

Flexibility without Infrastructure: Programme Information and the Implementation of Credit Mobility under India's National Education Policy 2020

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Abstract

India's National Education Policy 2020 lets students leave a programme with a certificate or diploma, return later, and carry credits between institutions. The instruments built for this, including the Academic Bank of Credits and the national qualifications and credit frameworks, assume that every programme can be identified, placed at a level and compared. This article argues that the assumption is rarely met. The programme information on which credit mobility depends is an infrastructure that the reforms presuppose but do not build. Drawing on infrastructure studies, work on information as a tool of government and Matland's ambiguity–conflict model of implementation, the article analyses national policy documents and the case of Karnataka. Karnataka was the first state to order implementation of the policy in 2021, withdrew four-year undergraduate programmes in 2024 and has since moved towards a state policy, so students admitted in different years now follow different structures. The article advances four propositions. It argues that programme records able to describe any degree structure are the part of the reform most likely to survive a change of government.

Keywords: National Education Policy 2020; Academic Bank of Credits; credit mobility; programme information; policy implementation; Karnataka

Introduction

The National Education Policy 2020 (NEP 2020) changed what an undergraduate programme in India is supposed to be. A student may now leave after one year with a certificate, after two with a diploma, or after three with a degree. She may return within a fixed period and continue, possibly at another institution, carrying the credits she has already earned (Ministry of Human Resource Development, 2020). The University Grants Commission (UGC) turned this into rules within a year. In July 2021 it notified regulations for an Academic Bank of Credits (ABC) and issued guidelines for multiple entry and exit, setting credit requirements for each exit point (UGC, 2021a, 2021b).

These reforms rest on an assumption that is rarely stated. For a credit to be carried from one place to another, the receiving institution has to know what it was earned in. It needs to know which programme,

at what level, under which version of the regulations, and with what learning outcomes. Credit mobility therefore depends on programme information. Each programme needs a stable identity, a place on a shared scale of levels and credits, and a record of how it has changed.

This article argues that in much of Indian higher education such information does not yet exist in a usable form. The policy treats programme information as a background condition. In practice it is an infrastructure that someone has to build and maintain.

Karnataka shows what happens when this infrastructure is missing and policy changes direction. The state was the first to order implementation of NEP 2020 in higher education, from the 2021–22 academic year (Careers360, 2021). Following a change of government, it announced in 2023 that it would replace the national policy with a state policy (Careers360, 2023). In 2024 it discontinued four-year undergraduate programmes for new students (Careers360, 2024). As a result, students admitted to nominally the same degree in different years are following different structures.

The article identifies programme information as the missing layer of the flexibility agenda. It uses theory from infrastructure studies, public administration and implementation research to explain why this layer is overlooked and why its absence matters most when policy is contested. It ends with four propositions about how credit mobility reforms will unfold where the layer is missing. The argument draws on a doctoral study of programme indexing in HEIs in Karnataka, but it does not depend on that study's survey results.

Approach

This is a conceptual article with an illustrative case. Following Jaakkola (2020), it adapts theory: concepts developed elsewhere are applied to a problem they were not designed for, in order to show something about that problem that existing accounts miss.

The empirical material is documentary. National sources are NEP 2020, the UGC regulations and guidelines of 2021 and 2022, the National Higher Education Qualifications Framework (NHEQF) and the National Credit Framework (NCrF). For Karnataka, the article relies on reports of government decisions in the education press, because state orders are not consistently available in public archives. Each event used here was checked against at least one dated report. Press sources are used to establish what was decided and when, not to judge the effects of decisions.

Karnataka was chosen as a revealing case rather than a typical one. It adopted the reforms early, reversed part of them within three years, and built its own digital platform for public universities. If programme information matters for credit mobility, its absence should be most visible here.

The Flexibility Agenda and What It Assumes

Four instruments make up the core of the flexibility agenda in undergraduate education.

- **Multiple entry and exit.** The UGC guidelines of July 2021 allow exit with an undergraduate certificate after one year (36–40 credits) and a diploma after two (72–80 credits). A three-year degree requires 108–120 credits and a four-year degree with honours or research 144–160. Credits remain valid for up to seven years (UGC, 2021b). The Curriculum and Credit Framework for Undergraduate Programmes, issued in December 2022, built the four-year structure around these exit points (UGC, 2022).
- **The Academic Bank of Credits.** Under the 2021 regulations, registered institutions deposit the credits their students earn into individual academic accounts. Credits can then be accumulated, trans-

ferred and redeemed for a qualification (UGC, 2021a).

