International Journal of Education, Modern Management, Applied Science & Social Science (IJEMMASSS)
An International Quarterly bi-lingual Multidisciplinary Double Blind Open Access Peer Reviewed Refereed Journal
ISSN:2581-9925, Impact Factor (Cosmos: 7.555 & I2OR: 5.105), Volume 08, No. 04(I), October-December, 2026, pp. 31-38

Education for a Changing World: Liberal Arts Education and the Case for Structural Integration

Roopa Varma T P[1*] | Prof. (Dr.) Sunil Kumar A S[2]

[1]Research Scholar, NSS Training College Ottapalam, University of Calicut.
[2]Professor, NSS Training College Ottapalam, University of Calicut.

[*]Corresponding Author: roopavarmavkt@gmail.com

Citation: Varma, R. & Kumar, S. (2026). Education for a Changing World: Liberal Arts Education and the Case for Structural Integration. International Journal of Education, Modern Management, Applied Science & Social Science, 08(04(I)), 31–38. https://doi.org/10.62823/IJEMMASSS/8.4(I).9642

ABSTRACT

Schools are being asked to prepare young people for economies, technologies and civic conditions that nobody can describe with confidence. Estimates of how automation and generative artificial intelligence will alter work differ widely, yet most of them point in one direction: tasks built on routine procedure are the easiest to hand over to machines, while tasks that call for judgement, explanation and cooperation with others are gaining value. This conceptual paper asks what kind of education answers that situation, and it argues that the long tradition of liberal education offers a better starting point than the narrow, examination-driven specialisation that still governs much schooling in India and elsewhere. The paper first reviews labour-market and policy evidence on the changing demand for skills, drawing on Autor, Levy and Murnane, on Deming, and on Eloundou and colleagues, along with the framing documents of UNESCO and the OECD. It then traces the idea of liberal education from the classical artes liberales, through Newman and Dewey, to Nussbaum's account of democratic citizenship, and sets this history alongside the Indian precedents recognised in the National Education Policy 2020. A review of empirical studies follows. Research from the Wabash National Study and related work links particular liberal arts experiences, such as clear teaching, sustained discussion and frequent contact with teachers, to gains in critical thinking, while meta-analytic evidence shows that critical thinking responds to explicit instruction set in authentic problems. The same literature cautions that thinking skills do not transfer automatically across domains and that much of the evidence rests on self-selected samples and self-report. From this evidence the paper develops a distinction between structural integration, in which one discipline supplies the working logic of a task in another, and decorative integration, in which subjects are simply placed side by side around a theme. It argues that liberal education earns its claims only in the first form. The paper closes with implications for Indian school education and teacher preparation under NEP 2020 and the National Curriculum Framework for School Education 2023, and it identifies examination design and teacher education as the places where reform is most likely to stall.

***Keywords**: Liberal Arts Education, Interdisciplinary Curriculum, Critical Thinking, Future of Work, National Education Policy 2020.*

Introduction

Every generation of educators has believed that it lives through a period of unusual change, and most of them were right. What seems different now is the difficulty of predicting where the change is heading, more than its speed. A child who begins school this year will leave it in the late 2030s and may still be working in the 2070s. No curriculum committee can know which occupations will exist by then,

Copyright © 2026 by Author's and Licensed by Inspira. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work properly cited.

which tools people will use, or which public questions will divide their societies. Education has always had to prepare children for a future its designers could not see, but the gap between what schools teach and what their graduates will need has rarely been so hard to estimate.

Two broad responses to this uncertainty appear in current policy. One treats the future as a forecasting problem: identify the occupations likely to grow, work backwards to the knowledge they require, and move students into those tracks early. The other treats uncertainty itself as the condition to prepare for. On this view, the most useful thing a school can give a young person is a way of learning and reasoning that will still serve after the content of a job or a technology has changed several times. The second response is, in outline, the argument made for liberal education for more than two thousand years.

