

CURRICULUM VITAE

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Academic Degrees

Bachelor of Science	Amravati University	1988
Master of Science	Amravati University	1990
Bachelor of Education	Amravati University	1991
Master of Education	University of Mumbai	1993
Master of Philosophy	Alagappa University	2004
Master of Arts	University of Mumbai	2011
Doctor of Philosophy	University of Mumbai	2012
Master of Business Administration (Human Resource Development):	Pillai Institute of Management Studies and Research	2014
Post-Doctoral Study	University of the Witwatersrand, South Africa	2017-18

Thesis/Dissertation:

- **Post-Doctoral Study Topic:** ‘Topic Specific Pedagogical Content Knowledge in Biological Sciences’.
- **Ph. D Topic:** ‘A Study of Students’ Misconceptions in Biology at Secondary School Level and Development Research of Remedial Based Material’.
- **MBA (Human Resource Development):** A Capstone Project Report on- ‘Learning by Doing’ Pedagogy in School Education: Some Case Studies.
- **M. Ed:** ‘Evaluation of Facilities available to Science Teachers in Secondary Schools’.

Professional Experience

- ***Initiating, Planning, Implementation & Evaluation of Educational Programmes:***
Quality Improvement Programme for Ashram schools, Open Educational Resources for Schools, Bal Vidnyan Manch (Children Activity Forum), Kumar Vishvakosh (Children Encyclopedia), Rayat & Shivaji Education Society's Vidnyan Parishad (Science Teacher Congress) activity, Science & Innovation Activity Centers (SIACs) in Maharashtra, & Sri Lanka's science teachers and education officers short courses & Teacher Education Programs
- ***Research in School Science & Teacher Education:***
Educational problems of socially disadvantaged students, Needs and requirements of practising teachers, Model of participatory Action Research project and Students conceptions & critical thinking.
- ***Instructional, Enrichment and Remedial Material:***
Writing of Science textbooks, Teachers' handbook, Remedial modules, Dictionary of Technical terms, Questions in school science. Development of assessment tools, Manuals on low cost laboratory experiments.
- ***Assessment, Reviewer, Judge, Quiz Master, Inspection, Science Popularisation:***
Working as a reviewer for NARST, IOSTE, IOCES proposals, Guiding & Assessing students exhibits & projects, Conducted quizzes, Involved in inspection of B.Ed. /D.Ed. institution of NCTE and NIOS institutions, Reviews various projects.
- ***Science Popularisation:***
Preparation of answers to children's questions, Scripts for Radio and television, Popular science articles for Newspapers and magazines, School & B.Ed./D.Ed. College visit to HBCSE, Posters, charts & panels preparation, Writing popular science articles, Science lectures & demonstrations, Participating in science exhibitions & fairs

Awards, Fellowships, Grants and Honours

- Received travel grant from NARST International Committee Travel Scholarship, to attend to attend the 2023 NARST Annual International Conference held in Chicago, IL, USA, April 18-21, 2023.
- Received National Research Foundation (NRF) fellowship for postdoctoral research at Wits University, Johannesburg, South Africa, during 2017-2018.
- Received travel grant from Sir Ratan Tata Trust Bombay House, to attend to attend the *24th Biennial Conference of the Asian Association for Biology Education* held from December 5 - 9, 2012 at the Manila.
- Honored as "Sammelanadhyaksha" (President of the Congress) for Children Science Congress organised at S. P. S. High School, Uttur, Gadhinglaj, January 5 - 6, 2009.
- Honored as "Sammelanadhyaksha" (President of the Congress) for 17th Children Science Congress organised at Shri Parvati Shankar Vidyalaya Uttur, Ajara, Kolhapur by MVP Gadhinglaj from January 29-30, 2021.
- Received Best Instructional Material Dr. Anand Waskar award (2007) from YCMOU for Krutipradhan Vidnyan Adhyapan: Jaivik Vidnyan book.

- Received First prize in debating competition (two times) held on the occasion of Founders Day at TIFR in 1993 & 1999.
- Received award in 1991 from Nehru Memorial Fund, New Delhi.
- Secured the First Rank in the University at M.Sc. level (1990) & was awarded a gold medal
- Secured the highest marks in Botany & Zoology at the B.Sc. examination (1988) & was awarded cash award by the College.

Association with Professional Organisations

A. International –

- Member of National Association for Research in Science Teaching (NARST). Also a member of NARST's Research & Program Committee for year 2018-2023.
- Member of National Science Teacher Association (NSTA).
- Member of South Asian Association of Research in Mathematics Science and Technology Education (SAARMSTE).
- Member of African Education Development (AEDA).
- Member of Asian Association of Biology Education (AABE), and was Executive Director (Convener) for 26th AABE2016 conference.
- Senior Vice President of Indian Ocean Comparative Education Society and Executive Committee member for 2016-2018 IOCES conference. Since 2020 worked as and Chair of standing committee on world curriculum, we have been working to design on world science curriculum for Grade 6-7-8 (<https://www.ioces.org/standing-committees>).
- Member of International Organization for Science and Technology Education (IOSTE) and Executive Committee member for 2020-2024 IOSTE conference.
- Life member of the Commonwealth Association of Science Technology and Mathematics Educators (CASTME).

B. National -

- Life member of the Indian Association of Teachers in Biological Sciences.
- Life member of the Association of Chemistry Teachers.
- Life member of the Indian Association of Life Skills Education.
- Life member of All India Association for Educational Research
- Life member of the All India association of Environmental Science.
- Life member of the Indian Science Writers Association.
- Life member of the Maharashtra Association of Secondary Teacher Educators.
- Life member of the All India Science Teachers Association.
- Life member of the Marathi Vidnyan Parishad, an organization for science popularisation.

Membership of Editorial Boards

- The Southeast Asian Journal for STEM Education, published by the Southeast Asian Ministers of Education Organization, Regional Centre for STEM Education, Thailand.
- The Asian Journal of Biology Education, published by Asian Association for Biology Education.
- The SAARC Journal of Educational Research, published by the National Institute of Education, Sri Lanka.

Current Research & Development Activities

- ***Role of Participatory Action Research (PAR)*** to understand existing challenges in science teaching and learning and enhance student learning and to develop the PAR model in school education.
- ***Understanding the level of critical thinking internalized by science student-teachers and the associated misconceptions: An international perspective (in collaboration with MIE, Mauritius).***
- ***Topic Specific Pedagogical Content Knowledge in Biological Sciences*** (in collaboration with Wits School of Education)
- ***Science & Innovation Activity Centers:*** working on designing activities & modules for students & teachers for SIACs.
- ***Development of training module*** for practising teachers and teacher educators in school science.
- ***Development of Open Educational Resources (OER)*** for teachers, students and parents to provide quality education to all.
- ***Science Textbook writing & Designing State Curriculum Framework 2023***

Earlier Research & Development Engagement in HBCSE's Activities

Vigorously involved in research work and conducted the following studies:

- Development of Open Educational Resources for teachers, students and parents to provide quality education to all.
- Development of training module for practising teachers and teacher educators in school science.
- Effective use of science activities and experiments for students' leisure time
- Peer group interaction among Ashram School Students
- Study of Science club activities in School
- Students' Ideas about Nature (Cross-cultural studies)
- Students' Perception about Cloning and Biotechnology Textbook analysis
- Study of teacher's perception about new Science & Technology textbook
- Editor/Writer/committee member for Kumar Vishwakosh, a project by Vishvakosh Nirmiti Mandal, Govt. of Maharashtra.
- Course developer for D. El. Ed course and OER Vocational courses of a NIOS: MHRD, Delhi, and for e - B. Ed.
- TPD –HBCSE-MHRD Project for DIET faculty of Bihar and West Bengal

- YCMOU- Programme Advisory Committee member for B.Sc. (General Science) course.

Courses taught and other services provided to students and the home institution

i) Graduate Course at HBCSE

- *Understanding Teaching Practice (UTP-I)* (with Kalpana Kharade) (August - December 2021; August - December 2023)
- *Assessment for Enhancing Science and Mathematics Learning* (with Kalpana Kharade) (January 2023-April 2023)
- *Teaching Overview cum Practicum (UTP-II)* (with Kalpana Kharade) (August - December 2022; January - May 2022; August - December 2020; August - December 2019)
- *Navigating Cultural and Linguistic Intersectionality in Science Education* (with Kalpana Kharade) (August - December 2022.)
- *Teaching practice and school internship / design of learning resource* (with Harita Raval, Swetha Naik, Reema Mani and Aisha Kawalkar) (August - December 2018; August- December 2019)
- *School teaching experience* (with K. Subramaniam). 2015

ii) Yashwantrao Chavan Maharashtra Open University (YCMOU) - Post Graduate and Research Programme

- Research Methodology in Education (2013-2020)
- Preparing Research proposal & dissertation (2013-2021)
- Assessment and Evaluation (2017-2020)
- Environmental Education (2018-2020)

iii) YCMOU-ICONSENT- MKCL

- E-Learning Resource Developer
- Teacher as an e-learning practitioner

iv) Wits Univ.

- Animal Transport System (Cardiovascular and Respiratory System) and Genetics and Reproduction (with Prof Eunice)

Research Publications: Journals, Magazines, Conference Proceedings, Conference Presentations & Book Chapter

i) Refereed Journals (18)

1. Deshmukh, N. D., & Shrouthy, V. A. (2024). Effectiveness of Quizizz.com and Ecosystemforkids.com in Learning Organ System. *Asian Journal of Biology Education*.
2. Deshmukh, N. D., Shrouthy, V. A., & Deshmukh, N. (2023). The Role of Parents in Children's Online Education: Our Experiences. *Global Comparative Education: Journal of the WCCES*, pp 6-30. ISSN: 2522 7491.

