

E-learning and Emotional Health: Psychological Consequences of Digital Transformation in School Education under NEP 2020

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Abstract: The introduction of online and e-learning methods in the post-COVID 19 education system has brought about a renaissance in education. NEP 2020 has brought a new dimension to the education infrastructure through the inclusion of digital technology in the Indian education system. This change has impacted students in two ways. First, on the learning process of students. Second, on the psychological and emotional health of students. The topic of this review article is that e-learning, while making students flexible, self-reliant and skilled, also exposes them to problems such as social isolation, loneliness, anxiety and stress. Whereas in the traditional education system, direct emotional interaction with classmates in the organized environment of the classroom plays an important role, in e-learning, the lack of human connection and various technical problems (Such as the digital divide, internet connection problems) lead to frustration and annoyance among students and completely reduce their interest in learning. To address all these challenges, NEP 2020 has laid emphasis on development of digital infrastructure, teacher training, inclusive education and psychological-emotional health of a child. It may be possible to create a positive environment and maintain the emotional well-being of students through various interactive classes, counseling and compassionate teaching. Therefore, it goes without saying that the successful implementation of NEP 2020 requires a balanced combination of good use of technology and humanity.

Keywords: E-learning, emotional health, digital transformation, psychological impact, NEP 2020.

Introduction: e-learning and emotional health related discussion has evolved gradually in sync with technology. But after the introduction of NEP 2020, this topic has gained importance with increasing speed. The series of review is as follows---

- **In the initial phase (2002-2010):** the conceptual foundation of e-learning was laid in the 21st century. Although the issue of emotional health was not directly discussed in the early stages, the connection of emotional health with e-learning eventually become important and influenced research. E-learning is a new frontier of internet-based education and an effective method that emphasizes the potential of technology in the field of education (**Rosenberg, 2002**).

Garrison and Anderson (2010), has explained in their “**Community and Inquiry model**” that emotional connection occupies an important place in the online teaching-learning process of students.

- **Second Phase (2010-2019):** Researchers began to emphasize e-learning and psychological-emotional aspects. It is seen that with the increase in the use of technology, the issue of students’ emotional experiences also began to gain importance.

Online learning environments can cause social isolation and psychological stress for students (**Halupa, 2016**).

- **Third phase (2020):** this year was a turning point in the global movement. The COVID 19 pandemic saw the spread of e-learning across the world. This year, NEP 2020 was introduced and the use of technology become an essential part of the education sector.

UNESCO. (2010). In addition to recognizing the importance of digital education, it also highlights the mental health status of students.

- **Phase Four (2015-2025):** This phase sees the beginning of many studies on the negative impact of online education pressure on students’ emotional health, and in recent times this research has taken the place of more in-depth analysis.

Alam et al., (2021). Online education has a negative impact on students' mental and emotional health, but emotional skills can reduce the impact to some extent.

Long-term digital education results in a lack of social interaction, increased loneliness and increased mental anxiety (**Nigam, 2025**).

Therefore, a systematic review shows that recent research has placed particular emphasis on students' mental health and social connections with technology.

Objectives:

The key objectives of this research are listed below:

- i. to review the role and positive and negative impacts of e-learning under NEP 2020.
- ii. To analyze the psychological impact of digital transformation on students.
- iii. To explore the relationship between e-learning and emotional and psychological stability.
- iv. To provide possible strategies and recommendations to reduce the negative impact of digital learning on students.

Theoretical Framework:

The rapid development of technology in the field of education has brought a renaissance known as Digital Transformation. The inclusion of e-learning in the Indian education system through NEP 2020 has brought about a huge change in the field of learning. Some of the specific theories related to e-learning and emotion are discussed as follows:-

- **Jean Piaget (1936) and Lev Vygotsky (1978)** explained in their "**Constructivism Theory**" that students construct knowledge through experience by interacting with the environment. In this case, e-learning helps students learn independently but creates obstacles to collaborative learning because students face social isolation and loneliness.
- **Albert Bandura (1977)** clearly stated in his "**Social Learning Theory**" that observation and imitation are the main means of learning. However, due to the lack of direct communication opportunities in online education, there is a significant gap in the relationship between teachers and students and in social skills.
- **Craig Brod (1984)** In his "**Techno-stress Theory**", he analyzed the use of technology and tried to show that excessive technology dependence and lack of digital skills are one of the reasons for increasing stress, depression and anxiety among students.
- **Urie Bronfenbrenner (1979)** In his "**Education System Theory**", he sought to show that a child's development is related to various aspects of his

family, school and environment and that the digital environment has a profound impact on a child's emotion development.