This paper asks whether that old argument holds up under present conditions. It is conceptual rather than empirical, and its method is a critical reading of three bodies of literature: research on the changing demand for skills, the philosophical tradition of liberal education, and empirical studies of what liberal arts experiences do for students. Two claims follow. One is that the case for breadth has grown stronger as automation and generative artificial intelligence (AI) have taken over more routine cognitive work. The other, which matters more for practice, is that liberal education delivers its promised outcomes only when disciplines are integrated at the level of structure, so that one field supplies the working logic of a problem in another. Where subjects are merely placed side by side, the evidence for any gain is weak.

The Indian context gives the question a practical edge. The National Education Policy 2020 (Ministry of Human Resource Development [MHRD], 2020) commits the country to multidisciplinary, liberal education at every level, and the National Curriculum Framework for School Education 2023 (National Council of Educational Research and Training [NCERT], 2023) carries that commitment into the school curriculum. Whether these commitments change what happens in classrooms will depend on decisions about assessment and teacher preparation that have not yet been taken. The final sections of the paper turn to those decisions.

What Is Changing, and Why the Forecasts Point Towards Breadth

The research on technology and work does not agree on numbers. Frey and Osborne (2017) estimated that about 47 per cent of employment in the United States was in occupations at high risk of computerisation. Arntz et al. (2016), working with data on the tasks within individual jobs rather than whole occupations, arrived at a figure closer to 9 per cent across OECD countries. Most of the difference is methodological: occupations are bundles of tasks, and a machine that performs some of them does not necessarily replace the person holding the job.

Beneath this disagreement lies a more stable finding. Autor et al. (2003) showed that computerisation in the late twentieth century substituted for routine tasks, manual and cognitive alike, and complemented non-routine tasks calling for problem-solving and interaction with people. Deming (2017) found that between 1980 and 2012 the jobs growing fastest in the United States combined analytical with high social demands, while jobs requiring mathematical skill without social skill fared comparatively poorly. His explanation is that computers remain poor at the loosely defined work of coordinating with others, persuading them, and adjusting to what another person needs.

Generative AI complicates this older picture, since it performs tasks once thought safely non-routine: drafting text, summarising documents, writing code. Eloundou et al. (2024) estimated that around 80 per cent of the United States workforce could have at least a tenth of their tasks affected by large language models, and roughly 19 per cent at least half. Unlike earlier waves of automation, this exposure falls more heavily on higher-wage and better-educated occupations. For educators the implication is uncomfortable. Much of the performance examinations reward, such as recalling a procedure or reproducing a standard answer, now resembles work that software does cheaply.

Employers appear to have noticed. In the World Economic Forum's (2025) survey, analytical thinking was named the most important core skill, and respondents expected close to two-fifths of the skills workers currently rely on to change by 2030. Such surveys report what employers say rather than what they pay for, but their findings match the labour-market studies above.

A less discussed risk sits alongside these findings. Gerlich (2025) surveyed 666 participants in the United Kingdom and found that frequent use of AI tools was negatively associated with critical thinking scores, an association that ran largely through what he called cognitive offloading, the habit of

letting the tool do the thinking. The study is cross-sectional and cannot establish cause. Even so, it points to a problem that schools cannot ignore. If students learn to hand over judgement at the same moment the labour market begins to prize it, the result will be a widening gap between people who can evaluate machine output and people who can only accept it.

International policy frameworks have moved in a similar direction, though their language is more aspirational. The OECD Learning Compass 2030 (OECD, 2019) describes the aim of education in terms of student agency and the ability to reconcile tensions and act in unfamiliar situations. UNESCO's International Commission on the Futures of Education (UNESCO, 2021) calls for a new social contract in which education prepares people to live together and repair a damaged planet, and not only to compete for jobs. Neither document is a research study, and both can be faulted for vagueness. Read alongside the economic evidence, however, they suggest that the case for breadth is no longer a humanistic preference alone.