- **The NHEQF.** This places higher education qualifications on levels 4.5 to 8, each with expected learning outcomes (UGC, 2023a).
- **The NCrF.** This links credits across school, higher and vocational education on a common set of levels (UGC, 2023b).

Each instrument makes a different assumption about programme information. Exit points assume that institutions can tell, for any student, how many credits she has earned at which level. Re-entry assumes that the programme she returns to can be matched to the one she left, even if its regulations have changed. Transfer through the ABC assumes that a credit earned in one institution's programme means something comparable in another's. The NHEQF and NCrF assume that programmes can be placed on a common scale.

None of the instruments specifies how institutions should identify, describe and maintain their programmes so that these assumptions hold. The ABC regulations govern the deposit of credits, not the description of the programmes in which they were earned. The frameworks supply categories but leave their application to institutions. A deposited credit therefore carries a number but little information about what it represents.

This gap is not unique to India. In Europe, the European Credit Transfer and Accumulation System has existed since the late 1980s. Even so, the most recent implementation report finds that only in a little over half of systems must the documents accompanying a qualification state the learning outcomes achieved. It also finds that automatic recognition remains "a challenging concept for many working in this sector" (European Commission/EACEA/Eurydice, 2024). In Europe, as in India, credit rules have spread faster than the descriptions that give credits meaning.

Theoretical Lens

Three bodies of theory explain why programme information is overlooked in reform and why its absence matters.

Programme Information as Infrastructure

Star and Ruhleder (1996) argued that infrastructure is a relation, not a thing: something becomes infrastructure when it quietly supports other people's work. Three of the properties they identified matter here.

First, infrastructure embodies standards. A programme record that uses NHEQF levels and NCrF credits can plug into national systems; one that uses local categories cannot. Second, infrastructure is built on an installed base. New systems inherit the strengths and the limits of what already exists. In India, that base is a mass of university-specific regulations, scanned syllabi and college prospectuses. Third, infrastructure becomes visible on breakdown. While a system works, no one notices the records beneath it. When a student cannot get credits recognised, or is told her completed degree is incomplete, the missing records suddenly matter.

Bowker and Star (1999) add that classification systems carry choices about what counts as the same. Deciding that two programmes at different universities are at the same level, or that a credit in one equals a credit in another, is a classification decision. The flexibility agenda makes many such decisions necessary but leaves them to be made one at a time.

Information as a Tool of Government

Hood and Margetts (2007) classify the tools of government into four kinds. *Nodality* is the state's position at the centre of information networks. The others are *authority*, the power to command; *treasure*, money; and *organisation*, the state's own staff and capacity.

The flexibility agenda relies heavily on authority: regulations, guidelines and deadlines for uploading credits. It relies far less on nodality. The state can require institutions to deposit credits, but it cannot read those credits unless it can also see the programmes behind them. A credit bank without a programme register is a ledger of entries whose meaning is held elsewhere. Building nodality requires organisation, meaning the staff and systems that keep records current. Affiliated colleges, which depend on their universities for programme design, are likely to have the least of both.

The Ambiguity–Conflict Model of Implementation

Matland (1995) explained differences in implementation along two dimensions. The first is the ambiguity of a policy's goals or means; the second is the degree of conflict over it. Together they give four types of implementation:

- **Administrative** (low ambiguity, low conflict): outcomes depend on resources.
- **Political** (low ambiguity, high conflict): outcomes depend on power.
- **Experimental** (high ambiguity, low conflict): outcomes depend on local context.
- **Symbolic** (high ambiguity, high conflict): outcomes depend on the strength of local coalitions.

The model separates two things that are often confused in Indian debate. Disagreement over *which* degree structure to adopt is a matter of conflict. Uncertainty over *how* credits and programmes should be described is a matter of ambiguity. The two can change independently.

Figure 1 places the instruments discussed in this article in Matland's matrix.

