

Digital Amnesia and Cognitive Offloading: A Review of Psychological Challenges in India's Digital Era

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Abstract: In the name of technology, humankind's thinking, communication and memory have subtly changed. With the era of smartphones and digital platforms that people can't live without, more and more people are experiencing difficulty holding information in their minds it isn't that they have any neurological disorder, it is just that they know their smartphone or digital platform will remember it for them. This behaviour has been termed as digital amnesia in the psychology literature. The connection is very close between this and cognitive offloading, which is the concept that external computer equipment helps the brain to carry out cognitive functions with less work. This is absolutely helpful, but it also brings up some bigger issues of memory, focus, learning, when the mind is not burdened with its usual work. A conceptual review of literature from academic journals, theoretical constructs on memory and literature on technology use will answer these questions. The results indicate a complex picture. Digital tools can provide a true boost to productivity and diminish the cognitive load, but over relying on such tools will erode one's deep learning and natural memory formation. Notably, digitalisation is far from being a victim of the brain, it is neuroplastic. It adapts. However, this does not mean that there is no need for conscious interaction with technology. There is many practical solutions to balance the digital dependence.

The concerns also assume significance in the Indian context of a very rapid adoption of digitalization. An integrated and cognitive resilient citizens' ableness for the inclusion with the vision of Viksit Bharat@2047 becomes a development cast to attend. Digital literacy and responsible practices around technologies will play a key role in developing human resources that can drive the nation's sustainable development.

Keywords: Digital amnesia, cognitive offloading, digital literacy, Viksit Bharat 2047.

Introduction: In this era of technology, people have integrated technology into everyday life. The cell phone in every pocket is no longer just a telephone. It can set alarms, monitor fitness, handle calendars, keep track of contacts, remind you to do things, and even respond to queries via voice control such as Siri and Alexa. Once there was a thing that was remembered by humans and now there is a thing that is remembered by something that doesn't talk. Most people today don't have to remember people's phone numbers, because they don't remember them. Information is accessible at a single tap.

A change, with respect to mental functions, can be given a name in psychological research. Cognitive offloading is any act of externalization that buffers the brain from being called upon to process information, to include the use of external devices (Risko and Gilbert, 2016). The idea itself is not new. Physical aids, such as written notes, printed calendars, and knotted strings have been used long before time to help people remember. The degree of this shift and the rapidity of its occurrence is new, however, as are the distinctive characteristics of digital devices becoming intruders in a once-exclusively human realm.

It's important to scrutinize what the implications of this transition are. Researchers have warned that

"information dependence" on digital devices, e.g., recalling information from memory, will slowly cause a person to become an independent memory capacity lesser. This phenomenon was described by Kaspersky Lab in its 2015 term "digital amnesia": forgetting something because they think it is easily retrieved with a device. It isn't forgetting things sometimes; it's forgetting them. But the concern isn't about forgetting things now and then; it's forgetting them.

Some research has suggested that addiction to digital devices could impact other aspects of cognitive functioning beyond memory. The overuse of screens and mental cheat may bring about more widespread attention/concentration/ deep thinking challenges somewhat reminiscent of some neurological disorders (Spitzer 2012). The talking point is debatable in many academic boxes, but it is a legitimate and growing concern as time passes by about the consequences of the repeated psychological offloading done by most of these students. In the Indian context these questions become more pertinent. India is one of the fastest growing digital economies in the world. Entering the digital India has helped in the penetration of Smart Phones and the internet among urban as well as rural population.

Education, work, banking or communication, now on digital platforms, is reaching millions of first-time users. This growth is impressive, but also signals that the psychological effects of digital dependencies have broken out of their orbit in an exclusive community of techies. They are emerging as part of the mainstream discussion. Viksit Bharat 2047 envisages India becoming a developed, self-reliant and knowledge-based nation by the 100th year of Independence. The attainment of this vision will be crucially dependent on the quality of human capital the country builds in the next few decades. An employee who cannot independently learn, think critically, or remember information without any support cannot keep up with the needs of the future in a challenging and complex world. Cognitive health care is therefore not distinct from national development. It is part of it.

Meaningful transformation requires educators, policy makers, and mental health professionals to shift their thinking from access to wisdom around digital devices. It is vital to impart skills to kids about the use of technology, but detrimental skills to them equally. All curricula, across all educational levels, should stimulate memory and develop the logical thinking ability while also supporting the establishment of habits in learning beyond using screens. The concept of 'digital amnesia' and 'cognitive offloading' should be integrated into the programs of school or college education for generations which have experienced a relatively wholly digital experience. Wellness policies at work can work to support adults in the same direction, encouraging screen breaks and reflecting.

