

**IT TECHNOLOGIES TO PROMOTE EDUCATION FOR ALL****M. Irfan¹ & Rashmina Irfan²**¹Senior Consultant, Learning and Development, HSBC Technology India Pune²Student of Bachelor of Education H.G.M. college of Education Pune University**Abstract**

This paper provides an understanding of using Technical methodology in inclusive education for all. In the world of education there is a continuing challenge to teach each and every one irrespective of their cast, creed, races, gender, physical or mental disabilities, financial capabilities etc. Technology driven approach can be very effective in addressing these issues. Using the upcoming technologies like Cloud, Big Data, Analytics and Social Media can change the way we perceive Education. Gathering the data from the Stakeholders, Analysing and Understanding the pattern, targeting the individuals and applying the solutions in Agile way is the key for bringing the changes in the current system. For Example Agile is the approach being used very effectively in the world of IT software development. Its main objective is to be adaptive in order to avoid long term planning and reduce the impact of changes. Inclusive education has its own set of challenges which can be addressed using the Agile techniques. Agile will bring an opportunity to be considerate during learning and adapting new and better approaches as per the need of the situation. Scrum based practice will introduce the concept of iteration, sprints, product backlog, retrospection and continuous improvements.



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1. Challenges in Inclusive education

There are many challenges in a real implementation of inclusive education. We are listing few of the major ones below:

1. Gender based issues

o Domestic duties, early marriage, conservative family traditions, Lack of girls school, social constraints are few of the major reasons why girls are deprived of education in most of the developing nations.

2. Financial issues

o A family which hardly earns their living does not prefer education for its members against the idea of them being deployed to earn the bread for them.

3. Lack of awareness

o Education facilities are yet to reach and spread to the masses in rural areas where formal education hasn't entered in to the life of tribes

4. Stakeholder participation

o Parents and Society is not always actively involved in the evolution of education of their wards. They are just silent spectators.

5. Stereotypes Teaching methodologies

o There has been a pattern of using a black/white board, text book, notebook, assignments and homework for the majority of education facilities in India. World has moved far ahead and things have changed drastically in past few years. However the teaching methodologies are yet to evolve.

6. Religion/cast based concerns

o In major parts of India religion and cast is a major challenge for accommodating everyone under one roof or bringing equality amongst the students. Feeling of superior and inferior is majorly influenced due to cast or religion which becomes a big hurdle in bringing the sense of equality.

7. Accessibility issues

o Schools/colleges are not easily accessible to majority of the rural students. Remotely located, expensive or ill equipped education facilities generally prevent the majority of potential students to join or continue their education. Expensive education creates the class differences and the affordability of education becomes the grade separator.

8. Linguistic issues

o India is country where the language or once mother tongue changes every 100 KMs distance. Imposing the education under national or state level language imposes a sense of an outsider amongst those students who does not speak that language. Level of understanding gets impacted due the medium of education.

9. Role of Teachers

o Impact of any topic or subject, on any student solely depends on the quality of the teacher. A well trained, local expert and knowledgeable teacher is not so easy to find and to be placed everywhere. Result is a proven disaster for the entire class.

10. Curriculum

o A fixed, predefined, structured and nonflexible curriculum becomes the standard for imparting knowledge to the masses in schools/college. Below par outcome has proved over and again that the students are different in their capacity, interest and culture and can never adapt the same curriculum in the same pattern.

1. What is SMAC

SM-Social Media, A-Analytics and C for - Cloud

Social media has provided the new ways to reach and interact with stakeholders, while mobile technologies have changed the way people communicate, think and work. Analytics allow people to understand how, when and where people consume certain ideas, thoughts and services and cloud computing provides a new way to access technology and the data which needs a quick respond to changing worlds and solve the problems quickly.

While each of the four technologies can impact a potential problem individually, their convergence is proving to be a disruptive force that is creating entirely new models for service industries.

The integration of the technologies requires clear policies and guidelines as well as management tools that can automate business processes.

2. What is Agile

Agile management, or agile process management, or simply Agile refers to an iterative, incremental method of managing the design and build activities of engineering, information technology and any other areas that aim to provide new product or service development in a highly flexible and interactive manner. It is basically used in software development world.

Kent Beck, Martin Fowler, Dave Thomas, and 14 other leading software practitioners published the “Agile Manifesto,” in 2001. It was a concise way of defining the approach.

The four key values of Agile were outlined as follows:

1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan

3. Use of Technology in Inclusive Education:

Inclusive education today needs a “refactoring.” Instead of looking for structural changes, we must find ways to create changes in the internal culture of the current system.

