First Impression: 2020

DISCLAIMER

Authors are solely responsible for the views, opinions, correctness, authenticity, and permissions required for the chapter. Editors or Publisher has no responsibility on behalf of the authors in whatsoever manners.

ISBN: 978-81-942875-7-5

Price: 1000.00 (Hard Bound) 700.00 (Paper Back)

Typeset by Vidya Kutir Publications

Publishing by:

Vidya Kutir Publications

137, Asola Village, New Delhi -110074
Phone: 9910321772
Email: vidyakutirpublications@gmail.com
Website: https://vidyakutirfoundation.org/books.html

UNIVERSAL DESIGN FOR LEARNING (UDL): SOME CHALLNGES

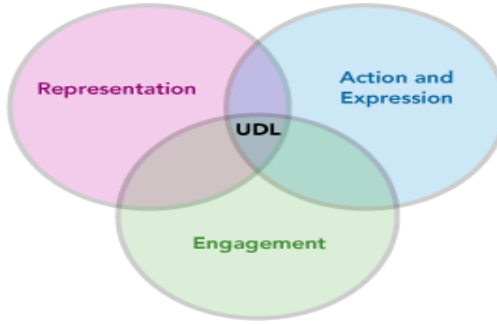
Dr. Debasis Mahapatra[1], Jhansi Besan Mahapatra[2]

[1]Associate Professor, Department of Education, Sambalpur University, Jyoti Vihar (Burla) Sambalpur, Odisha-768019
[2]PGT Teacher, Viswabharti Public School, Nawapara, Raipur (CBSE)
Email: [1]mahapatra.debasis007@gmail.com, [2]jhansi.m08@gmail.com

1. INTRODUCTION

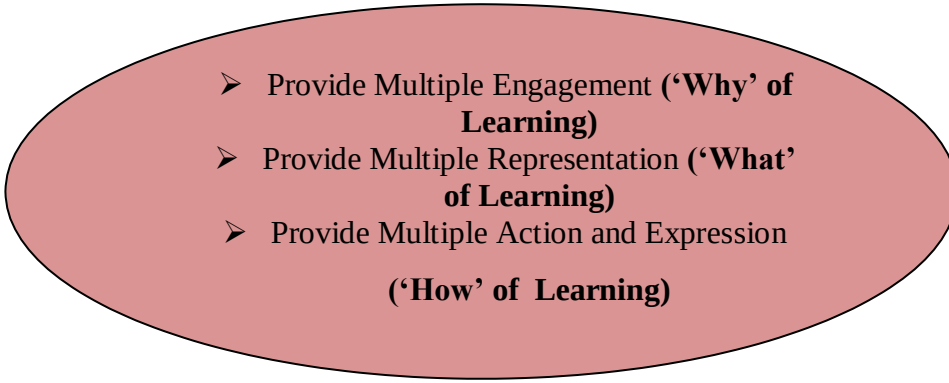
Each and every individual has its own unique style of learning. When we talk about the Universal Design for Learning (UDL), it is a set of principles in curriculum to provide equal opportunities to learner. It provides flexibility to students in accessing material; engage with it and show what they know. This framework was first defined by the **Center for Applied Special Technology (CAST)** in the year 1990 with the outset to provide:

- Multiple ways of representation to acquiring information and knowledge among learner.
- Multiple ways of engagement for keeping learner's interest, and motivation for learning.
- Multiple ways of expression to know the learners what they know.



Source: https://canvas.du.edu

ISBN: 978-81-942875-7-5



This UDL framework and its three principles **(Engagement, Representation, and Action and Expression)** help you to design and reconstruct your content and course for better convenience of the learner to accelerate high level cognitive thinking. You can create your study materials logically functional and comprehensible for students regardless of physical disability and learning disability. UDL is strongly line up with Vygotsky's theory of constructivism and Piaget's theory for cognitive thinking. In Cognitivism-"Learning involves the reorganization of experiences in order to make sense of stimuli from the environment. Sometimes this sense comes through flashes of insight", Merriam and Caffarella (1999, p. 254). Learning involves an internal and active mental process, which develops within a learner a mental capacity and skill in order to learn better. Learner is well known about his knowledge and he construct strategies to make 'bridge' from pre-requisite skills with learning objectives, Blanton (1998, p. 172). Constructivism theory exists with numbers of perspective within it. Each perspectives witness to individual's active participation on construction of new knowledge purely based on experience. That's why we can say knowledge cannot be simply passed between learners to learner, but it is a process construction of new knowledge by the learner, Boethel and Dimock (2000, p. 6-8).