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3. Shrouy, V. A., & Deshmukh, N. D. (2023). Re-engineering and Reimagining Teacher Education Equitable Right to Quality. *The WCCES Chronicle*, Vol. 7 No. 3, pp 6-30. ISSN: 25227483. <https://www.worldcces.org/article-4-by-shrouy-and-deshmukh>.
4. Deshmukh, N. D. & Kharade, K. (2023). Reimagining and Reengineering Teacher Education for the Post COVID-19 India. *The WCCES Chronicle*, Vol. 7 No. 1, ISSN: 25227483. <https://www.worldcces.org/article-2-by-deshmukh-and-kharade>
5. Thakur, S. A. & Deshmukh, N. D. (2022). Teacher Compassion: An Exploration. *International Journal of Life Skills Education*. Volume 8, No 1, P. 81-92.
6. Deshmukh, N. D., Shrouy, V. A., Gogte, S., Thakur, S. A., Deshmukh, N., & Gogte, V (2022). STEAM Education for Engaging Learners: Our Summer Camp Experiences. *Southeast Asian Journal of STEM Education*, Vol. 3 No. P. 120-144. <https://seameo-stemed.org/journal/archives/107/STEAM-Education-for-Engaging-Learners:-Our-Summer-Camp-Experiences>
7. Deshmukh, N. D. & Shrouy, V. A. (2022). Use of Online Tools in School Education during the COVID-19 Pandemic: A Paradigm Shift. *International Journal of Open Schooling* Vol. 1, No.1, PP. 69-78. https://www.nios.ac.in/media/documents/IJOS/articles/IJOS_Ch-14.pdf
8. Deshmukh, N. D. (2022). Country Report from AABE India Chapter. *Asian Journal of Biology Education*, Vol 14, P. ISSN 1447-0209. <https://aabe-asia.org/tag/ajbe-14/>
9. Thakur, S.A. & Deshmukh, N. D. (2022). Assessment of the Role of Yogic Practices in a Post– retirement Period of Teachers. *International Journal of Life Skills Education*. Volume 7, No 1, P. 93-102.
10. Deshmukh, R. G. & Deshmukh, N. D. (2022). Use of the virtual laboratory on the physics learning process: Undergraduate Students’ Experiences. *The WCCES Chronicle*, Vol. 6 No. 1, ISSN: 25227483. <https://www.worldcces.org/article-3-by-radhika-g-deshmukh-and-narendra-d-deshmukh/>
11. Bedi, K., Deshmukh, N. D., Ekanayake, S., & Vitharana, P. (2021). Comparing International and National Science Curricula to create a New Science World Curriculum. *World Voices Nexus, The WCCES Chronicle*, Vol. 5 No. 1, Article 2. ISSN: 25227483. <https://www.worldcces.org/article-2-by-bedi-deshmukh-ekanayake-and-vitharana>
12. Thakur, S. A. & Deshmukh, N. D. (2019). The Transformation of the Teacher’s Role for Future Society: A Case Study. *World Voices Nexus, The WCCES Chronicle*, Vol. 3 No. 2. ISSN: 25227483. <https://www.worldcces.org/vol-3-no-2-jun-2019>
13. Deshmukh, N. D. (2011). 'Students’ Misconceptions and Cultural beliefs in Biology at the Secondary School Level'. *Vetri Education*.
14. Deshmukh, N. D. (2011). 'Development & Evaluation of Remedial Material to Rectify Students' Misconceptions in Biology at Secondary School Level'. *Science Education in Future: A bulletin* published on Golden Jubilee year of K. J. Somaiya College of Science & Commerce, Mumbai. Page 11- 19, January 2011.

15. Deshmukh, N. D. (2006). 'Organizing Teachers' Workshops for Effective Utilization of Microscope', *Vetri Education*, Vol. 1, Number 1, Page 23-28.
16. Deshmukh, N. D. (2006). 'A survey of Teachers Perception on New Science and Technology Textbooks', *Vetri Education*, Vol. 1, Number 2, Page 17-24.
17. Deshmukh, N. D. & Hambir, K. T. (2003, February). Adivashi Vidyarathyanche Shikshan (Tribal Education). *Tribal Research Bulletin*, Vol. XXV No 1 & 2, page 60 – 64.
18. Deshmukh, N. D. (2002). 'How do teachers in Ashram schools perceive science curriculum at upper primary stage?', '*School Science*' Vol. XL No. 3, Page 68 -81.

ii) Paper Published in Conference Proceedings (33)

1. Ramma, Y., Bhoola, A., Deshmukh, N. D., Fulena, S. A., Nalawade, V.S. (2023). Scenarios as Means for Identifying, Developing, and Accessing Critical Thinking in Pre- and In-Service Teacher Education: A Preliminary Discussion on the Findings of an International Collaboration. DOI: [10.22492/issn.2188-1162.2023.70](https://doi.org/10.22492/issn.2188-1162.2023.70)
2. Deshmukh, N. D. & Kharade, K. (2023, November 25). *Towards Scaffolding Doctoral Students in Their Study: A TELT-based Conceptual Model*. In Murthy, et al. (Eds.). The International Conference on Technology 4 Education (T4E 2023) Conference Proceedings. The Institute of Electrical and Electronics Engineers (IEEE) India. Available on: https://drive.google.com/drive/folders/1ZPWgtQI-5VvzLu81qtDudb5cqVvKHY_1
3. Shrouy, V. A. & Deshmukh, N. D. (2023, November 25). Gamification: A Paradigm shift during and beyond Covid-19 in learning of HCF. In Murthy, et al. (Eds.). The International Conference on Technology 4 Education (T4E 2023) Conference Proceedings. The Institute of Electrical and Electronics Engineers (IEEE) India. Available on: https://drive.google.com/drive/folders/1ZPWgtQI-5VvzLu81qtDudb5cqVvKHY_1
4. Thapermall-Ramasawmy, S., Ramful, A., Bhoola, A., Deshmukh, N.D. (2023, November 24). Pre-Service Teachers' Approaches to Quantitatively-Rich Mathematics Problems: Implications for Mathematical Knowledge for Teaching. In Murthy, et al. (Eds.). The International Conference on Technology 4 Education (T4E 2023) Conference Proceedings. The Institute of Electrical and Electronics Engineers (IEEE) India. Available on: https://drive.google.com/drive/folders/1TPfDgK7c41QVv9CJQv_b2ioN91TEjtTp
5. Ramful, A., Bhoola, A., Thapermall-Ramasawmy, S., Deshmukh, N. D., Salehmohamed, A. (2023, November 25). *Reading between and beyond Cumulative Frequency Curves: Insights from In-Service Secondary School Mathematics Teachers*. The International Conference on Technology 4 Education (T4E 2023) Conference Proceedings. The Institute of Electrical and Electronics Engineers (IEEE) India. Available on: https://drive.google.com/drive/folders/1TPfDgK7c41QVv9CJQv_b2ioN91TEjtTp
6. Deshmukh, N. D. & Shrouy, V. A. (2022). *Enhancing Teaching Skills among Pre-Service Teacher through TPACK Framework*. In 10th Pan-Commonwealth Forum on Open Learning (PCF10) from September 14-16, 2022, at Canada organised by the Commonwealth of Learning (COL) and Athabasca University. DOI <https://doi.org/10.56059/pcf10.7171>

7. Shrouly, V. A & Deshmukh, N. D. (2022). *Online Gamified Flipped Classroom as a Strategy for Performance Improvement in Solving Equations in One Variable*. In 10th Pan-Commonwealth Forum on Open Learning (PCF10) from September 14-16, 2022, at Canada organised by the Commonwealth of Learning (COL) and Athabasca University. DOI <https://doi.org/10.56059/pcf10.6945>
8. Deshmukh, N. D. & Shrouly, V. A (2022, August 06). *Parents Role in Inculcating 21st Century Skills in Online Education among School Children during Covid-19*. Presented at International Conference on Science Education – 2022 Science Education for Sustainable Development: Post Covid Challenges organized on 2022. <http://www.pgis.pdn.ac.lk/icse22/> Published by Postgraduate Institute of Science (PGIS) University of Peradeniya Peradeniya 20400 SRI LANKA. ISBN 978-624-5709-28-1.
9. Shrouly, V. A & Deshmukh, N. D. (2022, August 06). *Gamification the Order of Operations in Mathematics Online Education*. Presented at International Conference on Science Education – 2022 Science Education for Sustainable Development: Post Covid Challenges organized on 2022. <http://www.pgis.pdn.ac.lk/icse22/> Published by Postgraduate Institute of Science (PGIS) University of Peradeniya Peradeniya 20400 SRI LANKA. ISBN 978-624-5709-28-1
10. Deshmukh, N. D. & Shrouly, V. A. (2022). *Enhancing the Effectiveness of Gamified Flipped Learning in School Science: A Step towards Autonomous Learning*. Presented at the International Organisation for Science & Technology Education (IOSTE) held from July 25-29, 2022 on "Esperança in uncertain times: the role of science and technology education in a changing world." Organised at Recife, Brazil. Vol 01, 2022. – 153415 Proceedings of XX IOSTE International Symposium 2022. ISBN: 978-65-89463-27-6 Available on: <https://proceedings.science/ioste-2022/papers/enhancing-the-effectiveness-of-gamified-flipped-learning-in-school-science-a-ste?lang=en>
11. Shrouly, V. A. & Deshmukh, N. D. (2022). *Promoting Hands-on activities through Online Experiential Learning*. Presented at the International Organization for Science & Technology Education (IOSTE) held from July 25-29, 2022 on "Esperança in uncertain times: the role of science and technology education in a changing world." Organised at Recife, Brazil. Vol 01, 2022. – 153368. Proceedings of XX IOSTE International Symposium 2022. ISBN: 978-65-89463-27-6 Available on: <https://proceedings.science/ioste-2022/papers/promoting-hands-on-activities-through-online-experiential-learning?lang=en>
12. Deshmukh, N. D., Bhide, S., Sonawne, V., Chunawala, S., & Ramadas, J. (2018). *Experiences and Learning from Participatory Action Research with a Local School*. In Ladage, S. & Narvekar, S. (Eds.). *epiSTEME 7 International Conference to Review Research on Science, Technology and Mathematics Education*, Conference Proceedings. India: Cinnamon Teal. Available on:

<https://episteme7.hbcse.tifr.res.in/wp-content/uploads/2018/01/epiSTEME-7-Pages-1-474-with-header.pdf>