Collecting the trends in the system, identifying the patterns, thinking about the effective solution and the target stakeholders can be solved by the use of SMAC. Use of social media is growing and that is allowing the humongous data to be generated. This data can be analysed using tools available and then the strategies can be made to work on the solutions.

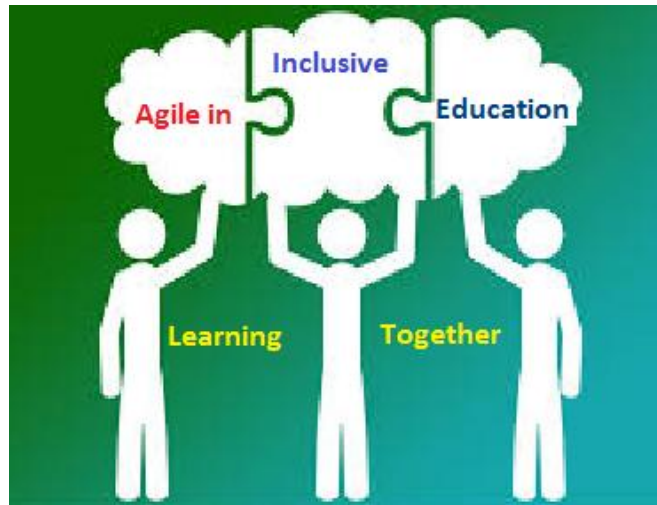
“Agile is fundamentally about **learning, people, and change** – three things we struggle with in education and handle poorly at the present time,” says Peha, founder of Teaching That Makes Sense and a learning strategist with 25 years of experience in K-12 education. “We talk a lot in education about creating a culture of learning in our schools. But we don’t have reliable ways of creating this culture. Agile does.”

We can think of an adaptation of the Agile Manifesto which can be followed by teachers and administrators for greater inclusive educational achievement.

The values of the Agile Education Manifesto can be as follows:

1. Focus on Individuals and interactions over processes and tools
2. Adhere to meaningful learning instead of the measurement of learning
3. Consider stakeholder collaboration over complex negotiation
4. Respond to changes required rather than following a plan

4. How SMAC and Agile can bring the changes and solution:



Using SMAC will help in collecting the root level information quickly and bringing up the challenges to the discussion floor in real time. As mentioned Agile brings agility and adaptation as and when required. To overcome the challenges in Inclusive education many initiatives are being taken. However these changes are all defined in the beginning and the target is set and the plan is made. Any such long term plan loses its intensity, impact, participation and never reaches to the set target due to its long run. Agile will bring the following changes in executing the solutions.

Identifying the major objectives for improvements in inclusive education (Product Backlog creation): What all are the major challenges and what is needed to improve the current situation? Not necessary to define the solution of the problems at the beginning but just to identify the right approach towards the solution.

- Breaking the major objectives in to smaller achievable targets and prioritising them (Sprint BackLog creation): Identifying the most important step towards the solution which needs to be done first (Identifying MVP)
- Prioritisation of task (Product Backlog Items): Find out which task is more important and then assign priority to them relatively.
- Small execution cycles (Sprint): Identify and set the short term achievable targets consisting of priority based tasks (PBIs). Let the team of stakeholder make the plan for 3-4 weeks (Sprint). Let everybody work for the same objective. Complete the sprint in the strict time frame- No delay.
- Everyday have a small discussion (stand up meetings): To identify what was done yesterday, what would be done today and is there any challenge in the ongoing work.

- Review the status of Sprint completion (Retrospective): Meet towards the end of Spring to check and find out if the target of the Spring has been achieved. Discuss the lessons learned and check if any objective is still pending then push it back to Product Backlog as a new Item with redefined priority. This will let that item to be considered as a candidate for the upcoming sprints .
- Any changes/challenges which is being thrown at midway, can be added in the PB and accommodated in the coming Sprints based on their priority.
- Benefits: Stakeholder participation (Student and Teacher, Parants and society) will ensure that the team is choosing its own goal and self selection of targets will let the stakeholder excel. The sense of ownership will drive the stakeholders. Management /Board will just ensure that the target chosen is inline with the broader objectives of improvement.

5. Challenges in using this approach

- Commitment from the top level/management to support the initiatives
- Getting the government back the idea and support the initiative
- Technologies are costly at this moment to be used at the ground level where fund is the major issue.
- Skills required for performing these analytics and recommending the appropriate solutions is not easily available
- Infrastructure to support the use of technology and the approach
- Change in the mindset to accept and use Agile

6. REFERENCES

For more information, please visit:

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