- According to **Richard Daft and Robert Lengel (1986)** "**Media Richness Theory**", it can be seen that the quality of the communication medium depends on the capacity to transmit information, that is, in online education, due to the lack of direct classroom communication, communication gaps often remain, which has a negative impact on students, which is one of the reason for the decrease in emotional engagement.
- **Deci and Ryan (1985)** In their "**Self Determination Theory**", talked about three basic psychological needs such as autonomy, competence and relatedness, where although autonomy and competence increase through online learning, relatedness gradually decreases, loneliness and emotional instability can be observed among students.
- **John Sewller (1988)** In his "**Cognitive Load Theory**", explaining human working memory, he said that e-learning, excessive digital content and long time on screen are the main cause of mental fatigue and stress in students, which directly affects memory.
- **George Siemens (2005)** In his "**Connectivism Theory**", he states that the increasing reliance on technology for knowledge creation through networks is relevant to this digital age, but mental stress and information overload have become a limitation.

Thematic Analysis:-

Based on e-learning and emotional health under NEP 2020, the psychological impact of digital transformation in school education-the related analysis has been explained in several themes based on the related literature review, which are as follows: -

- i. **E-learning and educational changes:** Digital transformation has made e-learning one of the mediums of education and NEP 2020 has accelerated this change, resulting in fundamental changes in the way of learning. The importance of an integrated approach of technology, content and pedagogy has been explained through the "**TPACK Model**" (**Mishra & Koehler, 2006**).

ii. **Emotional and mental health:** In the digital age, e-learning has a significant impact on the balance of students' emotional and mental health due to the lack of social connections.

Social and emotional education is essential to improve students' mental health (**Durlak et al.,2011**).

iii. Social isolation and loneliness: The social environment of the school plays an important role in the emotional development of students, which is not available in online learning. Therefore, social isolation and loneliness have become one of the biggest challenges of e-learning.

There is a deep relationship between mental health and screen time (Orben et al.,2020).

iv. Self-reliance and Techno-stress: Just as the proper use of technology makes students self-reliant, its excessive use creates unwanted stress among students, which is known as techno-stress.

Information overload increases mental stress among students (Ayyagari et al.,2011).

v. NEP 2020 and digital education: NEP 2020 has given more importance to technology, digital education has taken an institutional form, but along with this, more importance needs to be given to the issue of emotional health.

Government of India (2020), has given more importance to the use of technology such as digital learning, online platforms and virtual labs.

vi. Digital Divide: Unequal distribution of digital opportunities has created feelings of deprivation. Frustration, lack of self-confidence, inferiority complex in participating in large social activities, etc.

Digital divide has created huge obstacles in students' participation in online education, which is responsible for students' frustration, stress and lack of self-confidence (Van Dijik,2006).

vii. Role of teachers and parents: It is essential for teachers and parents to have proper knowledge about e-learning and to provide digital literacy training. Because if students do not get proper help from them, they may have problems in academic and emotional fields.

Due to lack of proper training, teachers face new challenges in the field of online education (Kim & Asbury,2020).

Methodological Analysis:

This article provides a thorough analysis of the research methods and their limitations used in previous studies on this topic. In this context, Cohen et al. (2018). stated that it is possible to verify the depth and reliability of a topic by analyzing the methodology of the study.

- **Qualitative Research Approach:** Many studies have attempted to understand the experiences and emotional states of students through qualitative methods, but it has been found that there are limitations in generalization due to small samples.

Dhawan (2020). Discussed the analysis of the advantages and disadvantages of online education during the COVID 19 period through a narrative review.

- **Quantitative Research Approach:** Some researchers have applied quantitative research approach on large samples in their research on this topic, but there is less published information on the emotional experience of students.

Loaded et al. (2020). Conducted a meta-analysis study on social isolation, loneliness and mental health of students.

- **Mixed Method Research:** Some researchers have combined both qualitative and quantitative methods in their research as mixed method and it has been found that although the application of this method is time-consuming and complex, it is possible to collect extensive and deep data.

Through mixed method, it is possible to provide wide and depth of information and increase the reproducibility of the research (Creswell & Plano Clark,2011).

- **Review Based Approach:** Some researchers have given more importance to the review-based approach as their research method. Generally, the review-based approach can be of various types, such as-

i. **Systematic Review-** where the time cast, effort, is more, but the level of reliability of the collected information is very high.