13. Nyamupangedengu, E. & Deshmukh, N. D. (2018). *Investigating the impact of using the TSPCK framework on the content knowledge of in-service teachers: An exploratory case study*. 26th Annual Conference proceedings of Southern African Association for Research in Mathematics and Science and Technology Education, South Africa.
14. Deshmukh, N. D. (2015). *Why do students have misconceptions about life processes?* (Chapter 4, page: 31- 44) was published in a book, 'Biology Education and Research in a Changing Planet', published by Springer September. Available on: <https://link.springer.com/content/pdf/10.1007/978-981-287-524-2.pdf>
15. Deshmukh, N. D. (2015). *Does school science curriculum promote peace and harmony?* 4th Indian Ocean Comparative Education Society's conference proceedings, page 254-268. Available on: <http://wcces.com/Conferences Societies/IOCES-2015proceedings.pdf>
16. Deshmukh, N. D., Mishra, R., Tawade, S. (2015). *Development of concept inventory on nervous system for students of std 12th* Sanshodhan Chetana, December, 2015, Vol 4th, issue III, page 61-71. Available on <http://sanskodhanchetana.com/issues/Dec2015/7.pdf>.
17. Deshmukh, N. D. (2013). *Field Testing Experiences of OER4s Project*, Proceedings of the PCF7. (Available on <http://pcfpapers.colfinder.org/handle/5678/124>)
18. Deshmukh, N. D. (2013). *'Criteria's for Quality Assurance in Designing and Developing Open Educational Resources for Schools'*. Proceedings of the PCF7. (Available on <http://pcfpapers.colfinder.org/handle/5678/104>).
19. Deshmukh, N. D. & Deshmukh, V. M. (2013). *Textbook: A Source of Students' Misconceptions at the Secondary School Level*. *Proceedings of episteme-4*, India. Available on: <http://episteme4.hbcse.tifr.res.in/proceedings/strand-ii-cognitive-and-affective-studies-of-stme/deshmukh-deshmukh>
20. Agarkar, S. C., Deshmukh, N. D., Lale V. D., Sonawane V. C. (2013). *Digital resources in school science and mathematics in regional lanaguages*, In Nagarjuna, G., Jamakhandi, A. & Sam, E. (eds.) *Proceedings of epiSTEME 5: International Conference to Review Research in Science, Technology and Mathematics Education*, Mumbai, India. Goa: Cinnamonteal. Available on: <https://cinnamonteal.in/books/episteme-5/>
21. Agarkar, S. C. & Deshmukh, N. D. (2012). *Supporting school mathematics education through open educational resources*' In K. Subramaniam (Ed.), *Proceedings of the NIME National Conference on Mathematics Education*, HBCSE, TIFR, Mumbai, 2012. Available on: https://mathedu.hbcse.tifr.res.in/wp-content/uploads/2014/01/NIME-NC_2012_Proceedings.pdf
22. Deshmukh, N. D. (2012). *'Designing and Field Testing of Remedial Material to Rectify Students' Misconceptions in Biology at the Secondary School Level'* *Biology Education for Social and Sustainable Development Edited by M.Kim &*

- C. H. Diong, Sense Publishers. Available on: https://link.springer.com/chapter/10.1007/978-94-6091-927-5_28
23. Agarkar, S. C. & Deshmukh, N. D. (2011). 'Developing Open Educational resources in school mathematics'. In Charles A. Shoniergun and Galya A Akmayva (Eds.) *Proceedings of the London International Conference on Education*, Infonomics Society. Available on: <https://infonomics-society.org/lice-2019/>
 24. Deshmukh, N. D. & Agarkar, S.C. (2010). "Development of Open Educational Resources Opportunities and Challenges". Proceedings of the PCF6. Available on: <https://oasis.col.org/items/ae228789-6a76-4b38-bf8e-46057cbadd92>
 25. Deshmukh, N. D. (2009). 'A Study of Students' and Teachers' Misconceptions in Biology at the Secondary School Level': Proceedings of the *IAIE Annual Conference, Athens, Greece*. Available on: <https://pdfslide.net/documents/2009-iaieatenas-programa.html?page=1>
 26. Deshmukh, N. D. & Agarkar, S. C. (2008). 'Resource Based Quality School Education', Proceedings of the PCF5, 2008. Available on: <https://oasis.col.org/communities/4d0198fa-b4e2-4d92-9fd7-8bb4e10ad3a1>
 27. Deshmukh, N. D. (2007). 'A Study of Students' Misconceptions in Biology at the Secondary School Level', Proceedings of the *HBCSE, epi-STEME-2, 2007*. Available on: <https://episteme7.hbcse.tifr.res.in/>
 28. Deshmukh, N. D. & Sonawane, V. C. (2005). 'Need of Understanding Physics involved in Compound Microscope for its Effective Utilization at School Level'. Proceedings of the *NTSC-2005* (National Teachers Science Conference) at Mysore.
 29. Deshmukh, N. D. (2005). 'Role of Physical Science in Bioinstrumentation and Techniques in Study of Glamorous Subjects: Microbiology, Biochemistry & Health Care'. Proceedings of the *NTSC- 2005* (National Teachers Science Conference) at Mysore.
 30. Deshmukh, N. D. (2005). 'Implementing Water Sanitation Hygiene Education: Promotion through School Educations'. *Proceedings of the First Peoples Education Congress*, Allahabad.
 31. Deshmukh, N. D. (2005). 'Students' Perception on Cloning and Biotechnology: A study of Indian School Students'. Proceedings of the *CESA-2005 (The Fifth Comparative Education Society of Asia Biennial Conference 2005 on Education for World Peace: The Asian Context at UKM, Malaysia)*. Available on: <https://cesa.jp/5th-biennial-conference-bangi/>
 32. Deshmukh, N.D. and Agarkar, S. C. (2004) Study of Students' Ideas about Nature, In Gr. Makrides, A. Gagatsis and K. Nicolaou (Eds.) *Proceedings of the CASTME International Conference on Linking Science, Mathematics and*

Technology Education and Their Relevance, Cyprus Mathematics Society, pp 191–203. Available on: <https://gnosis.library.ucy.ac.cy/handle/7/38285>

33. Agarkar S. C., Deshmukh N. D., Lale, V. D. and Sonawane V.C. (2002). Capacity Building in Ashram Schools, In S. C. Agarkar & V. D. Lale (Eds.) *Science, Technology and Mathematics' Education for Human Development*, HBCSE, TIFR, Mumbai.

iii) Educational Magazines (03)

1. Patil, R. B., Deshmukh, N. D., Shrouthy, V., Deshmukh, N. (2022, September). Learning with Pleasure. *Teacher Plus*. <https://www.teacherplus.org/learning-with-pleasure/>
2. Deshmukh, N. D., Thakur, S. A., Shrouthy, V., Deshmukh, N. (2022, March). Why we need to implement project-based learning. *Teacher Plus, Teaching Practice*, 10-11. <https://www.teacherplus.org/why-we-need-to-implement-project-based-learning/>
3. Deshmukh, N. D. & Navale, P. K. (2021, March). The continued relevance of reading cards. *Teacher Plus*. <https://www.teacherplus.org/the-continued-relevance-of-reading-cards/>

iv) Paper presented in Seminars & Conferences (not published in any proceedings & journals) (80)

1. Deshmukh, N.D., Kathale, S., Prasad, R. (2024/4/25). *Community Participation in Creating Awareness Towards the Latest Innovations in the Science and Mathematics Education Domains*. SOITS-IGNOU National Conference on Exploring Interdisciplinary Frontiers: Challenges and Opportunities. [https://newsphilosophy.wordpress.com/2024/02/05/two-days-national-conference-on-the-theme-exploring-interdisciplinary-frontiers-challenges-and-opportunities/#:~:text=We%20are%20happy%20to%20inform,25th%2D26th%20April%202024\).](https://newsphilosophy.wordpress.com/2024/02/05/two-days-national-conference-on-the-theme-exploring-interdisciplinary-frontiers-challenges-and-opportunities/#:~:text=We%20are%20happy%20to%20inform,25th%2D26th%20April%202024).)
2. Deshmukh, N.D & Kharade, K. (2024/4/25). *Building Bridges, Not Walls: NEP 2020's Vision for Interdisciplinary Learning*. SOITS-IGNOU National Conference on Exploring Interdisciplinary Frontiers: Challenges and Opportunities. [https://newsphilosophy.wordpress.com/2024/02/05/two-days-national-conference-on-the-theme-exploring-interdisciplinary-frontiers-challenges-and-opportunities/#:~:text=We%20are%20happy%20to%20inform,25th%2D26th%20April%202024\).](https://newsphilosophy.wordpress.com/2024/02/05/two-days-national-conference-on-the-theme-exploring-interdisciplinary-frontiers-challenges-and-opportunities/#:~:text=We%20are%20happy%20to%20inform,25th%2D26th%20April%202024).)
3. Deshmukh, N.D. (2024/3/21). *Teachers' Choices of Multiple Visual Representations for Teaching about the Cardiovascular System*. NSTA - Shape the Future of Science Education. <https://www.nsta.org/national-conference-science-education-denver-2024#:~:text=Shape%20the%20Future%20of%20Science,the%20future%20of%20your%20work.>
4. Deshmukh, N.D. (2024/3/17). *Investigating the Effectiveness of Using a Technology in Remediation of High School Students' Misconceptions*. NARST - SCIENCE EDUCATION FOR THE REST OF US. <https://narst.org/conferences/2024-annual-conference>
5. Deshmukh, N.D. (2024/3/17). *Role of Basic Sciences in Creating Awareness among School Students & Student-Teachers about Single Use Plastics*. NARST - SCIENCE

EDUCATION FOR THE REST OF US. <https://narst.org/conferences/2024-annual-conference>.

6. Kharade, K. & Deshmukh, N. D. (2024, January 19-20). *From Monoliths to Mosaics: Tailoring Teacher Preparation for the Kaleidoscopic classrooms in NEP 2020 Era*. International Seminar cum Workshop (hybrid mode) on “Envisioning Inclusion: Transforming Vision into Reality” organised by Smt KKCE Juhu, Mumbai.
7. Deshmukh, N. D. (2024, January 04-0). *A Review of Life Skills Education for Sustainable Development Goals: A Perspective of Science Education*. *Symposium: Systemic Transformation through Life Skills Education for achieving Sustainable Development Goals - global and local perspectives and cross-cultural experiences*. The 9th International Conference on Life Skills Education organized by Indian Association for Life skill Education in collaboration with Mar Theophilus Training College, Thiruvananthapuram, Kerala.
8. Deshmukh, N. D. & Kharade, K. (2023, November 20). A Conceptual Model for the Integration of 21st Century Knowledge & Skills in Doctoral Program *Towards Scaffolding Doctoral Students in Their Study: A TELT-based Conceptual Model*. The International Conference on “Envisioning the futures of education through research organized by the Mauritius Institute of Education, Mauritius from November 20-24, 2023.
9. Deshmukh, N. D. & Nyamupangedengu, E. (2023, April 18-21). Analysis of Practicing and Pre-Service Teachers’ Choices of Multiple Visual Representations for Teaching about the Cardiovascular System’ The National Association for Research in Science Teaching’s (NARST) 2023, 96th Annual International Conference on ‘Reflecting on Reform’ at Hilton Chicago, IL, USA. <https://narst.org/conferences/2023-annual-conference>
10. Deshmukh, N. D. & Kharade, K. (2022, December 23). *21st Century Skills and Researchers: A conceptual Model for Doctoral Program*. National Seminar on ‘Development of 21st-century skills for ‘Atmanirbhar Bharat’ (self-reliant India)’ was organized by SNDT Women’s University, PVDT College of Education for Women, in collaboration with Indian Council of Social Science Research (ICSSR) at PVDT College of Education for Women, SNDT Women’s University, Churchgate, Mumbai.
11. Deshmukh, N. D. & Kharade, Kalpana (2022, November 14-16). *Reimagining and Reengineering Teacher Education for the Post-COVID-19 India*. 5th WCCES Symposium (Virtually through Zoom) on ‘The Future is here: Transforming with Urgency Education Systems for Equitable Rights to Quality Learning’. <https://www.theworldcouncil.net/5th-wcces-symposium-2022.html>
12. Shrouy, V. A & Deshmukh, N. D. (2022, November 14-16). *A futuristic view - Re-engineering and Reimagination of Teacher Education for Equitable Rights to Quality Learning*. 5th WCCES Symposium (Virtually through Zoom) on ‘The Future is here: Transforming with Urgency Education Systems for Equitable Rights to Quality Learning’. <https://www.theworldcouncil.net/5th-wcces-symposium-2022.html>
13. Ramma, Y., Deshmukh, N. D., Sable, S. et al., (2022, July 25-29). *A framework for assessing learners’ critical thinking skills through science-based real-life scenarios*. 2nd Annual International Conference on Critical Thinking organised by Foundation for Critical Thinking, Santa Barbara, California, USA. <https://www.criticalthinking.org/pages/42nd-conference-main/1517>

