Support access to materials, technology and time for authentic learning tasks.
- Monitor whether school assessment practices are aligned with stated competencies.

For Assessment Bodies

- Use balanced assessment blueprints that include foundational knowledge and higher-order application.



- Develop authentic tasks, item banks and rubrics linked to clearly stated learning outcomes.
- Use multiple forms of evidence where appropriate and ensure comparability through clear criteria.
- Use assessment information formatively to identify learning needs rather than only for ranking.

Limitations and Directions for Future Research

This paper is conceptual and does not report primary data from teachers, students or institutions. Consequently, the proposed Knowledge-to-Competence Alignment Model should not be interpreted as empirically validated. In addition, competency-based education is implemented differently across education systems, subjects and school stages, so no single model can capture every context.

Future research should test the framework through mixed-method and longitudinal designs. Studies could examine whether explicit alignment among learning outcomes, pedagogy and assessment predicts changes in learner performance, engagement or transfer. Classroom observation could investigate how teachers interpret competency statements; assessment studies could examine the validity and reliability of competency-based tasks and rubrics; and comparative studies could examine implementation across states, school boards and educational stages. Such empirical work would move the discussion from policy aspiration and conceptual synthesis towards evidence-informed implementation.

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