But the larger picture is easy to understand. Relying on technology can be problematic in so far as it is not the enemy of the mind. The 21st century nation's citizens must be able to operate technologically and be capable of thinking all the way to the end of their pencils. It is this balance that this paper will examine.

Literature Review: Sachdeva & Gilbert (2020) examined in their experiments, why people use cues that they don't need, finding two reasons: that they lack confidence in internal memory, and that they have a strong motivation to reduce cognitive effort. Adding monetary rewards for internal remembering led to a new internal offloading decrease, but not complete disappearance, indicating the residual role of mental ease in people's behavior towards technology. This trend is especially pronounced in the Indian education system where students now rely heavily on tools and technologies available in the digital landscape, even for rote-learned activities.

Swaminathan (2020) found in a study of university students in Bangalore, India, that students regularly use their mobile phones to remember phone numbers, dates and content from their coursework. Thus, there is an overall decline in engagement from deep learning, and the author warned that the human brain could become less efficient if it were not regularly stimulated by its own memory. The issue is particularly relevant in India, where traditional exams rely on recalling information from the mind without assistance, thus not aligning the pedagogy of learning with its assessment practices.

Robert, Kadhiravan and McKay (2024) created and tested the DAS on almost 1000 college students from India, finding three main factors: digital distraction, digital dependency and the need for digital detox. Nearly half of those who have used the devices already feel them as a part of their brains, the study said, a state that can lead to cognitive overload and problems with short- and long-term memory. In this validated instrument, educators and mental health professionals have a reliable instrument to systematically measure and intervene on rising cognitive concerns of the youth in India.

Kadhiravan & Robert (2025) conducted a bibliometric analysis and mapped the research landscape of digital amnesia in the world for a span of 22 years starting from 2001 to 2023, using over 3,000 articles published in this period. They had previously found that 'such work has been attracting a good deal of attention in recent years since 2019' and that the new areas of interest were related to children's development and worrying levels of technology use causing digital distraction and cognitive overload. In a wide-ranging study published by the scientists of Periyar University and CHRIST University, India, they offer a broad foundation to understand the fundamental ways that ubiquitous connectivity is transforming memory and wellbeing in the human perspective.

Gerlich (2025) investigated the connection between the frequency of use of AI tools, critical thinking, and cognitive offloading, revealing a significant negative correlation between cognitive offloading and the frequency of use of the AI tools and critical thinking mediated. A high percentage of the younger users was found to be the most vulnerable and some of them appeared to have become more reflective on convenience rather than on reflection. These findings have special significance in the Indian context as they indicate that a significant portion of the young digital natives is the one growing up with increased dependence on AI in teaching and job is at risk of falling into the future where the dependence on AI will start to affect his/her way of thinking or limit his/her creativity.

Lodge and Loble (2026) In a comprehensive policy analysis of the implications for the human cognitive architecture of the use of generative AI, Lodge and Loble did not overlook the potential impact on the cognitive strain needed for learning, cognition and comprehension of text. The authors set forth a performance paradox that suggests using AI might propel a benefit to tasks in the short term, but impair the critical evaluation and cognitive atrophy in the long term. They also pointed to metacognition, highlighted that there may be unequal impacts on students with weaker self-regulation abilities. The differences have greater significance for India, given its context of large classrooms, substandard school education and accelerated advancements in EdTech. For India, a context of large classroom, substandard school education, and quickening of education technologies, these entanglements are more significant for developing an AI Policy for responsible education.

Research Methodology: The main method of this research was a secondary research method in the form of conceptual research and systematic research. The purpose of the current paper is to synthesize and critically appraise the current state of knowledge of digital amnesia and cognitive offloading, so no primary data was collected. This design is appropriate for papers that aim to present a map of a field, a review of patterns in studies, and inferences from the body of scholarship both on theoretical and practical levels.

Literature search included focusing on peer-reviewed journal articles, empirical studies, existing scales, validated scales, bibliometric analysis, and policy-oriented reports from academic databases and scholarly repositories. The sources were chosen based on their direct relevance to the themes thoroughly explored in the paper, including cognitive offloading, digital amnesia, AI dependency, critical thinking and the sources that apply in educational and Indian contexts. Having targeted publications appearing in the 2020-2026 period, the review was necessarily selective. The methods originated from various traditions, ranging from long-standing experimental research, scale development (based on surveys), mixed-methods inquiry, bibliometric mapping, and analysis of educational policies. This methodological diversity not only enriches the review by enabling triangulation across the diverse forms of evidence, from lab-based experimental studies pertaining to reminder use to large-scale studies that document how Indian students actually use AI, to policy documents on how to incorporate AI into schooling, but also reinforces the review by providing a

foundation for further research.