14. Deshmukh, N. D. & Nyamupangedengu, E. (2022, July 04-08). *Enriching Micro-Teaching Skills with TSPCK Framework in Pre-Service Teacher Education*. epiSTEME-9: International Conference to Review Research in Science, Technology, Engineering, and Mathematics Education. <https://episteme9.hbcse.tifr.res.in/>
15. Deshmukh, N. D. & Kurkure, P. N. (2022, May 04-05). *Challenges and Opportunities for ITEP: A Systematic Review*. National Seminar on 'NEP-2020: Its Vision about 21st Century Teacher Education Programme' organized by Bhavan's Tripura College of Teacher Education, Narsingarh, Agartala, Tripura from, 2022
16. Deshmukh, N. D. & Shrouty, V. A. (2022, July). *Alternative Instructional Strategies: A Paradigm shift during and beyond Pandemic in Science Education*. National Conference on NEP 2020: Towards Transforming Teacher Education from July 24-26, 2022 organized by Regional Institute of Education (NCERT) Bhubaneswar.
17. Deshmukh, N. D. & Kharade, K. (2022). *ICT as a CATALYST in the IMPLEMENTATION of ITEP*. National Conference on NEP 2020: Towards Transforming Teacher Education from July 24-26, 2022 organized by Regional Institute of Education (NCERT) Bhubaneswar
18. Shrouty, V. A. & Deshmukh, N. D. (2022, September 9-11). *Exploring Gamified Flipped Classrooms in Learning Perimeter and Area* Presented at MTA. <https://www.mtai.org.in/activities/annual-conference/mta-fourth-conference-online-2022/>
19. Deshmukh, N. D. (2022, April 28-30). *Country Report from AABE India Chapter*. Presented at the 56th BIOTA National Convention and Scientific Sessions and 28th Biennial Conference of the Asian Association for Biology Education held from April 28-30, 2022. <https://sites.google.com/up.edu.ph/biotaabe?pli=1>
20. Deshmukh, N. D. & Shrouty, V. A (2022, April 28-30). *The role of Gamified e-quizzes on student learning: An interactive gamification solution for a formative assessment in Science Education*. Presented at the 56th BIOTA National Convention and Scientific Sessions and 28th Biennial Conference of the Asian Association for Biology Education. <https://sites.google.com/up.edu.ph/biotaabe?pli=1>
21. Shrouty, V. A. & Deshmukh, N. D. (2021, August 3-5). *Synergize: Educators & Student-Teacher for the betterment of Teacher Education*. Distance Education and Teachers Training in Africa (DETA) Conference. <https://www.up.ac.za/cf-deta2021>
22. Deshmukh, N. D. (2021, January 28-29). *Learning by doing pedagogy in school education: a case study approach*. International Online Conference of (Korean Association for Science Education (KASE) on "Walking Together toward Inclusive Science Education by Creating Equitable Science Learning Opportunities". <http://www.kase2021.org/>
23. Deshmukh, R. G. & Deshmukh, N. D. (2021, January 28-29). *Perceptions of peace and harmony in students' drawings*. International Online Conference of (Korean Association for Science Education (KASE) on "Walking Together toward Inclusive Science Education by Creating Equitable Science Learning Opportunities". <http://www.kase2021.org/>
24. Thakur, S. A. & Deshmukh, N. D. (2021, January 28-29). *Ways of Effective School*

Science Teaching and Learning. International Online Conference of (Korean Association for Science Education (KASE) on "Walking Together toward Inclusive Science Education by Creating Equitable Science Learning Opportunities". <http://www.kase2021.org/>

25. Deshmukh, N. D. & Thakur, S. A. (2021, February 01-05). *Impact of Innovative Multimodal Teaching Practices: An Experience of Teacher Professional Development Programmes*. The International Organization for Science and Technology Education (IOSTE) organised XIX Online Symposium in collaboration with Kyungpook National University, Daegu, Korea on "Transforming Science & Technology Education to Cultivate Participatory Citizens. <https://ioste.org/>
26. Thakur, S. A. & Deshmukh, N. D. (2021, February 18-20). *Assessment of the role of yogic practices in a post-retirement period of teachers*. International Online Conference on Life Skills 2021 was organized on the theme 'Crisis Management through Life Skills'.
27. Deshmukh, R. G. & Deshmukh, N. D. (2021, March 23-24). *Use of Poster, Drawing and Slogan Competition to Create Peace and Harmony among the School Students*. International Conference on "Role of Yoga, peace, ICT and Environmental Education for Sustainable development" organised by Govt. P.G.College Kotdwara, Uttarakhand.
28. Thakur, S. A. & Deshmukh, N. D. (2021, March 23-24). *Role of Yogic Practices in a Post-retirement Period of Teachers*. International Conference on "Role of Yoga, peace, ICT and Environmental Education for Sustainable development" organised by Govt. P.G.College Kotdwara, Uttarakhand.
29. Shrouy, V. A., Deshmukh, N. D., Deshmukh, N. (2021, November 18-21). *The role of parents in Children's online education: Our Experiences*. 4th WCCES Symposium. <https://www.theworldcouncil.net/4th-wcces-symposium-2021.html>
30. Thakur, S. A., Deshmukh, N. D., Shrouy, V., Deshmukh, N. (2021, November 18-21). *Collaboration between Educators, Teachers, Students, and Parents for Learning by Project Based Learning during Pandemic period*. 4th WCCES Symposium. <https://www.theworldcouncil.net/4th-wcces-symposium-2021.html>
31. Gogte, S., Deshmukh, N. D., Gogte, V., Shrouy, V., Deshmukh, N. (2021, November 18-21). *National and Cultural Festivals at School an Enrichment Booster for Emotional Development/Bonding of a Child: Indian Perspective*. 4th WCCES Symposium. <https://www.theworldcouncil.net/4th-wcces-symposium-2021.html>
32. Deshmukh, N. D. & Deshmukh, A. (2021, November 18-21). *Implementation of TSPCK Framework in Designing Micro Teaching Lesson*. 4th WCCES Symposium. <https://www.theworldcouncil.net/4th-wcces-symposium-2021.html>
33. Deshmukh, R. G. & Deshmukh, N. D. (2021, November 18-21). *Use of Online Physics Tools in Higher Education during the Coronavirus Pandemic: Indian Students' Perspective*. 4th WCCES Symposium. <https://www.theworldcouncil.net/4th-wcces-symposium-2021.html>
34. Gogte, S., Deshmukh, N. D., Gogte, V., Deshmukh, N. (2021, November 18-21). *Impact of Online Participatory Teaching Learning Program for*

- Wholesome Development of Middle School Children of Semi-Urban.* 4th WCCES Symposium. <https://www.theworldcouncil.net/4th-wcces-symposium-2021.html>
35. Deshmukh, N. D. (2020, June 28-29). *Understand the Impact of the Fourth Industrial Revolution.* International webinar on, 'The Global Impact of COVID - 19 on Teacher Education: Transforming Challenges into Opportunities' held at the Faculty of Education, Raja Balwant Singh College, Agra.
 36. Deshmukh, N. D. (2020, July 04). *Education after COVID-19: Opportunities and Challenges.* International Webinar on: 'Education after COVID 19: Opportunities and Challenges' at the Rayat Shikshan Sanstha's, Dahiwadi College Dahiwadi, Satara.
 37. Deshmukh, N. D. (2020, November 23-27). *After confinement, back to the school around the world: India.* The Mexican Society of Comparative Education (SOMECE) organised IV meeting of international and comparative education in collaboration with the World Council of Comparative Education Societies (WCCES). http://somec2020.org/program.html#cies_r
 38. Deshmukh, N. D. (2020, May 25-29). *Using the TSPCK framework to improve the content knowledge of pre-service teachers.* Annual Research Meet, at HBCSE, Mumbai.
 39. Deshmukh, N. D. (2020, June 15). *Reimagining Learning-Teaching-Research & Development.* National webinar on: Impact of Covid-19 on Teacher Education: Challenges and Opportunities' at the Faculty of Education, Raja Balwant Singh College, Agra (U.P.).
 40. Deshmukh, N. D. & Hardikar, G. P. (2019, January 14-15). *The changing role of NGOs in the provision of relief and rehabilitation assistance: A literature review.* The 2nd World Council of Comparative Education Societies (WCCES) organized Symposium on 'Immigrants and Comparative Education: Call to Re/Engagement' held at UNESCO International Bureau of Education (IBE), Geneva, Switzerland.
 41. Deshmukh, N. D. & Hardikar, G. P. (2019, May 20-24). *STEAM Education for Betterment of Future Generation: Opportunities and Challenges.* The World Council of Comparative Education Societies (WCCES) organized the XVII World Congress of Comparative Education Societies on 'The Future of Education' at Cancun, Mexico. <http://2019worldcongress.org/>
 42. Thakur, S. A. & Deshmukh, N. D. (2019, May 20-24). *The Transformation of the Teacher's Role for Future Society: A Case Study.* The World Council of Comparative Education Societies (WCCES) organized the XVII World Congress of Comparative Education Societies on 'The Future of Education' at Cancun, Mexico. <http://2019worldcongress.org/>
 43. Thakur, S. A. & Deshmukh, N. D. (2019, November 01-03). *Teacher Compassion: An Exploration.* International Conference on Life Skills Education jointly organized by Indian Association for Life skill Education, on 'Life Skills as Cutting-Edge Mechanisms for Transformative Competencies' at Muktha Foundation, and Montfort College Bangalore.
 44. Deshmukh, N. D. (2019, January 12-13). *Subject and Pedagogical Content Knowledge in Science Teaching.* Navi Mumbai Science Foundation (NMSF) organised 'Science Utsav' Teachers Conference at Gujarat Bhavan, Vashi, Navi Mumbai.
 45. Deshmukh, N. D. (2019, February 15-16). *The Role of Vidnyan Parishad's in School*