Moher et al. (2019). Has given a framework for conducting systematic review through PRISM guidelines.

ii. **Narrative review-** Through this review, the information is simple and understandable, but the possibility of bias is also very high.

Narrative review is more helpful in constructing information (Snyder,2019).

iii. **Integrative review: Torraco (2005).** has explained integrative review as a method that supports various theories and research and has shown that it allows for multidimensional analysis despite its methodological complexity.

Analyzing the above methods, it can be seen that although various research methods have been applied to e-learning emotional and mental health, the most effective is the integrated method. However, in the future, in the context of NEP 2020, emphasis needs to be placed on longitudinal and context-specific methods.

Research Gaps: After theoretical, thematic and methodological analysis, the investigator specifies some research gaps which are as follows: -

- The amount of long-term and context-specific research based on NEP 2020 is less.
- There is very less research on this topic on school education (primary and secondary level).
- Research is needed on the interrelation of emotional health of students with performance.
- The amount of research related to the role of family and teachers is limited.

Discussion:

After reviewing the above studies, it has been found that in the context of NEP 2020, digital transformation has made the e-learning school education system technology-dependent and flexible. However, the impact of this change on the emotional health of studies is noticeable.

- Although e-learning increases the self-reliance skills of students, along with it, due to the lack of adequate guidance, depression, mental anxiety, etc. can be observed among students.
- Due to the rapid development of technology, although online education has freed us from the constraints of time and space, the lack of communication, that is, social interaction, with classmates in the school environment has become a major obstacle.
- E-learning has made students self-regulated but information overload, prolonged screen use has become one of the causes of techno-stress for students. Sweller (1988) explained in his “**Cognitive Load Theory**” that information overload disputes the mental and emotional well-being of students.
- In NEP 2020, the digital divide is still quite present, which has undermined the confidence and emotional health of many students.

This discussion clearly states that e-learning is a double-edged sword. Positively, it enriches education and negatively, it increases the mental and emotional problems of students. Therefore, blended learning can be an effective solution in building a balanced education system. Where the benefits of e-learning and traditional education are combined, along with the use of technology, equal importance will be given to the mental and emotional health of students.

Implications:

- **Policy implications-** Inclusion of mental health support programs along with digital education in the implementation of NEP 2020.
- **Implications in the education system-**Ensuring the adoption of blended learning methods to maintain a balance between online and offline in the education sector.

- **Technological implications-**E-learning platforms should be made interactive and user-friendly so that mental stress does not arise in students.
- **Research implications-** More long-term and context-specific research is needed in the future.
- **Impact on teachers, students and parents-** Teachers and parents should be provided with digital literacy training so that they can guide students to develop self-regulated learning and stress management skills.

Limitations:

However, the research has marked certain limitations that are mentioned below:

- Overreliance on context-specific and secondary data.
- Methodological and time constraints pose a major challenge here.
- There is a significant lack of limited and long-term research at the school level.

Suggestion:

The investigator has found out some suggestions that can be followed:

- Integrate mental and emotional health into education via the implementation of NEP 2020.
- Control students' excessive screen time in e-learning.
- Implement blended learning methods.
- Reduce digital divide.
- Provide digital literacy training to teachers.

Conclusion:

In view of the above discussion, it is hoped that the importance of e-learning in school education is undeniable due to digital transformation in the context of NEP 2020. In view of the expansion of education and increasing proper availability, technology-based education has been encouraged more. However, this change has had a multidimensional impact on the emotional health and mental well-being of students.

The digital divide has had a negative impact on students' self-confidence and mental health. In addition, excessive screen use has led to problems with emotion regulation and attention deficits in students. While NEP 2020 provides a well-organized framework for digital education, it is necessary to more clearly include the issue of emotional health and mental well-being of students.

Therefore, while digital transformation has brought technological advancements in the field of education, it is

essential to place greater emphasis on mental and emotional well-being in ensuring the overall development of students.