The key findings, theoretical contributions, methodology analysis and relevance of each selected sources were analyzed. Following this, sources were thematically summarized instead of summarizing the findings of each source individually, allowing the paper to develop a progressive argument both on the effects of digital dependence on cognition and how these are countered. It goes beyond description to critical interpretation and they're the thing that makes this a proper conceptual review, which is the thematic synthesis approach.

Discussion: The literature that was analyzed and the findings that were drawn were all in favor of a digital convenience-cognitive health conflict, especially in an India that has become so used to digitalization that it is making it easier and more convenient for them to use. The scene is almost the same throughout houses, classrooms and offices. School Boards in use instead of writing notes are being photographed by a student. Three reminders are set by a professional for a task instead of making a note in their mind. When it comes to barely remembering a close friend's phone number, a young adult would have to check their list of contacts in order to remember it. The simple and benign extra-cognitive behaviors, which, like a thousand pins, form a habit over time, days, or months, and tend to withdraw the brain from the ability to summon memories, focus attention and perform logical reasoning.

Offloading is not only due to memory distrust but also effort avoidance, as proved by Sachdeva and Gilbert (2020). There are practical implications for this. With a choice of the easy road of cognitive avoiding, people are not just saving time, they are also taking time to gradually lose mental edge. This was also seen explicitly by Swaminathan (2020) with Indian pupils in Bangalore; the context I recall especially vividly, is not recalling a Song of Songs passage for homework, as this was not attempted without using the smartphone. This isn't about having forgotten something every now and then, that's just part and parcel of being human, it's about a general loss of the "remembering habit. This transformation is anything but marginal for a nation such as India where millions of people are using digital tools for the first time and doing so in a wide variety of linguistic, economic, and educational contexts. It is common, and increasing in prevalence.

The consequences for education are also the most pressing. Lodge and Loble (2026) made an acute discrimination between tasks that are offloaded in the service of learning (avoiding the unnecessary burden of thinking) and tasks that are outsourced to avoid the hard processing work involved with achieving deep learning. If students rely on AI generated answers, but are not building knowledge themselves they can get a good score on the short- term, but not any long-term knowledge. Such a performance paradox can pose a great threat particularly in the context of higher education in India as the surface appearances of exam success are commonly equated with what is understood to be actual learning. Nearly half of the Indian college students already find their devices extensions of their mind and based on a validated Digital Amnesia Scale, dimensions of digital distraction and dependency were established in this population, concludes Robert, Kadiravan and McKay (2024). This is not a case of some hypothetical situation or distant future. It is already there but measurable in Indian classrooms today.

Gerlich (2025) further strengthened their theories by showing that there was a negative association between the frequent use of AI and the lessening of critical thinking, with younger individuals especially vulnerable. The remote nature of this finding is alarming in India given the vast young student population steadily embracing generative AI tools for tasks such as creating assignments, taking notes and preparing for examinations. The implications of this are a matter of concern in the Indian context with its young population steadily being dependent essentially on generative AI tools for tasks that involve creating assignment, recording notes and preparing for exams. Kadiravan and Robert (2025) also used bibliometric analysis to find that the study of digital amnesia has increased significantly since 2019, indicating that the researchers too are concerned with this as an emerging problem, which requires institutional responses in a structured manner.

The emphasis within the NEP of the early learning phase on literacy and numeracy foundations is

also applicable here. Since children form good inner cognitive habits before spending too much time using heavy technology, then they will be able to make heavy technology a tool instead of a crutch. In the context of India, the metacognitive equity gap noted by Lodge and Loble (2026) is worth highlighting since children may not have acquired self-regulation strategies to responsibly engage with digital technologies if they come from low socioeconomic backgrounds. However, policy measures should be differentiated both in terms of access to technology and in terms of giving learners targeted directions on how to work with the technology in a thoughtful manner.

The data in the literature leads to a number of practical changes. Digital programmes of learning within schools and/or universities should not only equip learners with knowledge of how to use devices but also provide guidance on when and why it is appropriate to draw upon their inner capacity and logic to find solutions. Mental health experts and counsellors using tools such as Digital Amnesia Scale created by Robert, Kadiravan and McKay (2024) have the ability to detect students at risk of cognitive dependence and offer targeted support to them. You can encourage people to take breaks in the workplace from their screens to take time for reflective journaling or intentional unplugged thinking time. On the larger social level, there could be advertising programs on cognition, and emphasizing safe usage of technology as part of the responsible citizens.

There is a great deal to be hopeful for in the realm of neuroplasticity. There is no passive impact on the brain through the use of digital devices. It adapts, and it can re-adapt under different circumstances. The task ahead for India as it strives to be a Viksit Bharat by 2047 is to make the citizens ready to lead, question and develop the information that technology holds. It is important to recognize that digital tools should be used to augment the thinking of humans, not supplant it. It is at the same time, an educational objective and a national development imperative to achieve this balance.