- Science Teachers Professional Development: Route to Education for Sustainable Development*. National Seminar on 'Education for sustainable Development: Building a better development' at the Department of Education, Visva-Bharati, Shantiniketan, West Bengal.
46. Deshmukh, N. D. (2019, February 18-19). *Understanding Students Visual Reasoning through their Drawings*. Workshop on 'Visual Reasoning' organized by School of Cognitive Science, JadHAVpur University in collaboration with IEST Shibpur, Kolkata.
 47. Deshmukh, N. D. (2018, March 10-14). *How does knowing about misconceptions in a bilingual context can help students learning: An Indian Experience?* 91th National Association for Research in Science Teaching's (NARST) Annual International Conference on Annual International Conference on 'Re-Centering Scientific Literacy in an Era of Science Mistrust and Misunderstanding' held at The Westin Peachtree Plaza, Atlanta, GA, USA.
 48. Deshmukh, N. D. & Nyamupangedeng, E. (2018, April 04-06). *In-service Teachers Perceptions about Students' Misconceptions: Sources and its implications for Teacher Education*. The Association of Educational Development in Africa organised conference at Atlantic Imbizo Hotel, Capetown, South Africa.
 49. Deshmukh, N. D. (2018, August 13-17). *The Use of the Drawing Method for Eliciting Students' Ideas and Understanding in Life Science: Diagnostic Assessment Strategy for Teachers*. The International Organization for Science and Technology Education (IOSTE) was organised XVIII IOSTE Symposium on 'Future Educational Challenges from Science and Technology perspectives' held at Malmo University, Sweden.
 50. Deshmukh, N. D. (2018, October 18-20). *Learning by doing pedagogy in school education to enhance computational thinking: challenges and strategies*. The International Science, Mathematics and Technology Education Conference (ISMTEC), on theme, "Bringing computational thinking to K-12", held at Ambassador Hotel Bangkok, Thailand. <https://ismtec2018.ipst.ac.th/>
 51. Deshmukh, R. G. & Deshmukh, N. D. (2018, October 18-20). *Enhancing Computational Skills of Higher Secondary Students Regarding Waves by Using Activity Based Teaching Strategies*. The International Science, Mathematics and Technology Education Conference (ISMTEC), on theme, "Bringing computational thinking to K-12", held at Ambassador Hotel Bangkok, Thailand. <https://ismtec2018.ipst.ac.th/>
 52. Deshmukh, N. D. (2018, November 30- December 02). *Use of multimedia for dislodging school students' misconceptions*. 27th Biennial Conference of the Asian Association for Biology Education, on 'Biology Education for Future Asia' held at the Assumption University, Bangkok, Thailand.
 53. Deshmukh, N. D. (2017, April 22 - 25). *Design of Remedial Module to Overcome School Students' Misconceptions in Biological Sciences*. 90th National Association for Research in Science Teaching's (NARST) Annual International Conference on 'Glocalization and Sustainability of Science Education Research and Practice' held at San Antonio, Texas, USA.
 54. Deshmukh, N. D. (2016, September 20-23). *Using Drawings for Diagnosing Students' Misconceptions*. 26th Biennial Conference of the Asian Association for Biology Education, on. 'Trends in Biology Education & Research: Practices & Challenges' held at the International Centre, Goa, India.

55. Mishra, R., Tawade, S., & Deshmukh, N. D. (2016, September 20-23). *Designing Concept Inventory on Nervous System for Class 12th Students*. 26th Biennial Conference of the Asian Association for Biology Education, on. 'Trends in Biology Education & Research: Practices & Challenges' held at the International Centre, Goa, India.
56. Godse, S. & Deshmukh, N. D. (2016, September 20-23). *Perception about use of ICT in Classroom Teaching-Learning*. 26th Biennial Conference of the Asian Association for Biology Education, on. 'Trends in Biology Education & Research: Practices & Challenges' held at the International Centre, Goa, India.
57. Deshmukh, N. D. (2015, July 20-24). *Use of OERs for School Science & Mathematics Education: An Indian Experience*. Distance Education and Teacher Education in Africa (DETA) conference at Mauritius Institute of Education, Mauritius on "The Future We Want": Teacher development for the transformation of education in diverse African contexts".
58. Deshmukh, N. D. (2014, October 13-16). *Use of Technology in Classroom for Implementing Remedial Module to overcome School Students' Misconceptions*. , 25th Biennial Conference of the Asian Association for Biology Education held at University of Malay, Kuala Lumpur, Malaysia.
59. Godse, S. & Deshmukh, N. D. (2014, October 13-16). *Survey of undergraduate students' misconceptions about molecular biology*. 25th Biennial Conference of the Asian Association for Biology Education held at University of Malay, Kuala Lumpur, Malaysia.
60. Deshmukh, N. D. (2013, January 20-21). *Researches on Assessment and Evaluation: e-B. Ed Programme*. An International Education Conference on "Reforms in Examination and Evaluation (2E) and its Impact on Quality Education" at Faculty of Education, R.B.S. College, Agra.
61. Deshmukh, N. D. (2012, June 01-02). *Tribal Education: HBCSE Project*. International Seminar on Tribal Development at Pacific University, Udaipur.
62. Deshmukh, N. D. (2012, October 03-04). *Let us understand Biodiversity*. National Seminar on "Biodiversity, Biology and its Terminology including new biological trends and Science Writing" at Anandwan Vidyaniketan College, Anandwan.
63. Deshmukh, N. D. (2012, December 28-31). *Use of Digital Resources for School Mathematics*. International Conference on Mathematical Sciences, at Shri Shivaji Science College Nagpur.
64. Deshmukh, N. D. (2012, January 20-23). *Supporting School Mathematics Education through Open Educational resources*. National Conference on Mathematics Education, HBCSE, Mumbai
65. Deshmukh, N. D. (2012, December 05-10). *"Development and Application of a Concept Based Objective Tests (CBOTs) for High School Students' Understanding of the School Biology Syllabus"*, 24th Biennial Conference of the Asian Association for Biology Education held at University of Philippines, Philippines.
66. Deshmukh, N. D. (2011, April 19 -21). *"Tools used for identification of students' misconceptions"*, at Annual Research Meet, HBCSE, Mumbai.
67. Deshmukh, N. D. (2010, April 08-09). *Use of Confluence for Development of RLOs for OER4S project*. UGC Sponsored National Level Seminar-cum-Workshop on 'E-learning for continuing professional education' at Smt. Kapila Khandvala College of Education, Juhu, Mumbai.

68. Deshmukh, N. D. (2010, February 11 -12). *A study of students' misconceptions in biology at school level and development of research based remedial material: Cultural Aspect*. Annual Research Meet, HBCSE, Mumbai.
69. Deshmukh, N. D. (2009, March 06-07). *Development of OER: Opportunities and challenges*. Seminar on 'Online Learning' organized by KKCE, Juhu Mumbai.
70. Deshmukh, N. D. (2009, October 05-08). *Development of Learning Objects: Opportunities and Challenges*. Peoples Council of Education has organized Second Peoples Education Congress on 'Science Education in India' at HBCSE, Mumbai.
71. Deshmukh, N. D. (2008, March 10-12). *Paryayi Sankalpana (Alternative Concepts)*. State level seminar organized on 'Psychology: Education colleges Syllabus' by YCMOU, Nashik. <https://ycmou.digitaluniversity.ac/>
72. Deshmukh, N. D. (2008, April 26-27). *A Programme for Developing Open Educational Resources for Schools*. Seminar on 'Quality Education' organized by All India Association for Educational Research at Gurukripa College of Education, Kalyan.
73. Deshmukh, N. D. (2008, February 16-17). *A study of students' and teachers' misconceptions in biology at secondary level*. Seminar on 'Constructivism and misconceptions' at Vetri Education, Puddycheri.
74. Deshmukh, N. D. & Deshmukh, V. M. (2007, January 29-31). *An Analysis of Students' Misconceptions in Biology at School Level*. XXI National Conference of All India Association for Educational Research (AIAER) on 'Researches for Quality Education' organized by and at Department of Education, Shivaji University, Kolhapur.
75. Deshmukh, N. D. (2007, December 11-15). *A Study of Students' and Teachers Misconceptions in Biology at School Level*. Atomic Energy Education Society organised National Conference on Science Education under National Initiative in Science Education (NISE), at BARC Hall, Mumbai.
76. Deshmukh, N. D. (2007, November 16-17). *Quality Open Educational Resources and Upper Primary level Teachers and Students' Misconceptions*. Seminar on 'Quality School Education for All' organized Indian Institute of Education, Pune.
77. Deshmukh, N. D. & Deshmukh, V. M. (2007, December 5-6). *An Analysis of Students' and Teachers Misconceptions in Biology at School Level*. The Department of Education, University of Calcutta organized National Seminar on 'Contemporary Research Education' at University of Calcutta. Deshmukh, N. D. & Deshmukh, V. M. (2007, December 22-23). *Students' Alternative ideas in Biology*. Maharashtra State Secondary Teacher Educator's Association Conference at Smt. K.N. Navale College of Education and Training, Kusgaon, Lonavala.
78. Deshmukh, N. D. (2006, December 11-15). *A Science Club Activities in School: PUSR*. 6th National Science Communication Congress, Science City, Ahmedabad. <http://www.iscos.org/>
79. Deshmukh, N. D. & Agarkar, S. C. (2005, February 15-16). *A Survey of Teachers' Perception on New Science & Technology Textbooks*. Regional seminar on Review of National Curriculum Frameworks organised by the RIE, Bhopal. <https://riehopal.nic.in/>
80. Deshmukh, N. D. (2004). *Organizing a Teachers' Workshop for Effective Utilization of Microscope*. CASE, University of Baroda, 2004. <https://www.msubaroda.ac.in/academics/FEP/department/CASE>

81. Deshmukh, N. D. (2004, September 9-13). *Study of Students' Perception about Cloning and Biotechnology*. National Teacher's Science Conference – 2004" on "School in the service of Society " held at Ujjain.
82. Deshmukh, N. D. & Agarkar, S. C. (2003, September 9-12). *Activity Based Science Teaching Programme to Develop Scientific Temper among Destitute Children*. National conference organized by Ministry of Science and Technology, New Delhi at Barkatullah University, Bhopal. <http://www.bubhopal.ac.in/1068/Home>
83. Subramaniam, K., Pradhan, H. C., Mavalankar, A. T., Deshmukh, N. D. (1999). *Strategy for In-Service Teacher Training in Mathematics for Ashram Schools*. National Conference organized by NCERT, Delhi at RIE, Bhopal. <https://riehhopal.nic.in>
84. Deshmukh, N. D. (1998). "A study of needs and requirements of practicing science teachers in municipal primary schools". National Conference organised by NCERT, Delhi at RIE, Bhopal. <https://riehhopal.nic.in/>
85. Deshmukh, N. D. (1996, February 2-4). *Peer group interaction among Ashram School Students*. National conference on Perspectives on Cognitive Development at Delhi. <http://www.du.ac.in/index.php?page=department-of-education>