The Idea of Liberal Education: A Long Argument About Freedom

The phrase "liberal arts" comes from the Latin artes liberales, the studies considered proper to a free person rather than to someone trained for a trade. By late antiquity these had settled into seven subjects: the trivium of grammar, logic and rhetoric, and the quadrivium of arithmetic, geometry, music and astronomy. The list contradicts a common modern assumption, since four of the seven were mathematical. The sharp separation of the sciences from the humanities that shapes today's school timetables is a much later arrangement, with no roots in the tradition that gave liberal education its name.

Kimball (1986) argued that the history of liberal education is best understood as a tension between two traditions. The oratorical tradition, running from Isocrates and Cicero, saw education as forming citizens who could speak well in public affairs, and valued inherited texts and settled virtues. The philosophical tradition, associated with Socrates and Plato, saw it as a search for truth willing to question inherited belief. Many later arguments, including current ones, are disputes between these positions over whether the aim is to transmit a shared culture or to train independent inquiry.

In the nineteenth century, John Henry Newman gave the idea one of its best-known modern statements. In The Idea of a University, Newman (1852/1996) defended knowledge pursued for its own sake and described the result of such study as a trained habit of mind, marked by calmness, fairness and an ability to see how the branches of knowledge relate to one another. Newman was suspicious of education justified by its usefulness, and his defence had a frankly aristocratic cast. Dewey (1916) took the idea in another direction. For Dewey, the division between liberal and vocational education reflected an older social division between those who worked with their hands and those who enjoyed leisure, and he believed that a democracy could not afford to keep it. Education, in his account, should connect thinking to the problems people actually face. It should be liberal in the sense of freeing intelligence, not in the sense of standing apart from practical life.

Nussbaum (1997) renewed the democratic argument for a late twentieth-century audience. The capacities liberal education should develop, she held, are the ability to examine one's own beliefs critically, the ability to see oneself as bound to people beyond one's local group, and narrative imagination, the capacity to think what it would be like to stand in another person's position. She later warned that democracies, India among them, were cutting the humanities in pursuit of economic growth, leaving themselves with citizens able to produce but poorly equipped to deliberate (Nussbaum, 2010).

India has its own precedents, and the National Education Policy 2020 draws attention to them. The policy points to the multidisciplinary learning of ancient centres such as Takshashila and Nalanda, and to classical accounts of the sixty-four kalas, a range of arts that included singing and painting alongside chemistry and mathematics (MHRD, 2020). References of this kind can be used carelessly, as an appeal to heritage standing in for argument. Used with care, they make a real point: the idea that serious learning crosses subject boundaries was not imported from the West. Tagore's school at Santiniketan, and the university he later founded there, joined art, science, the study of nature and international exchange within one education, partly in opposition to a colonial model of schooling built around examinations and clerical employment.

A working definition can be drawn from these sources. Liberal education is better described as a set of aims than as a list of subjects: the ability to reason about unfamiliar problems, to see connections between different kinds of knowledge, to communicate clearly with people who think differently, and to judge the claims one meets. The liberal arts are the disciplines through which these aims have usually

been pursued. Keeping the two ideas apart matters, because it allows a mathematics or physics class to be liberal in its aims and a literature class to be illiberal in its methods.

A Global Spread, and Its Tensions

For most of the twentieth century, the liberal arts college was largely an American institution. That is no longer so. Godwin (2015) identified nearly two hundred liberal education programmes outside the United States, many founded after 2000, from East Asia and Eastern Europe to the Middle East and Latin America. Jung et al. (2016) documented a parallel movement in China, Japan, Korea and Hong Kong, where universities introduced general education partly in response to criticism that their graduates were technically capable but unprepared for open-ended problems.

The motives were mixed. Some institutions acted from conviction about civic value. Many more acted because governments and employers had come to believe that new ideas depended on creativity and breadth, and that their own rote-heavy systems were producing neither. This instrumental justification helped liberal education travel, but it also makes the model fragile: a programme defended by its economic returns can be closed when those returns are hard to demonstrate. The closure of Yale-NUS College in Singapore, announced in 2021 barely a decade after it opened, shows that even well-funded ventures depend on the continuing support of states and partner institutions.