Findings and Solutions: Numerous significant implications emerged from this study, suggesting that heavy use of AI tools, digital devices, and the smartphone is harming our memory, concentration, deep learning, and critical thinking skills, particularly for students and young adults. This research elucidates how most people have become so dependent on devices for help with phone numbers, schedule, academic content and daily tasks that they suffer from cognitive offloading and digital amnesia. The studies reviewed in the paper revealed that excessive digital technologies affect and decrease mental effort, lower independent thinking and lead to superficial learning rather than meaningful learning. Indian students were also seen to have a high level of digital distraction, dependency and associations of frequent AI use and lack of critical thinking and engagement with reflective learning. The results show the important role of technology in providing greater convenience and productivity but that becoming too reliant on technology can begin to impact one's natural cognitive functions over time.

The research provides several solutions to the issues presented and moves towards assisting positive cognitive development. While digital tools and AI-generated material can effectively aid learning, they should not or do not replace activities that promote memory, simple recall, critical thinking, note taking, or problem solving in the school or university. Digital literacy programmes should include not only skills of using technology, but also the ability to use technology responsibly and in conjunction with their own thinking skills. The paper also suggests regular screen breaks, digital fast practices and reflection on learning and unnecessary dependency on phones to enhance concentration/focus. Improving learning practices requires parents, teachers, and policymakers to collaborate to develop good learning habits, and provide guidelines for responsible implementation of AI in learning environments. Incorporating the concept of cognitive health awareness into education policies like the NEP 2020 can contribute to the efficient use of technology for strengthening human intelligence instead of replacing it.

Conclusion: While digital technology has presented tremendous opportunities in India, it has also led to a whole host of psychological challenges that must be addressed. The two phenomena discussed

in this paper are digital amnesia and cognitive offloading and their consequences have been explored with respect to individual behaviour, educational systems and national development. The evidence presented throughout is all in the same direction as a voice. As individuals become accustomed to relying on digital tools for memory and thinking, the brain slowly ceases to take part in these demanding mental activities that are necessary for continued deep learning, independent thought, and post-learning retention. These concerns are not hypothetical. They are already seen in your schools with students having trouble remembering how to use the device without it aiding them to remember how to complete a simple recall activity, and increasingly outside the classroom with students who are relying on their cell phones for simple recall. However, with India's digital evolution on a massive scale, these trends are not limited to a small section of the urban population anymore, and are visible and strong in the age-groups, regions and economic strata alike. But of course, there is hope as well. As the brain is malleable, learned neural patterns of digital dependence can be transformed with conscious practice, intentional pedagogy and conducive policy. The need to promote this work finds ample support in the National Education Policy, 2020, focusing on the concept of critical thinking, competency-based learning and holistic development. Now it is a matter of "will": the will to implement that model in the classroom, in policy and in awareness.

The vision of Viksit Bharat 2047 is a knowledge based and self-reliant country. Citizens can't embody that vision as they are digitally connected but cognitively dependent. To be successful in the 21st century, nationally, it will take more people thinking clearly and learning deeply, to interact meaningfully with the world around them, rather than letting technology do the thinking for them. This is not just an education objective; it is a capability that must be developed. It is an obligation for any developing nation that India has to face today.

The convergence of cognitive science, education and technology policy will increasingly be of critical importance as India continues its digitisation drive. There is a need for further research to focus on large-scale empirical studies specifically among the Indian population to identify the impact of digital amnesia and cognitive offloading among various age groups, courses and socio-economic statuses. It can be suggested that the Digital Amnesia Scale developed for Indian college students is a potentially useful starting point, but exploration of the same should be expanded to school-age children, working age adults and seniors to help create a national profile. Longitudinal studies that document changes in cognition over time in digitally 'dependent' populations would be of great value, as existing literature largely focuses on cross-sectional, non-scientific data and is difficult to interpret regarding underlying mechanisms and long-term causal relationships between device use and cognition. Policy and practice would pose a challenge to the next few years, which are also an opportunity. As the adoption of tools of generative AI permeates Indian classrooms and workspaces, it is important that institutions form clear guidelines regarding the use of these tools to enhance an individual's abilities and where it will begin to be employed to supersede them. The implementation of these programmes should be supported by teacher training programmes, cognitive health awareness programmes and evidence-based, beyond technical skills, digital literacy curricula that are part of the framework of the National Education Policy 2020. In the future, efforts to increase the cognitive resilience of Indians must be given a strategic push in the race of Viksit Bharat 2047, along with infrastructure and the economic development of the nation. The people of this nation can never have an innovative, self-reliant and knowledge-based society without the use of digital technology while remaining dependent on mind.

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