Reference:

- Alam, F., et al. (2021). Stressors and mental health in Bangladesh: Current situation and future hopes. *BJPsycho International*, 18(4), 91–94. PMID: 34747936; PMCID: PMC8554941. <https://doi.org/10.1192/bji.2020.57>
- Ayyagari, R., et al. (2011). Technostress: Technological Antecedents and Implications. *MIS journal*. 35(4):831-858. <https://doi.org/10.2307/41409963>
- Bandura, A. (1977). *Social learning theory*. Prentice-Hall. https://books.google.co.in/books/about/Social_Learning_Theory.html?id=IXvuAAAAMAAJ&redir_esc=y
- Brod, C. (1984). *Technostress: The Human Cost of the Computer Revolution*. Addison-Wesley Publishing Company, Reading, USA. <https://www.scirp.org/reference/ReferencesPapers?ReferenceID=1741598>
- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, 22(6), 723–742. <https://doi.org/10.1037/0012-1649.22.6.723>
- Cohen, L., et al. (2018). *Research Methods in Education* (8th ed.). London: Routledge. <https://doi.org/10.4324/9781315456539>
- Creswell, J.W., & Plano Clark, V.L. (2011). *Designing and Conducting Mixed Methods Research*. 2nd Edition, Sage Publications, Los Angeles. <https://www.scirp.org/reference/ReferencesPapers?referenceid=159623>
- Daft, R. L., & Lengel, R. H. (1986). Organizational Information Requirements, Media Richness and Structural Design. *Management Science*, 32, 554-571. <https://doi.org/10.1287/mnsc.32.5.554>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. Berlin: Springer Science & Business Media. <https://doi.org/10.1007/978-1-4899-2271-7>
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>
- Durlak, J. A., et al. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, Volume 82, Issue 1, January/February 2011, Pages 405–432. <https://doi.org/10.1111/j.1467-8624.2010.01564.x>
- Garrison, D. R., Anderson, T., & Archer, W. (2010). The First Decade of the Community of Inquiry Framework: A Retrospective. *The Internet and Higher Education*, 13, 5-9. <https://doi.org/10.1016/j.iheduc.2009.10.003>
- Halupa, C. (2016). Risks: The impact of online learning and technology on student physical, mental, emotional, and social health. In *Proceedings of the 9th International Conference of Education, Research and Innovation (ICERI2016)* (pp. 6305–6314). IATED Academy. <https://doi.org/10.21125/iceri.2016.0044>
- Kim, L. E., & Asbury, K. (2020). "Like a rug had been pulled from under you": The impact of COVID-19 on teachers in England during the first six weeks of the UK lockdown. *British Journal of Educational Psychology*, 90(4), 1062–1083. <https://doi.org/10.1111/bjep.12381>
- Loades, M. E., et al. (2020). Rapid systematic review: The impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. *Journal of the American Academy of Child and Adolescent Psychiatry*, 59(11), 1218–1239.e3. <https://doi.org/10.1016/j.jaac.2020.05.009>
- Ministry of Education. (2020). *National Educational Policy 2020*. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
- Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A new framework for teacher knowledge. *Teachers College Record* 108 (6), 1017-1054. <https://punyamishra.com/2008/01/12/mishra-koehler-2006>
- Moher, D., et al., PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement, 6(7):e1000097. <https://doi.org/10.1371/journal.pmed.1000097>
- Orben, A. (2020). Teenagers, screens and social media: A narrative review of reviews and key studies. *Social Psychiatry and Psychiatric Epidemiology*, 55(4), 407–414. <https://doi.org/10.1007/s00127-019-01825-4>
- Piaget, J. (1936). *Jean Piaget's theory of cognitive development*. <https://bsvgrouppyschologystudy.wordpress.com/2017/08/07/jean-piaget-cognitive-theory-of-development/>
- Sharma, E., & Nigam, N. (2025). Exploring digital age influences on undergraduate students' mental health through social media, academic pressure and digital literacy. *Discov Soc Sci Health*, 5, 174. <https://doi.org/10.1007/s44155-025-00327-w>
- Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology & Distance Learning*, 2(1), 3–10. http://www.itdl.org/Journal/Jan_05/article01.htm
- Rosenberg, M. J., & Foshay, R. (2002). E-Learning: Strategies for Delivering Knowledge in the Digital Age. *Performance Improvement*, 41, 50-51. <https://doi.org/10.1002/pfi.4140410512>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257–285. https://doi.org/10.1207/s15516709cog1202_4
- Torraco, R. J. (2005). Writing Integrative Literature Reviews: Guidelines and Examples. *Human Resource Development Review*, 4(3), 356-367. <https://journals.sagepub.com/doi/10.1177/1534484305278283>
- UNESCO. (2020). *The digital transformation of education: Connecting schools, empowering learners*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000374309>
- Van Dijk, J. A. G. M. (2006). Digital divide research, achievements and shortcomings. *Poetics*, 34(4–5), 221–235. <https://doi.org/10.1016/j.poetic.2006.05.004>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.). Harvard University Press. <https://www.scribd.com/document/176145822/L-S-Vygotsky-Mind-in-Society-1978>