Challenge One

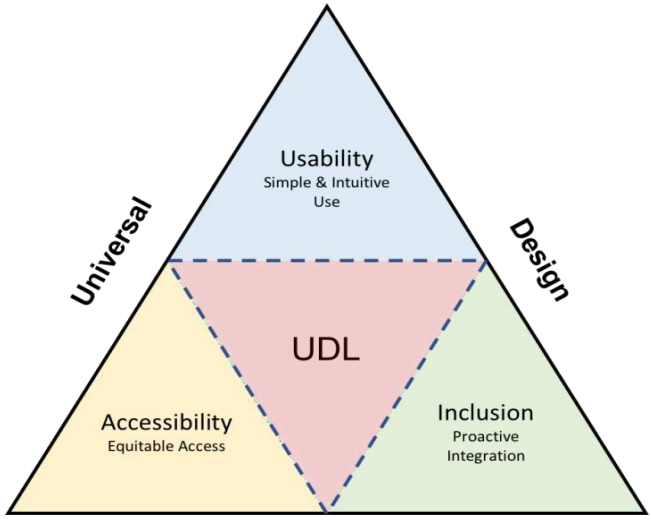
In the Indian School setup, Children in a class do not normally belong to a very homogeneous age group. A part from differences in the chronological age is related variables; Children usually show individual differences in terms of the following.

- Cognitive competencies which denote their ability to receive, process and use information of various way.

ISBN: 978-81-942875-7-5

- Interests and inclinations, which are determined largely by their social and cultural backgrounds from which they come.
- Motivations and general orientations in pursuing learning tasks either prescribed learning tasks or individually monitored self regulated learning (SRL).
- Attitudes and values which they bring to bear upon their various behaviors, involvements and pro-active moves.
- Perceptual filters which are attributable to socio-economic factors and variables.

It may be interesting to explore the principles of UDL in teaching and the role of teacher in handling the problems of classroom situations for effective teaching and how they can enhance the quality of learning. It may follow the following series of steps, i.e. Accessibility, Usability, and Inclusion.



Source: https://cteresources.bc.edu

Accessibility: The ability to engage, use, participates, and belongs to the world around us.

Usability: To what **e**xtent the product can be used to achieve specified goals with effectiveness, efficiency, and satisfaction.

Inclusion: Active involvement and support of students to rediscover abilities in the mainstream environment, without segregation.

ISBN: 978-81-942875-7-5

Challenge Two

Source: https://digitalsmart.solutions/blog

Paradigm Shift in Pedagogical Approaches

Indicators	**A shift from:**	**A shift to:**
Thinking	Convergent Thinking	Divergent Thinking
Focus	Instructional based paradigm	Learning focused paradigm
Teacher	Primary Source of Information	Facilitators, Collaborator, Co-learner
Student	Passive recipient Solitary activity	Active participant Collaborative activity
Learning Process	Didactic models of teaching Listening, Reading	Constructive models of teaching Experiential learning, Group learning
Curriculum	Unidirectional	Diversified, Flexible, and Dynamic

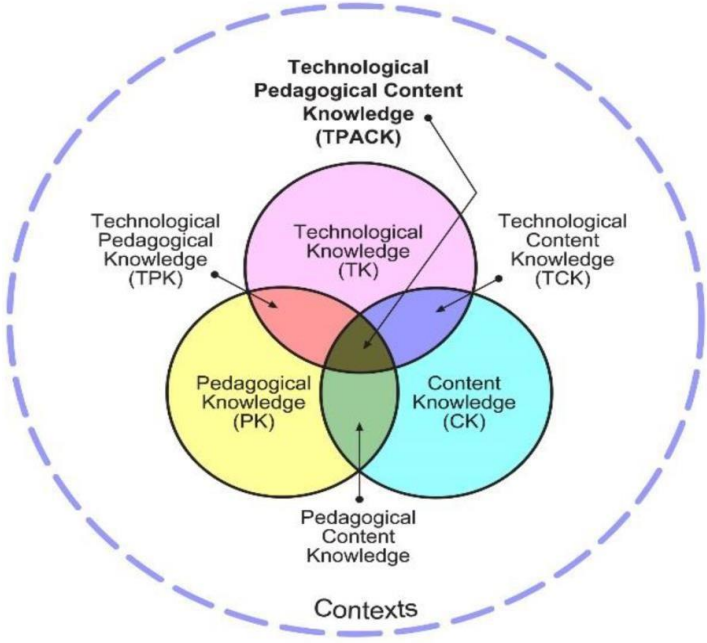
ISBN: 978-81-942875-7-5

Evaluation and Assessment	Norm referenced evaluation with assessment used to monitor and measure learning	Criterion referenced evaluation with assessment used to promote, diagnose and empower learning.