A different tension appears in India. Private universities such as Ashoka University, founded in 2014, have made the liberal arts visible to a generation of students and parents, but have also attached to them an image of expense and exclusivity. If liberal education becomes something affluent families purchase while public schools go on training everyone else for examinations, it will deepen the inequalities its democratic defenders, from Dewey onward, hoped it would reduce. The National Education Policy's decision to make multidisciplinary education the norm for public institutions, rather than a specialist offering, matters for that reason.

What the Evidence Shows, and What It Does Not

Claims for liberal education are often made in general terms, and a sceptical reader is entitled to ask whether they hold. The evidence is real but uneven, and its strongest findings concern particular teaching practices rather than the liberal arts label as such.

The most systematic body of research comes from the Wabash National Study of Liberal Arts Education in the United States. Seifert et al. (2008) followed first-year students across a range of institutions and found that certain experiences, which they grouped as liberal arts experiences, were positively associated with growth in critical thinking, in the inclination to enjoy effortful thinking, and in openness to diversity. These experiences included clear and organised teaching, high expectations, frequent contact with teachers, and discussion that required students to integrate ideas from different sources. Pascarella et al. (2013) later found that students at liberal arts colleges made larger gains in critical thinking than students elsewhere, but that much of the advantage was explained by the teaching and learning environment rather than the type of institution. What mattered was what happened in classrooms, which means a research university, or a school, adopting the same practices could expect similar effects.

Arum and Roksa (2011) reached a more troubling conclusion from the opposite direction. Following students through American colleges with the Collegiate Learning Assessment, they found that a large proportion showed no statistically significant improvement in critical thinking, complex reasoning and writing over their first two years. Students in the traditional arts and sciences fields did better than those in business and education, and students required to read and write more gained more. The study is often read as an indictment of higher education. It can equally be read as evidence that breadth without demanding reading, writing and argument accomplishes very little.

Meta-analytic work on critical thinking supports the same conclusion about practice. Abrami et al. (2015) analysed 341 effect sizes from studies of critical thinking instruction and reported an average effect of about 0.30, modest but educationally meaningful. The approaches that worked best combined dialogue with exposure to authentic or situated problems and with mentoring. Critical thinking can be taught, then, but it is taught through argument about real problems and not through exhortation.

Research on transfer adds a caution. Perkins and Salomon (1989) argued that general thinking skills exist but operate through knowledge of particular domains, carrying over only when learners are helped to make the connection. Willingham (2007) made a similar case for school teachers: students cannot think critically about a subject they know little about, and training in abstract strategies rarely

shows up in new settings. Halpern (1998) proposed that transfer depends on explicit instruction in reasoning, practice across varied contexts, and deliberate attention to the structure of problems rather than their surface features. These findings cut both ways for liberal education. They undermine the lazy claim that exposure to many subjects will by itself make better thinkers, and they suggest what a better design looks like: students repeatedly asked to recognise that problems in different fields share an underlying form.

Evidence on longer-term outcomes is thinner. Detweiler (2021) surveyed graduates at different career stages and found that experiences such as meaningful discussion outside class and courses crossing disciplinary lines were associated with later reports of leadership, altruism and satisfaction with life. Employer surveys commissioned by the Association of American Colleges and Universities report that communication, teamwork, ethical judgement and the ability to apply knowledge in real settings are valued above a candidate's particular field of study (Hart Research Associates, 2015). Both rest on retrospective self-report and on samples in which students chose their own institutions, so neither can rule out the possibility that people who seek out liberal education already differ from those who do not.

A fair summary is that the evidence supports some of the practices associated with liberal education more clearly than it supports liberal education as a category. Clear teaching, sustained discussion, extended writing, contact with teachers and tasks that require the integration of ideas from different fields are all associated with gains in critical thinking and related outcomes. Breadth of subjects on its own is not.