Book Chapters (05)

1. Deshmukh, N.D. & Shrouthy, V.A (2023). Creating Classroom Learning Environment Favorable for 21st Century Learners: Using Integration of Artificial Intelligence and Gamification. In Hiren, Hemachandran, Pise & Rabi (Ed.), *Handbook of Research on AI and Knowledge Engineering for Real-Time Business Intelligence-Advances in Computational Intelligence and Robotics* (pp. 156-167). IGI Global, ISBN: 9781668465202, DOI: 10.4018/978-1-6684-6519-6
2. Deshmukh, N. D. & Kurkure, P. N. (2022). *Challenges and Opportunities for ITEP: A Systematic Review*. In Dey, R. & Gupta, S. (Eds.), *NEP-2020: It's Vision About 21st Century Teacher Education* (pp. 117-124). Pegasus, Agartala, Tripura, India ISBN: 9788195815906
3. Deshmukh, N.D. & Shrouthy, V.A (2022). Flipped classroom-An Emerging trend in e-education the way students want to learn. In Upadhyaya, P. & Dubey, R. (Ed.), *New Horizons of Teaching and Learning: In the Light of NEP 2020* (pp. 116-129). Ashish Books, New Delhi ISBN: 9789391979072
4. Shrouthy, V.A & Deshmukh, N.D. (2022). Gravitating learners using gamification in education. In Upadhyaya, P. & Dubey, R. (Ed.), *New Horizons of Teaching and Learning: In the Light of NEP 2020* (pp. 73-87). Ashish Books, New Delhi ISBN: 9789391979072
5. Shrouthy, V. A. & Deshmukh, N. D. (2021). *Using Gamification in Education*. In Jaiswal, A.K & Pachauri, S.C. (Eds.), *Education for Sustainable Development* (pp. 01-22). EZ Education, Ghaziabad, India. ISBN: 9789391654207

Keynote Address in International & National Conferences /Seminars/Symposiums (03)

1. Deshmukh, N. D. (2023, November 10). *Higher Education and Community Transformation*. 7th Departmental Symposium on “Transforming Community through Education” organised by the Department of Educational Foundations, Faculty of Education, University of Nairobi, Nairobi, Kenya.
2. Deshmukh, N. D. (2022, October 26). *Challenges in 21st Century Teacher Education*. 4th Annual International Conference on Research and Innovation in Education (AICRIE) on “Post-Modern Trends in Education Transformation and Sustainable Development”. Virtual conference organized by the Faculty of Education, University of Nairobi, Kenya.
3. Deshmukh, N. D. (2020, November 23). *After confinement, back to the school around the world: India*. The Mexican Society of Comparative Education (SOMECE) organized 4th World Council of Comparative Education Societies (WCCES) international online meeting.

Material Development: Books, Manuals, Digital Resources, Technical Reports & Participation in Material Development, etc.

i) Books (05)

1. Deshmukh, N. D. & Agarkar, S. C. (2000). *Science Questions Bank for S.S.C.* HBCSE, Mumbai.
2. Deshmukh, N. D., Lale, V. C., Sonawane, V. C. & Agarkar, S. C. (2004). *Vidnyan Prashnamanjusha*. HBCSE, Mumbai.
3. Deshmukh, N. D., Lale, V. C., Sonawane, V. C. & Agarkar, S. C. (2005). *Quiz on General Science* (Marathi & English). HBCSE, Mumbai.
4. Deshmukh, N. D. & Agarkar, S. C. (2007). *Krutipradhan Vidnyan Adhyapan*. HBCSE, Mumbai.
5. Deshmukh, N. D. & Agarkar, S. C. (2010). *All About Microscope: History, Use and Care*. HBCSE, Mumbai.

ii) Participation in Material Development

- a) ***Booklet for Pre-service Teacher:*** A booklet on “Critical Thinking in Teaching and Learning’- A guide for implementing critical thinking in lessons and in everyday life occurrences, was developed as a part of MIE-HBCSE collaborative project. MIE (2023), ISBN: 9789994975341.
- b) **Material for Central Board of secondary Education (03):**
 1. Assessment of Practical Skills in Science and Technology, Class X, CBSE, Delhi (2006). (Resource Persons: Arvind Kumar, Chitra Natarajan, S.C. Agarkar, V.G. Gambhir, V.D. Lale, V.D. Sonawane, N.D. Deshmukh)
 2. Assessment of Practical Skills in Science and Technology, Class IX, CBSE, Delhi (2006). (Resource Persons: Arvind Kumar, Chitra Natarajan, S.C. Agarkar, V.G. Gambhir, V.D. Lale, V.D. Sonawane, N.D. Deshmukh)

3. Kendriya Vidyalaya Science Activities Manual book for Std. V - VIII.

c) Material for Maharashtra State Board of Secondary & Higher Secondary Education:

(The following book in Marathi developed by Maharashtra Prathamik Shikshan Parishad (MPSP), Under Sarva Shiksha Abhiyan (2012)

1. ***Chala Khelu Karu Shiku (Lets Play Do and Learn): Shikshanotsav Upakram Pustika Part-1 and 2, (in Marathi), Published by Maharashtra State Bureau of Textbook Production & Curriculum Research, Balbharati, Pune, (2012).*** (Contributors: J. Ramadas, N. D. Deshmukh, V. C. Sonawane, A. T. Mavalankar and A. Kanhere).
2. ***Science Teacher Handbooks*** for class 9th & 10th: Printed by Rashtriya Madhyamik Shiksha Abhiyan Mumbai July 2015.

d) Kumar Vishwakosh:

The following volume on Biology and Environment of a junior encyclopaedia (Kumar Vishwakosh) in Marathi, developed by the Maharashtra Rajya Vishwakosh Nirmiti Mandal

1. ***Kumar Vishwakosh - Vol. 1 (Marathi):*** In collaboration with Maharashtra Rajya Vishwakosh Nirmiti Mandal (February 2011). (Contributors: N. D. Deshmukh, V. D. Lale and H. C. Pradhan) <https://kumarvishwakosh.maharashtra.gov.in/index.php>
2. ***Kumar Vishwakosh - Vol. 2 (Marathi):*** In collaboration with Maharashtra Rajya Vishwakosh Nirmiti Mandal (February 2014). (Contributors: N. D. Deshmukh, V. D. Lale and H. C. Pradhan) <https://kumarvishwakosh.maharashtra.gov.in/kumar-vishwakosh/>

ii) **Books for the Yashwantrao Chavan Maharashtra Open University (YCMOU) (04)**

YCMOU MA (Education):

1. **Assessment and Evaluation-** Unit 1: Concept of Assessment and Evaluation.
2. **Environmental Education-** Unit 1: Concept of Environmental Education and its scope.

YCMOU-MKCL's PGDEEDs Program: Post Graduate Diploma in e-Education in Digital Society (PGDEEDS) is developed and implemented by YCMOU and MKCL and approved by UGC:

1. E-Learning Resource Developer
2. Teacher as an e-learning practitioner.

iv) **Technical Reports (02)**

1. Mahajan, B. S., Chunawala, S., Shitut, S., Deshmukh, N. D. (1995, March). *Health Education Project Report*. HBCSE, Mumbai.

2. Deshmukh, N. D. & Agarkar, S. C. (2013). *Report of the Open Educational Resources for Schools Project*. HBCSE, Mumbai.

v) Editors/Co-editors/Guest Editor (02)

- Samwad: worked as co-editor & editor of these 13 journals.
- Charchaugh, February 2009, issue. 'Abhyas Kasa Karawa ani Pariksha Kashi Dyawi'.

vi) Other Materials (08)

1. Manual on Orientation course for Ashram School Science Teachers, Nashik Region.
2. Manual on Orientation course for Ashram School Mathematics Teachers, Nashik Region.
3. Laboratory Manual on Orientation Programme for TGT in Biology.
4. Prepared Question papers for Dr Homi Bhabha Young Scientist Examination for 6th& 9th Std (for 3yrs).
5. Prepared Question papers for C. V. Raman Talent search Examination for 5th& 8th Std (for 3yrs).
6. Dr. Homi Bhabha Bal Vaidnyanic Competition & C.V. Raman Exam (for 3yrs).
7. Evaluation of Kishor magazine, Balbharti ARR (with Smt. Sandhya Chandanshive).
8. Review Report of Learner Centered Science Education Programme (LCSEP).

vii) Digital Materials (02)

1. *OER4S Project*: Under Open Educational Resources for Schools (OER4S) project more than 12, 000 pages material is available on 'Mahadnyan' website.
<https://mahadnyan.mkcl.org/>
2. *NIOS OER -Open Educational Resources in Vocational Education*
<http://oer.nios.ac.in/> and <https://wikieducator.org/NIOS-OER-WORKSHOPS>

viii) Modules Books

- *TPD module*: For 'West Bengal and Bihar TPD Programme' prepared modules and slides on various topics. a. Teacher Education Programs over the Years, b. Microscope: An effective teaching aids and c. Measure the lung capacity.

ix) Posters (02)

1. Prepared Panels on "A planet alive"
2. Introduction of Integrated Laboratory.

Development of Courses & Project Review

i) Course Materials for National Open Schooling (03)

1. ICT Applications - Vocational Course at Sr. Secondary level
2. Rural Technology - Vocational Course at Secondary level
3. Tourism & Hospitality Management (website: *oer.nios.ac.in*).

ii) Development of Curriculum and Self-Learning Materials for D. El. Ed Program (02)

- Elementary Education in India: Socio-cultural Perspectives (Course 1)
- Learning Science (Course 10)

iii) e-B.Ed., OE4BW & NCERT Courses (03)

1. **Tech-MODE- e-B. Ed:** Pre-Service Teacher Education Program through Tech-MODE-e-B. Ed.'
2. **Open Education for a Better World (OE4BW) Project:** Last year a proposal on 'Development of Pedagogical Content Knowledge (PCK) among Science Teachers at School Level'
3. **NCERT:** Certificate Programme for Teaching of Elementary School Science

iv) Project Review (04)

1. **MHRD Project (2003):** Learner Centered Science Education Programme (LCSEP)
2. **SSC Board Book Review (2010):** Review of X Standard Science & Technology book published by SCERT.
3. **Review of NCL-IISER Activity (2017):** Review of the Exciting Science Group, (ESG) science club activities conducted by a group of scientists from NCL and IISER-Pune and supported by the Forbes Marshall Foundation, in selected Pune Municipal Corporation (PMC) schools.
4. **RGSTC Project (2022):** Review of Technology (Artificial Intelligence) and Innovation Demonstration proposal. Rajiv Gandhi Science & Technology Commission's program- 'Assistance for S & T Applications'.