2. VISION BEHIND IT TO ACCELERATE

- ✓ Self-study by the students with less support of teacher
- ✓ Standardization of e-learning resources
- ✓ Equity, access and affordability
- ✓ Collaborative Learning
- ✓ Technology adoption

Challenge Three



Source: http://tpack.org

Teacher's competencies and pedagogical uses of ICT

When we think teaching with technology it means integration of three core component: content, pedagogy, and technology. This is the (TPACK) framework (Koehler & Mishra, 2008; Mishra & Koehler, 2006). This framework explains us about how teacher understand ICTs and how he produce effective teaching with educational technologies. In this framework, there are three interdependent components of teachers' knowledge: Content Knowledge (CK), Pedagogical Knowledge (PK), and Technological Knowledge (TK). Content Knowledge (CK) is teachers' command over subject matter (to be learned or taught); Pedagogical Knowledge (PK) is teachers' deep knowledge about the process and practices of teaching and learning (methodology); Technological Knowledge (TK) is fluency, understanding and mastery of Information Technology (Computer Literacy); Technological Pedagogical Knowledge (TPK) is looking forward, creative, and open-minded towards using technology not for own sake but for student's learning and understanding; Technological Content Knowledge (TCK) is specific technology to address subject matter in their domains or change of technology; Pedagogical Content Knowledge (PCK) is the knowledge of pedagogy that is applicable to the teaching of specific content of teaching, learning, curriculum, assessment and reporting.

3. CONCLUSION

Implementation of UDL ensures to enhance the learning and training. The Conceptual Framework of UDL identifies 3 key stages: (Stage One: Understand that both the philosophy and practice is one of inclusion), (Stage Two: Appreciate the application of UDL), and (Stage Three: Identify 'who' needs to be involved).In seeking to make it relevant and enable during this pandemic COVID- 19, all we have to switch our current style of teaching to the UDL approach along with ICT. These above three challenges are most responsive to the very community engaging with it - including the learner. The learner should be in our mind from the earliest stages (course design) and should actively consult and encouraged. Taking to the next step is to develop a set of guidelines for best practice, explore ideas that can be customised to local situations, and be applied in implementing UDL. These guidelines will fulfill the aim to the development of teaching with high-quality and inclusive learning experiences for all learners, including disability. To conclude, the purpose of this article is to rediscover the UDL conceptual framework in current paradigm shift in teaching and learning. Implementation of all its practices and to facilitate

ISBN: 978-81-942875-7-5

collaborative learning will support the inclusion of every learner and the inclusive engagement of all practitioners.

REFERENCES:

[1] Beothel, Martha and K. Victoria Dimock. (2000). "Constructing Knowledge with Technology." Austin, TX: Southwest Educational Development Laboratory.

[2] Blanton, Betty B. (1998). The Application of the Cognitive Learning Theory to Instructional Design. *International Journal of Instructional Media*, 25, 2, 171-177.

[3] Burgstahler, S. E., & Cory, R. C. (2008). Universal design in higher education. *Universal design in higher education: From principles to practice*, 3-23.

[4] Burgstahler, S. (2009). Universal design: Process, principles, and applications**.** Retrieved from https://www.washington.edu/doit/universal-design-process-principles-and-applications.

[5] Burgstahler, S. (2009). Universal design of instruction (UDI): definition, principles, guidelines, and examples. DO-IT. Retrieved from https://eric.ed.gov/?id=ED506547.

[6] Koehler, M.J., and Mishra, P (2008). Introducing TPCK, AACTE Committee on Innovation and Technology (Ed.), The handbook of technological pedagogical content knowledge (TPCK) for educators (pp. 3-29). Mahwah, NJ: Lawrence Erlbaum Associates.

[7] Mishra, P., and Koehler, M.J. (2006). Technological pedagogical content knowledge: A framework for integrating technology in teacher knowledge. Teachers College Record, 108(6), 1017-1054.

[8] Merriam, S. B. & Caffarella, R. S. (1999). Learning in Adulthood: A Comprehensive Guide. (2nd Edition). San Francisco: Jossey-Bass. p. 254.

[9] McGuire, J. M., Scott, S. S., & Shaw, S. F. (2003). Universal design for instruction: The paradigm, its principles, and products for enhancing instructional access. Journal of Postsecondary Education and Disability, 17(1), 11-21.

[10] RIE, NCERT, Bhubaneswar (2011) Pedagogy-Technology Integration for The Professional Development of Teacher Educators

Web

https://canvas.du.edu

https://cteresources.bc.edu

http://tpack.org

https://digitalsmart.solutions/blog

ISBN: 978-81-942875-7-5