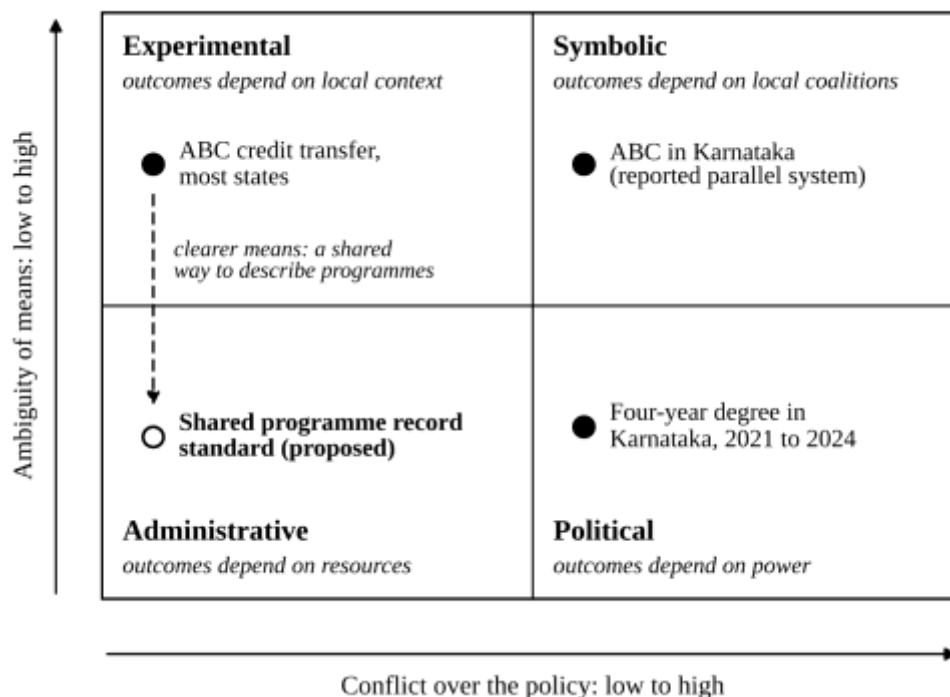


Figure 1. Instruments of the flexibility agenda placed in Matland's (1995) ambiguity–conflict model. Placements are the author's analysis of the Karnataka case, discussed below. *Source:* Adapted from Matland (1995).

The Missing Layer: Informational Preconditions of Credit Mobility

Table 1 sets out, for each promise of the flexibility agenda, what it requires of programme information and what institutions would need to hold. The third column is, in effect, a specification of the infrastructure that the reforms presuppose.

Table 1. Promises of the flexibility agenda and their informational preconditions

Promise	What it assumes	What the institution must hold
Exit with a certificate or diploma	Credits earned can be counted by level for each student	Each programme mapped to NHEQF levels, with credits recorded by course and year
Re-entry within seven years	The programme a student returns to can be matched to the one she left	A stable programme identifier, with a dated record of each change to its regulations
Transfer through the ABC	A credit from one institution's programme is comparable to another's	Shared descriptors of level, credit and learning outcomes, readable outside the institution
Multidisciplinary choice	Courses from other departments and institutions can count towards a programme	Course-to-programme mapping, with each course's credits and level
Accreditation and public disclosure	Programme information is accurate and current	One authoritative record per programme, kept between review cycles

Two features of the table matter for the argument. First, every row requires a record that persists over time. Flexibility is a promise about the future: a student who exits in 2026 and returns in 2031 relies on a record of the programme as it was in 2026. Second, every row requires the record to be readable outside the institution that made it. Neither condition is met by the documents most institutions hold, which are prospectuses for the current year and regulations stored as files.

The gap falls hardest on affiliated colleges. In 2021–22, 45,473 colleges were affiliated to or recognised by 328 universities (Ministry of Education, 2024). In an affiliating system, the university defines the programme and the college delivers it, so the authoritative record, if one exists, sits in the university. When a university revises its regulations, every affiliated college inherits a change it did not make and may not record.

Karnataka: Adoption, Reversal and the Records Left Behind

Sequence of Events

- **2021: early adoption.** In August 2021, Karnataka became the first state to issue an order implementing NEP 2020 in higher education, with effect from the 2021–22 academic year (Careers360, 2021). Four-year undergraduate programmes with exit options were introduced in state universities and their colleges.