International Visit on Deputation

Cyprus (2004), Egypt (2004), Jordan (2004), Malaysia (2006, 2014), England (2008), Greece (2009), Singapore (2010), Philippines (2012), Nigeria (2013), Mauritius (2015, 2023), South Africa (2017-2018), Botswana (2018), Thailand (October/December-2018), USA (2017, 2018, 2019, 2023), Kenya (2018), Sweden (2018), Denmark (2018), Italy (2018), France (2018), Mexico (2019), Qatar (2019), Switzerland (2019)

Participation as a Resource Person/Organizer/Coordinator in a Teacher Education, Teacher Educators Professional Development & Students Talent Nurture Projects

Since 1991, I have been involved in teacher education programme I started science teacher workshop for Sri Lanka in collaboration with science branch, Ministry of Education, Sri Lanka, Timor teacher workshop and workshops for Rayat Education Society and Shivaji Education Society, science teachers.

Solapur Primary & Secondary Teacher Project (1991-93), Rankol Grammangal Activity Based Science Project (1993-1995), Tribal School Quality Development Projects (Thane Region: 1993-1995 & Nashik Region: 1996-1998), Latur-Omerga earthquake affected school project (1994-1995), Atomic Energy Education Society's school science teacher enrichment project (1994-2005), Project in Science and Mathematics for Brihanmumbai Municipal Corporation schools (2000-2003), and Health Education Project (1993-2010), Acworth Leprosy Hospital: Mitra Project (2004-2011), National & State Council for Teacher Education's Teacher Education Programs (1998-2000), etc. Short onetime courses for various organisations & schools at State Level (2012-2019); Pen Tribal Middle School Science & Maths Teacher FDP Project (2018-2020); Science and Innovation Activity Centers (2014-). National level, In-service Teacher Professional Development in Elementary Education in Collaboration with Ministry of Human Resource Development & the District Institutes of Education and Training of Bihar & West Bengal (2013-2015); Building Educators for Science Teaching (2013-2014), Kendriya Vidyalaya's Zonal Institute of Education & Training (2015-) and conceptualize & led Sri Lanka's short courses for science teachers, educators and officers at International level (2015-2017) & Timor-Leste's (2016). Similarly, conceptualized Vidnyan Parishad (Science Teacher Congress) in collaboration with two big education societies of Maharashtra; the Rayat Education Society, Satara (catering to 14 districts of Western Maharashtra and Konkan regions) and & Shri Shivaji Education Society, Amravati (catering to 11 districts of Vidarbha region of the Maharashtra. Rayat Science Teacher congress (2013 at Satara, 2014 at Shrirampur, 2016 at Pune, 2018 at Vashi) and Shivaji Science Teacher Congress (2013 at Amravati, 2014 at Akola, 2015 at Buldhana, 206 at Nagpur, 2017 at Amravti, 2018 at Akot, 2020 at Varud) on various constructivist strategies and new trends in science education.

I worked as a coordinator for Open Educational Resources for School Project (2006-2013) and Kumar Vishvakosh (2006-2014) project. Apart from coordination, I played a crucial role in both these projects as a facilitator, resource person, monitor, and built the network & collaboration between various organizations.

Similarly, in students' Talent Nurture Projects for Bharatiya Vidya Bhavan & Atomic Energy Education Society's schools (1997-2003), Lonere region schools in collaboration with Dr. Babasaheb Ambedkar Technological University (1997-2006), & Children Activity Forum for

Children Home students (1993-1995), etc.

Some Miscellaneous Academic Activities

- **IYBSSD2023:** The International Year of Basic Sciences for Sustainable Development (IYBSSD2022-23) was organized by UNESCO proposed 5 June 2023 a 24-hours online event to showcase how basic sciences all over the world is contributing to the progress of the 2030 Agenda of the United Nations. IYBSSD is a project run under the legal responsibility of the International Union of Pure and Applied Physics (IUPAP). In this international program we conducted three workshops in Maharashtra & shared recorded clips during our slot timing. I was a speaker and also helped in event organization.
- **NARST-GS Mentor (2023):** Worked as a NARST Graduate Student Research Symposium mentor.
- **NARST-LSEP (2018):** In this international program I worked as a mentor and member for SERI-SESA, Thailand workshop.
- **M. Ed Examiner:** Working as an examiner at the Viva of M. Ed students at University of Mumbai, Amravati, Nashik.
- **NCTE – B. Ed. College Inspection:** participating in National Council for Teacher Education B. Ed/D. Ed. colleges' inspection work.
- **SCF-2010:** Participation in State Curriculum Framework (SCF-2010): in a Classroom Teaching-Learning group.
- **IQAC:** Since 2015 working as Internal Quality Assurance Committee (IQAC) member for Chembur Sarvankash Shikshan Shastra Mahavidyalaya, Chembur, Lord Education College, Malad & Smt K K, College of Education, Juhu, Mumbai..
- **SSC Board Book Review:** Participated in X Standard Science & Technology book review process of the Maharashtra State Board of Secondary & Higher Secondary Education.
- **MVP Science Project Competition:** involved in Marathi Vidnyan Parishad (MVP) Programme from many years.
- **Door Step School Programme:** conducted workshops, centered on activity based science teaching were organized in collaboration with the Door Step Organization for BMC schools.
- **State Level & National Level Children Science Congress:** working as Academic Coordinator and as an experts, examiner.
- **Observer for INO and NEST:** working as an Observer for the Indian National Olympiad (INO) & Nationwide Education and Scholarship Test (NEST).
- **Guide for Balbharati Action Research Project (2002),** - Mrs. Sandhya Chandanshive primary teacher from Nutan Vidyamandir, Mankhurd took the project on "Evaluation of Kishor magazine", under my guidance.
- **Science Exhibition:** Prepared Seven Panels on "A Planet Alive" under the Kishor Bharati programme (2001).
- **Mitra programme:** This bulletin is published by Acworth Leprosy Hospital Society for Research, Rehabilitation and Education in Leprosy, Wadala, Mumbai and circulated in tribal schools. In this Mitra bulletin more than twelve years I provided every month articles in science education.
- **Literacy Project:** Participation in Literacy project, to educate illiterates in Mandala Colony (1993-1995).

- **Community Development Programmes:** Participation in community development programmes organized by AEES, Lions Club, BMC, Other NGOs.
- **Paper Setting:** Participation in Paper Setting of Homi Bhabha Young Scientist Examination (2001-04): the question papers were produced in Marathi as well as English Language.
- **Project Review:** Participated in Review of Learner Centered Science Education Programme, Gujarat (LCSEP): Ministry of Human Resource Development (MHRD) requested HBCSE to review LCSEP (2004).

Invited Talk in National & International Conferences / Seminars / Symposiums /Workshops (195)

1. Deshmukh, N. D. & Kumbhar, S. (2023, June 05). *Local language Activity on Solutions to Plastic Pollution*. Online event organised by the United Nations, UNESCO & IUPAP on the occasion of World Environment Day.
2. Deshmukh, N. D. (2023, February 08). *Teacher Education in NEP 2020: A Conceptual Model for Doctoral Program*. Online Refresher Course in Teacher Education from February 06-20, 2023, oorganized by Dr. Babasaheb Ambedkar Marathwada University's the UGC-Human Resource Development Center, Aurangabad, Maharashtra, India.
3. Deshmukh, N. D. (2023, January 11). *Technology and Toys: Understanding Science*. St. Joseph High school, Kurla, Mumbai. L ward Taluka Level Science Exhibition Prize distribution function.
4. Deshmukh, N. D. (2022, November 16). *Utilization of Creative and Critical Thinking to Teach Science lessons through CBL-Scenario Based Approach*. ZIET, Mumbai organized 3-Day Workshop on CBL & Assessment for TGT (Science).
5. Deshmukh, N. D. (2022, April 20). *21st century Sustainable Development Goals*. International Webinar on 21st Century Skills for SDGs organized by MCT's College of Education & Research, Navi Mumbai.
6. Deshmukh, N. D. (2022, February 21). *NEP-2020 Highlight: PBL, ABL & Gamification*. 3-Day's workshop for TGT Science conducted online by KVS-ZIET, Mumbai.
7. Deshmukh, N. D. (2022, February 14). *Use of Online tools for teaching biology*. ZIET, Mumbai organized 3-Day Workshop for Science TGT.
8. Deshmukh, N. D. (2021, October 07). *How to do presentation in National Children's Science Congress?* UAE Children's Innovation Fest 2021.
9. Deshmukh, N. D. (2021, July 28). *TPACK- 21st Century Skills*. Azad College of Education, Satara.
10. Deshmukh, N. D. (2021, June 13). *Understanding Microteaching*. Amravati Pote B. Ed College Workshop.
11. Deshmukh, N. D. (2021, February 28). *National Science Day Celebration*. Rayat's Science Centre Program.

12. Deshmukh, N. D. (2021, February 27). *Careers in science and scientific awareness*. Purushottam Joma Mhatre Vidyalaya, Navade, Mumbai.
13. Deshmukh, N. D. (2021, April 03). *Education in South Africa ("दक्षिण अफ्रिकेची शिक्षण पद्धती" <https://fb.watch/bLWG59mIIW/>)*. Shikshan Vikas Manch, Yashvanrao Chavan Pratishthan, Mumbai.
14. Deshmukh, N. D. (2021, January 17). *Classification of Living organism*. NTS exam guidance organized online by Akola Science Teachers Association for National Talent Search Exam's Team.
15. Deshmukh, N. D. (2021, January 08). *Life Processes*. NTS second round guidance organised by NTS Pune group.
16. Deshmukh, N. D. (2020, March 29). *Homi Bhabha Young Scientist and Olympiad examination*. Panvel Brahaman Seva Sangh
17. Deshmukh, N. D. & Rawool, S. (2020, September 26). *PCK for Maths*. SXIE Math webinar series 4.
18. Deshmukh, N. D. (2020, July 04). *Education after COVID-19: Opportunities and Challenges*. Rayat Shikshan Sanstha's, Dahiwadi College Dahiwadi, Internal Quality Assurance Cell (IQAC) has organized International Webinar.
19. Deshmukh, N. D. (2020, June 28). *The Global Impact of COVID - 19 on Teacher Education: Transforming Challenges into Opportunities*. The Faculty of Education, Raja Balwant Singh College, Agra (U.P.) organised international webinar.
20. Deshmukh, N. D. (2020, January 03). *Careers in Science*. Chaitanya Vidyalaya, Badlapur (East), Thane
21. Deshmukh, N. D. (2019, November 30). *Importance of scientific temperament and science exhibition*. Panvel Science Teachers Association at Chhatrapati Shivaji Vidyalaya, Wawanje, Panvel.
22. Deshmukh, N. D. (2019, September 19). *Exploring the Evolution of Life*. STEAM Academy at Chhatrapati Shivaji Maharaj Vastu Sangrahalaya, Mumbai.
23. Deshmukh, N. D. (2019, July 16). *Web Based Resources*. Inter-University Centre for Teachers Education, Department of Education, Faculty of Education and Psychology, Maharaja Sayajirao University of Baroda, Vadodara
24. Deshmukh, N. D. (2019, July 15). *Open Education Resources*. Inter-University Centre for Teachers Education, Department of Education, Faculty of Education and Psychology, Maharaja Sayajirao University of Baroda, Vadodara
25. Deshmukh, N. D. (2019, June 15). *Innovative Teaching Practice*. Kumud Vidya Mandir, Deonar.
26. Deshmukh, N. D. (2019, March 2). *Science and Technology for the betterment of human life*. MVP, Sion.
27. Deshmukh, N. D. (2018, July 29). *Action research and observed teachers presentations*. Adarsh Shikshan Mandal, Chikhali, Dist Buldhana.
28. Deshmukh, N. D. (2018, November 24). *Educational Research Methodology*. M C T's B Ed college, Airoli, Navi Mumbai, organized one day student-teacher workshop on 'Research Methodology.'