Structural and Decorative Integration

A unit on water, of the kind found in many schools, might include a poem about rivers, a graph of monsoon rainfall, and a lesson on the water cycle. Students may enjoy it, and it has some value in showing that school subjects describe the same world. Yet the mathematics in the rainfall graph does not change how the poem is read, and the poem does not change how the graph is understood. Each discipline does its own work in its own way, and the theme holds them together only loosely. This paper calls that decorative integration. If the value of liberal education lies in integrating ideas across fields, as the evidence above suggests, then the kind of integration becomes the central design question.

Structural integration works differently. One discipline supplies the working logic of a task in another, so that the student cannot finish the task without using both. Consider a class asked how many distinct orderings can be made from a short set of lines of text, and then asked which of those orderings still make sense to a reader. The counting belongs to combinatorics; the judgement of sense belongs to the study of language. Neither part can be done without the other, and a student working through the problem has to think about the relation between a formal rule and a meaningful result. The same pattern appears when statistics is used to test a historical claim, or when ethical reasoning decides what a mathematical model ought to maximise.

The curriculum literature has long recognised versions of this distinction. Beane (1997) separated multidisciplinary arrangements, in which subjects keep their boundaries while addressing a common theme, from curriculum integration proper, where the organising centre is a problem drawing on whatever knowledge it requires. Drake and Reid (2018) found integrated approaches generally associated with achievement at least equal to conventional teaching and often with better engagement, while noting that the quality of integration varied widely and much of the research was small in scale. Repko and Szostak (2021) describe the key interdisciplinary step as identifying what each discipline contributes to a single problem and working out where their insights conflict. That is a demanding intellectual task, not a matter of arrangement.

Structural integration also fits what the transfer research recommends. When students meet the same underlying structure, whether a counting principle, a pattern of inference or a rule-governed system, in two different fields, they are more likely to notice the structure itself and less likely to be distracted by the surface features of each case. This is the deliberate attention to form that Halpern (1998) and Perkins and Salomon (1989) identified as a condition for transfer. It also connects to the evidence on active learning. In a meta-analysis of 225 studies of undergraduate science, engineering and mathematics teaching, Freeman et al. (2014) found that students in traditional lecture courses were 1.5 times more likely to fail than students in courses that used active learning. Tasks built on structural integration are active almost by definition, since students have to construct and test something rather than receive it.

The distinction also clarifies the place of mathematics. Schools often treat it as the most rigid and least liberal of subjects, a set of procedures memorised for examinations. Yet arithmetic and geometry were among the original liberal arts because they were thought to train the mind in reasoning about structure and proof. A mathematics class that asks students to explain why a procedure works, to choose between competing arguments, or to model a situation from ordinary life is doing liberal education; a literature class that asks students to memorise the approved reading of a poem is not.

None of this comes with a guarantee. Structurally integrated tasks are harder to design and harder to teach than decorative ones, and they depend on teachers who understand both disciplines well enough to see where they meet. That dependence shapes the practical questions taken up next.

Implications for School Education in India

The National Education Policy 2020 is unusually direct about the problem it wants to solve. It calls for an end to hard separations between the arts and the sciences, between curricular and extracurricular activities, and between vocational and academic streams, and it describes the purpose of education as the development of the whole person across intellectual, social, emotional and ethical domains (MHRD, 2020). The National Curriculum Framework for School Education 2023 (NCERT, 2023) turns part of this into curricular structure, including wider choice of subjects in the later school years and an emphasis on interdisciplinary areas of study. On paper, Indian school policy now endorses most of what the liberal education tradition asks for.

The difficulty lies in the distance between these documents and the classroom, and two obstacles seem likely to matter most.

Assessment is the more immediate. Teachers teach what is examined and students study what is examined, especially when the stakes are as high as they are in board examinations and entrance tests. If question papers go on rewarding the recall of standard procedures and model answers, interdisciplinary units will be treated as a distraction from real preparation, however well designed. Reform of assessment has to come first, or at least alongside curricular reform. That means items asking students to explain their reasoning, apply concepts to unfamiliar situations, and judge between alternative solutions, and it means accepting the cost, since open responses take longer to mark reliably than objective items. Generative AI adds urgency: an examination a language model can pass with ease is no longer measuring what schools most need to teach.