- **2023: reversal announced.** Following a change of government, the state announced in August 2023 that it would replace NEP 2020 with a state policy and set up a committee to draft one (Careers360, 2023).
- **2024: four-year degree withdrawn.** A government notification in May 2024 discontinued four-year programmes from the 2024–25 batch. Students admitted in 2021–22, 2022–23 and 2023–24 could still complete a fourth year where it was offered (Careers360, 2024).
- **2025: state policy proposed.** The State Education Policy Commission submitted its final report in August 2025. Among other changes, it recommended a 3+2 structure for undergraduate and postgraduate general education (Deccan Herald, 2025).
- **2026: uncertainty persists.** In August 2026, a press report described universities and students as caught between withdrawn national rules and a state policy not yet implemented (Belur, 2026).

Alongside these changes, the state built its own platform. The Unified University and College Management System (UUCMS) brings the public universities and their colleges onto one system for admissions, academics and examinations (Department of Higher Education, Government of Karnataka, n.d.). In January 2025, students reported delays in receiving marks cards and difficulty downloading them from the platform (ETV Bharat, 2025). *Times Higher Education* reported in November 2024 that Karnataka had not joined the ABC and was relying on its own DigiLocker-based arrangements (Packer, 2024).

Reading the Case through the Theory

The dispute over the four-year degree fits Matland's (1995) *political* implementation. The means were clear, since the UGC framework specified the structure and credits (UGC, 2022). The conflict was high, because the policy became a point of contention between the state and national governments. In political implementation, outcomes follow power, and the structure changed when the government did.

Credit transfer through the ABC sits differently. Its goals attract little open disagreement, but its means are ambiguous, because no shared standard says how programmes should be described. In most states this suggests *experimental* implementation, in which outcomes depend on local capacity. In Karnataka, where national and state systems were reported to run in parallel (Packer, 2024), ambiguity met conflict and the result looks closer to *symbolic* implementation: commitment in principle, uneven practice.

The infrastructure lens explains the consequences for students. At least three cohorts now coexist in Karnataka's undergraduate programmes: those admitted to the four-year structure from 2021–22 to 2023–24, those admitted to the three-year structure from 2024–25, and those who may be admitted under a future state structure. A programme with one name can therefore carry two or three sets of rules at once. Unless each programme's record states which rules apply to which batch, the information needed to award an exit certificate, admit a returning student or accept a transferred credit is lost.

Breakdowns of this kind have begun to appear. One press report described a graduate who had completed a three-year degree being asked by her college to return for a fourth year (Belur, 2026). In Star and Ruhleder's (1996) terms, this is infrastructure becoming visible on breakdown.

An Earlier Precedent

Karnataka's experience is not the first of its kind. The University of Delhi introduced a four-year undergraduate programme in 2013. About 60,000 students entered it before the UGC ordered a return to the three-year structure in 2014, roughly a month before the next session began (Koenig, 2014). The

direction of reversal was opposite, but the pattern was the same: a contested degree structure changed within a short time, and students already enrolled had to be carried across on the strength of the institution's records.

Discussion: Four Propositions

The analysis suggests four propositions. Each could be tested in Karnataka or in other states.

P1. Credit mobility will lag behind degree-structure reform wherever programmes lack stable identifiers and shared descriptors of level and credit. Experience elsewhere supports this. In the United States, which has a long-established credit system, the Government Accountability Office estimated that students who transferred between 2004 and 2009 lost about 43 per cent of their credits on average. It linked the losses partly to missing transfer agreements and to information that students could not easily find (Government Accountability Office [GAO], 2017). A credit system works only as well as the information that tells a receiving institution what a credit means. In India, the first studies of the ABC also report gaps in infrastructure and in institutional readiness (Kadam et al., 2026).

P2. Where conflict over degree structure is high, programme records that can describe any structure will outlast the structures themselves. A record that states a programme's level, credits, outcomes and the rules that apply to each batch does not take sides between a three-year, a four-year or a 3+2 degree. It is useful under any of them, and so it is unlikely to be reversed by a change of government. In Matland's (1995) terms, such a record reduces the ambiguity of means without adding to the conflict over ends. This moves credit transfer towards administrative implementation, where outcomes depend on resources rather than power (Figure 1).