29. Deshmukh, N. D. (2018, November 27). *Procedure to develop Action Research project in Science*. Zonal Institute of Education & Training (ZIET) organized Science and Mathematics teacher workshop on 'Action Research' at Mumbai.
30. Deshmukh, N. D. (2017, March 01). *Constructivist approach in Biology Education*, Shivaji Science College, Amravati.
31. Deshmukh, N. D. (2017, March 09). *Integrating Learning Resources for an Effective Teaching*. Gokhale B Ed College, Parel, Mumbai.
32. Deshmukh, N. D. (2017, April 13). *Activity Based and Joyful EVS Learning*. Matoshri Vidya Mandir, Mankhurd, Mumbai.
33. Deshmukh, N. D. (2016, January 11). *Science education and career*. The 27th Aryabhata Science Exhibition was held at IES's School Mulund.
34. Deshmukh, N. D. (2016, June 29). *Use of learning resources*. The Lords College of Education, Malad, Mumbai.
35. Deshmukh, N. D. (2016, January 16). *About Science Olympiad & Career in Sciences*. Nandura School Nandura, Buldhana.
36. Deshmukh, N. D. (2015, December 22). *Use of 5E in lesson planning*. Shri Shivaji High School, Chikhali, Buldhana.
37. Deshmukh, N. D. (2015, December 10). *What students learn from science exhibition?* K-west-ward science exhibition at Kamaldevi Jain High School, Andheri (West), Mumbai.
38. Deshmukh, N. D. (2015, December 09). *Science exhibition for science education*. P/K-ward science exhibition at Parle Tilak English Medium High School, Vile Parle, Mumbai.
39. Deshmukh, N. D. (2015, December 05). *Innovation and Ignite mind*. Innovation exhibition at Rotary Club Office, Dombivali (East), Thane.
40. Deshmukh, N. D. (2015, December 04). *Role of Science exhibition'*, P-ward science exhibition at Dr Sarvepalli Radhakrishnan High School, Sundar Nagar, Malad, Mumbai.
41. Deshmukh, N. D. (2015, December 03). *Designing science exhibits*. St. Mary's High School and Jr. College, Kalina, Mumbai.
42. Deshmukh, N. D. (2015, October 11). *Science exhibitions*. Podar International school, Santacruz, Mumbai.
43. Deshmukh, N. D. (2015, August 11). *Role of science club & nature club*. Pant High School, Kurla, Mumbai.
44. Deshmukh, N. D. (2015, March 19). *Research Methodology'*, Department of Chemistry, Amravati University, organized workshop at University of Amravati, Amravati.
45. Deshmukh, N. D. (2015, March 14). *Learning & Assessment in EVS*. Wildlife Conservation Trust and Eklavya, Bhopal, organized *Annual Peer Learning Meet-3*, at Panchmarhi, Hoshangabad, MP.
46. Deshmukh, N. D. (2015, March 09). *Role of Literature Review*. Somaiya College, Mumbai.
47. Deshmukh, N. D. (2015, February 21). *Collaborative Learning as a Teaching - Learning method*. Navi Mumbai Vidnyan Parishad, Vashi organised 'Science Utsav 2015' at Gujarati Samaj Bhavan Vashi.
48. Deshmukh, N. D. (2015, February 14). *Constructivism & 5E Lesson & Students conceptions*. Rayat Education Society, Satara organized workshop at Rayat's Regional Office, Nagar.

49. Deshmukh, N. D. (2015, February 13). *My Ph. D Research Experiences*. Smt K K College of Education, Mumbai.
50. Deshmukh, N. D. (2015, February 06). *Constructivism & 5E Lesson & Students conceptions*. Rayat Education Society, Satara organized workshop at New English High School, Kamothe, Raigad.
51. Deshmukh, N. D. (2015, January 28). *Dnyanrachanawad ani NCF2005*. Raigad District Science & Mathematics Teachers Association workshop at English High School Jawali, Mangaon, Raigad.
52. Deshmukh, N. D. (2015, January 23). *Rachanawad*. Raigad District SSA workshop at Sudhagad High School, Kalmboli, Raigad.
53. Deshmukh, N. D. (2015, January 20). *Constructivism & 5E Lesson & Students conceptions*. Rayat Education Society, Satara organized workshop at Sadhana High School Hadapsar, Pune.
54. Deshmukh, N. D. (2015, January 17). *Constructivism & 5E Lesson*. Rayat Education Society, Satara organized workshop at Shri Shahu Maharaj Kolhapur.
55. Deshmukh, N. D. (2015, January 16). *Students conceptions*. Rayat Education Society, Satara organized workshop at D. G. College Satara.
56. Deshmukh, N. D. (2015, January 15). *5E Lesson*. Rayat Education Society, Satara organized workshop at D. G. College Satara.
57. Deshmukh, N. D. (2015, January 15). *Constructivism*. Rayat Education Society, Satara organized workshop at D. G. College Satara.
58. Deshmukh, N. D. (2014, December 22). *Constructivist Approach in Education*. K M Azhar Husain B. Ed. College Akola.
59. Deshmukh, N. D. (2014, December 21). *5E Lesson Plan Approach & Constructivism*. Govt. B. Ed. College Akola.
60. Deshmukh, N. D. (2014, December 19). *How to prepare for Homi Bhabha Bal Vaidnyanik Examination?* Safe Hands Institute Akola.
61. Deshmukh, N. D. (2014, December 19). *Hands on Experiments*. Guru Nanak School, Akola.
62. Deshmukh, N. D. (2014, November 08). *Science & Mathematics for a Sustainable World*. Maharashtra Vidyalaya Goregaon, Mumbai.
63. Deshmukh, N. D. (2014, September 06). *Students' conceptions & misconceptions*. Gokhale Education College, Mumbai.
64. Deshmukh, N. D. (2014, August 16). *Study of students' conceptions & misconceptions*. Pushpanjali College of Education, Vasai, Thane.
65. Deshmukh, N. D. (2014, August 20). *Understanding students' conceptions & misconceptions*. The Lord Universal College of Education, Malad, Mumbai.
66. Deshmukh, N. D. (2014, June 13). *Understanding Students Conceptions*. KV Panvel, Raigad.
67. Deshmukh, N. D. (2014, March 07). *Students' conceptions & misconceptions*. PVDT college of Education, Churchgate, Mumbai.
68. Deshmukh, N. D. (2014, January 24,). *Role of Science Exhibition*. Kalyan School Kalyan, Science Exhibition-2014, Thane.
69. Deshmukh, N. D. (2013, November 21). *Learning by doing*. Husain Allana English medium School, Andheri, Mumbai.
70. Deshmukh, N. D. (2013, October 26). *ICT in Education*. Department of Education, University of Mumbai.

71. Deshmukh, N. D. (2013, October 12). *How to prepare exhibits*. Rayat Education Society organized workshop for Raigad region Rayat Education Society teachers at Kamothe School, Panvel, Raigad.
72. Deshmukh, N. D. (2013, September 21). *Role of Literature Review*. K. J. Somaiya College, Vidyvihar, Mumbai.
73. Deshmukh, N. D. (2013, September 14). *Students Misconceptions*. Smt K. K. College of Education, Juhu, Mumbai.
74. Deshmukh, N. D. (2013, September 07). *How to write Research Paper*. Rayat Education Society organized workshop for Rayat Education Society teachers at D G College, Satara.
75. Deshmukh, N. D. (2013, on September 06). *Constructivist Approach in Science Education*. Rayat Education Society organized workshop for science teachers at Y C College Satara.
76. Deshmukh, N. D. (2013, September 04). *Use of Experiments, Toys and Teaching Aids in Classroom Teaching*. Rayat Education Society organized workshop for science teachers at K B Patil Modern College, Vashi, Navi Mumbai.
77. Deshmukh, N. D. (2013, August 2-3). *Capacity Building of Science Teachers: HBCSE Role*. Loksatta organized two days seminar at Hotel Taj, Mumbai.
78. Deshmukh, N. D. (2013, May 9). *Role of Headmasters in School Capacity Building*. Swami Vivekananda Shikshan Sanstha Kolhapur organized seminar at Purandare High School, Saswad, Pune.
79. Deshmukh, N. D. (2013, April 16). *Need of Capacity Building of Teacher Educator: HBCSE Role*. MPSP organized seminar at Yashwantrao Chavan Pratisthan, Mumbai.
80. Deshmukh, N. D. (2013, February 13). *How to prepare OER*. Smt K. K. College of Education, Juhu, Mumbai.
81. Deshmukh, N. D. (2013, January 02). *Exhibition-2013*. Dr. P.K. School, Kudal, Sindhudurg.
82. Deshmukh, N. D. (2013, January 02). *Mahadnyan: How Teachers Can Use It*. Palus Taluka Science Teachers Workshop, Dr. P.K. School, Kudal, Sindhudurg.
83. Deshmukh, N. D. (2012, October 20). *My Research Work and Experiences*. YCMOU Graduate Students, Navi Mumbai.
84. Deshmukh, N. D. (2012, October 05). *Activity Based Science teaching*. Pusad Nagar Palika Primary Teacher Workshop, Nagar Parishad Hall, Pusad, Yavatmal.
85. Deshmukh, N. D. (2012, October 05). *New Paradigm shift in Education*. G. D. B.Ed. College, Pusad, Yavatmal
86. Deshmukh, N. D. (2012, October 05). *Olympiad Examinations and its Preparation*. Dhanajibai High School, Pusad, Yavatmal.
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