Teacher preparation is the other obstacle, and the slower one to address. Structural integration depends on teachers who can see how their own subject connects to others, while most teachers in India were trained within a single discipline and go on teaching within one. The policy's plan to move teacher education into multidisciplinary institutions and to introduce a four-year integrated programme (MHRD, 2020) points in the right direction, but it will take years to reach the workforce and does little for teachers already in service. Schools could meanwhile do more with modest arrangements: shared planning time across subjects, units designed jointly by a mathematics teacher and a language teacher, and professional development in which teachers work through structurally integrated tasks themselves before teaching them. These cost little money but a great deal of time, and time is the resource Indian schools are shortest of.

Language raises a quieter issue. In a multilingual country, a student's ability to explain reasoning depends partly on the language in which the explanation is requested. If liberal education places more weight on discussion and written argument, it risks disadvantaging students fluent in their home language but less comfortable in the language of instruction. Any assessment of communication or reasoning should let students show their thinking in the language in which they think best.

None of these obstacles makes liberal education in schools unrealistic. They do mean that its success will be decided in unglamorous places: examination boards, teacher education syllabi, school timetables and the design of individual lessons. Policy statements have already done what policy statements can do.

Conclusion

The argument of this paper can be stated plainly. As more routine cognitive work passes to machines, the value of education depends increasingly on what machines still do poorly, which includes reasoning about unfamiliar problems, judging claims, explaining ideas to other people and seeing how different kinds of knowledge bear on one another. These are the aims liberal education has pursued since antiquity, and the evidence reviewed here suggests that they can be taught. It also suggests, less

comfortably, that breadth alone does not teach them. Students gain when they are asked to argue and to write at length, when their teachers set high expectations, and above all when they must integrate ideas from different fields in tasks where each field does real work.

This conclusion carries a research implication alongside the practical one. Most of the evidence on liberal education comes from colleges and universities in the United States, from samples that selected themselves, and from outcomes measured by self-report. Very little is known, in experimental terms, about whether structurally integrated teaching in schools produces measurable gains in critical thinking, communication or subject achievement, and almost nothing is known about how such teaching works in Indian classrooms, with their particular examinations, languages and pressures. Controlled studies with delayed follow-up would help answer the question that matters most for policy, which is whether any gains last beyond the end of the intervention.

A curriculum cannot say what its students will need in 2060. It can still decide what kind of thinkers they will be when they get there. The liberal tradition has always answered that people who can reason, question and explain will find their way through changes nobody predicted. Whether Indian schools put that answer to the test will depend less on their curriculum frameworks than on what their examinations are willing to reward.

References

1. Abrami, P. C., Bernard, R. M., Borokhovski, E., Waddington, D. I., Wade, C. A., & Persson, T. (2015). Strategies for teaching students to think critically: A meta-analysis. *Review of Educational Research*, *85*(2), 275–314. https://doi.org/10.3102/0034654314551063
2. Arntz, M., Gregory, T., & Zierahn, U. (2016). *The risk of automation for jobs in OECD countries: A comparative analysis* (OECD Social, Employment and Migration Working Papers No. 189). OECD Publishing. https://doi.org/10.1787/5jlz9h56dvq7-en
3. Arum, R., & Roksa, J. (2011). *Academically adrift: Limited learning on college campuses*. University of Chicago Press.
4. Autor, D. H., Levy, F., & Murnane, R. J. (2003). The skill content of recent technological change: An empirical exploration. *The Quarterly Journal of Economics*, *118*(4), 1279–1333. https://doi.org/10.1162/003355303322552801
5. Beane, J. A. (1997). *Curriculum integration: Designing the core of democratic education*. Teachers College Press.
6. Deming, D. J. (2017). The growing importance of social skills in the labor market. *The Quarterly Journal of Economics*, *132*(4), 1593–1640. https://doi.org/10.1093/qje/qjx022
7. Detweiler, R. A. (2021). *The evidence liberal arts needs: Lives of consequence, inquiry, and accomplishment*. MIT Press.
8. Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. Macmillan.
9. Drake, S. M., & Reid, J. L. (2018). Integrated curriculum as an effective way to teach 21st century capabilities. *Asia Pacific Journal of Educational Research*, *1*(1), 31–50.
10. Eloundou, T., Manning, S., Mishkin, P., & Rock, D. (2024). GPTs are GPTs: Labor market impact potential of LLMs. *Science*, *384*(6702), 1306–1308.