P3. Reversals make the missing infrastructure visible, and their cost falls on students in transition. Karnataka and the University of Delhi both show that a structure can be withdrawn faster than a cohort can complete it. When that happens, the burden of proof shifts to the student, who has to show what she studied and under which rules. Records that nobody consults while policy is stable decide her case once it changes.

P4. National credit platforms will be adopted unevenly across states unless state and national programme records can exchange data. Education is on the Concurrent List. In May 2025 the Supreme Court held that it "cannot directly compel a State to adopt a policy like the National Education Policy 2020" (Scroll, 2025). Parallel systems such as Karnataka's are therefore likely to persist. Credit mobility between states then depends less on a single national platform than on whether state and national systems can read each other's programme records.

These propositions point to a question of sequence. Indian reform has tended to change degree structures first and to treat the records needed to support them as an administrative detail. The analysis here suggests reversing the order. The next section sets out what that would involve.

Two cautions apply. First, standardised descriptions can narrow what counts as a programme; interdisciplinary and locally designed programmes fit least well into shared categories (Bowker & Star, 1999). Second, a record standard is not neutral about who holds authority. If the state or a national body defines the categories, some control over programmes moves away from universities. A workable standard would therefore need to be agreed between the UGC, state councils and universities, with a route for contesting how a programme is classified.

Implications for Policy

If the propositions hold, the next round of reform should attend to records before structures. The responsibilities fall on different bodies.

- **The UGC and the national credit platform.** A minimum programme record could be specified alongside the NHEQF and NCrF. It would give each programme a code, level, field, credits, outcomes, approving body, approval date and status. Credit deposits in the ABC could then carry the code and version of the programme in which each credit was earned. A deposited credit would no longer be just a number; a receiving institution could see what it represents.
- **State governments and higher education councils.** States that run their own platforms, as Karnataka does, need not join a single national system to support mobility. They need programme records that national systems can read. A state programme register that uses the national descriptors, and that records which degree structure applies to each batch, would let state and national systems exchange data even while their governments disagree about structure.
- **Affiliating universities.** Because the university defines the programmes its colleges deliver, it is the natural custodian of the authoritative record. Each change approved by a Board of Studies or Academic Council should be entered in the record with the batch from which it applies, and affiliated colleges should publish from that record rather than keep their own versions.
- **Accreditation.** As NAAC revises its methods, it could ask institutions for evidence that programme records are maintained between assessment cycles, such as dated revision histories, rather than only for documentation compiled at the time of a visit.

None of these steps requires a decision about whether undergraduate degrees should last three years, four years or follow a 3+2 pattern. That is their main advantage. They can proceed while the structural question remains open, and they protect the students who are most exposed when it is settled one way and then another.

Limitations and Further Research

The article has three limitations. The Karnataka account rests largely on press reports, because state orders are not consistently published. These reports establish what was decided and when, but not how the decisions were carried out in particular universities. The report that Karnataka had not joined the ABC comes from a single source (Packer, 2024) and needs confirmation from official records. Finally, the propositions are derived from theory and one case, so they need testing.

Three studies would test them most directly:

- **A cohort study.** Follow students admitted to four-year programmes in Karnataka between 2021 and 2024, and record what happens when they exit, return or transfer (P1, P3).
- **An audit of programme records.** Check whether universities' published records state which structure applies to which batch (P2).
- **A comparison across states.** Compare states that adopted the national structure with those that did not, examining how credits move between them (P4).

Conclusion

NEP 2020 promised students the freedom to leave, return and move between institutions. Delivering that promise requires records as well as rules. A credit can travel only if the programme in which it was

earned can be identified, placed on a shared scale and traced as it changes. So far, Indian reform has built the rules and the national platform faster than the records.

Karnataka shows what follows. The structure of the undergraduate degree was contested and changed within three years. Students in different cohorts now study under different rules, and whether they can exit, return or transfer depends on records that were not designed for the purpose.

The argument has a practical consequence for reformers. A standard way of recording programmes does not require agreement on which degree structure is right. It can be adopted by governments that disagree about structure, and it would protect students whichever structure prevails. That makes it the part of the flexibility agenda most worth building first.

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