    https://doi.org/10.1126/science.adj0998
11. Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, *111*(23), 8410–8415. https://doi.org/10.1073/pnas.1319030111
12. Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, *114*, 254–280. https://doi.org/10.1016/j.techfore.2016.08.019
13. Gerlich, M. (2025). AI tools in society: Impacts on cognitive offloading and the future of critical thinking. *Societies*, *15*(1), Article 6. https://doi.org/10.3390/soc15010006

14. Godwin, K. A. (2015). The worldwide emergence of liberal education. *International Higher Education*, (79), 2–4. https://doi.org/10.6017/ihe.2015.79.5835

15. Halpern, D. F. (1998). Teaching critical thinking for transfer across domains: Disposition, skills, structure training, and metacognitive monitoring. *American Psychologist*, *53*(4), 449–455. https://doi.org/10.1037/0003-066X.53.4.449

16. Hart Research Associates. (2015). *Falling short? College learning and career success*. Association of American Colleges and Universities.

17. Jung, I., Nishimura, M., & Sasao, T. (Eds.). (2016). *Liberal arts education and colleges in East Asia: Possibilities and challenges in the global age*. Springer. https://doi.org/10.1007/978-981-10-0513-8

18. Kimball, B. A. (1986). *Orators and philosophers: A history of the idea of liberal education*. Teachers College Press.

19. Ministry of Human Resource Development. (2020). *National Education Policy 2020*. Government of India.

20. National Council of Educational Research and Training. (2023). *National Curriculum Framework for School Education 2023*. Ministry of Education, Government of India.

21. Newman, J. H. (1996). *The idea of a university* (F. M. Turner, Ed.). Yale University Press. (Original work published 1852)

22. Nussbaum, M. C. (1997). *Cultivating humanity: A classical defense of reform in liberal education*. Harvard University Press.

23. Nussbaum, M. C. (2010). *Not for profit: Why democracy needs the humanities*. Princeton University Press.

24. OECD. (2019). *OECD Future of Education and Skills 2030: OECD Learning Compass 2030*. OECD Publishing.

25. Pascarella, E. T., Wang, J.-S., Trolian, T. L., & Blaich, C. (2013). How the instructional and learning environments of liberal arts colleges enhance cognitive development. *Higher Education*, *66*(5), 569–583. https://doi.org/10.1007/s10734-013-9622-z

26. Perkins, D. N., & Salomon, G. (1989). Are cognitive skills context-bound? *Educational Researcher*, *18*(1), 16–25. https://doi.org/10.3102/0013189X018001016

27. Repko, A. F., & Szostak, R. (2021). *Interdisciplinary research: Process and theory* (4th ed.). SAGE.

28. Seifert, T. A., Goodman, K. M., Lindsay, N., Jorgensen, J. D., Wolniak, G. C., Pascarella, E. T., & Blaich, C. (2008). The effects of liberal arts experiences on liberal arts outcomes. *Research in Higher Education*, *49*(2), 107–125. https://doi.org/10.1007/s11162-007-9070-7

29. UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. International Commission on the Futures of Education.

30. Willingham, D. T. (2007). Critical thinking: Why is it so hard to teach? *American Educator*, *31*(2), 8–19.

31. World Economic Forum. (2025). *The future of jobs report 2025.*

❑❑❑