

CALI

CONNECTED & ADAPTIVE LEARNING INTELLIGENCE



TRADITIONAL EDUCATION CHALLENGES

- Outdated curriculum design and teaching methodology
- Traditional education's insensitivity and in adaptability to learners' aptitude and needs
- Scalability of literacy initiatives is an increasing challenge because of teachers training, availability and quality
- Learning quality dependancy on trained teachers/student ratio that is increasingly becoming hard to achieve
- Traditional education's inability to identify and address learning challenges
- Ineffective literacy improvement efforts without factoring in delicate connection of poverty and child labour in Third World countries like Pakistan
- Best instructional contents are not the only ones designed by Pedagogists or Subject Specialists. Teachers own contents are product of hands on experience, requirements and understanding of their students. In the absence of a system where they can be added into mainstream curriculum to be shared or re-used, these best practices are not effectively utilised.
- Learning environments have not evolved over time to respond to learning issues (identification, validation, facilitation) learning behaviors, digital consumption, pace of learning (fast track), learning practicality (learning concepts in action), learning flexibility (personal pace at desired time).

OUTDATED CURRICULUM DESIGN & TEACHING METHODOLOGY

Learning is linked with learner biological (chronological) age, categorised by age based groups and tracked by rote learning of outcomes instead of mental age (aptitude), style (persona), sequential progression and clarity of concepts.

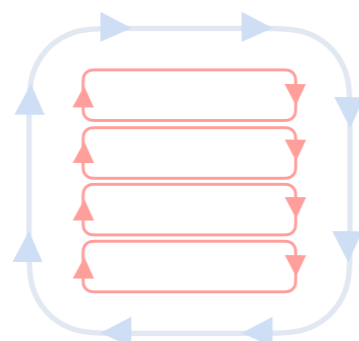
LEARNING CATEGORISATION & CLASSIFICATION



CHRONOLOGICAL AGE

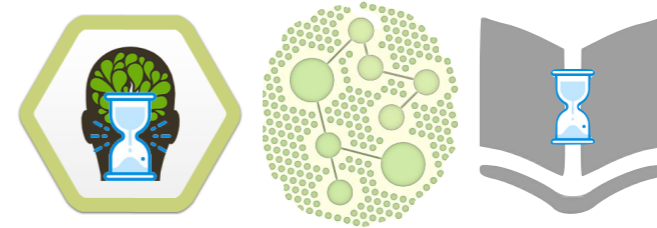


CLASS OF SAME AGE LEARNERS

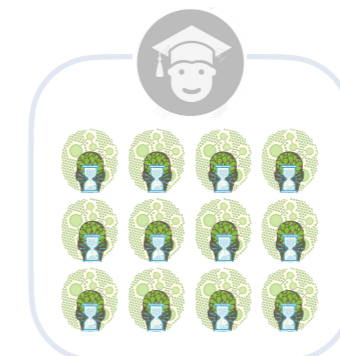


ROTE LEARNING

RE-IMAGINED CATEGORISATION & CLASSIFICATION



MENTAL AGE, LEARNING AGE & STYLE

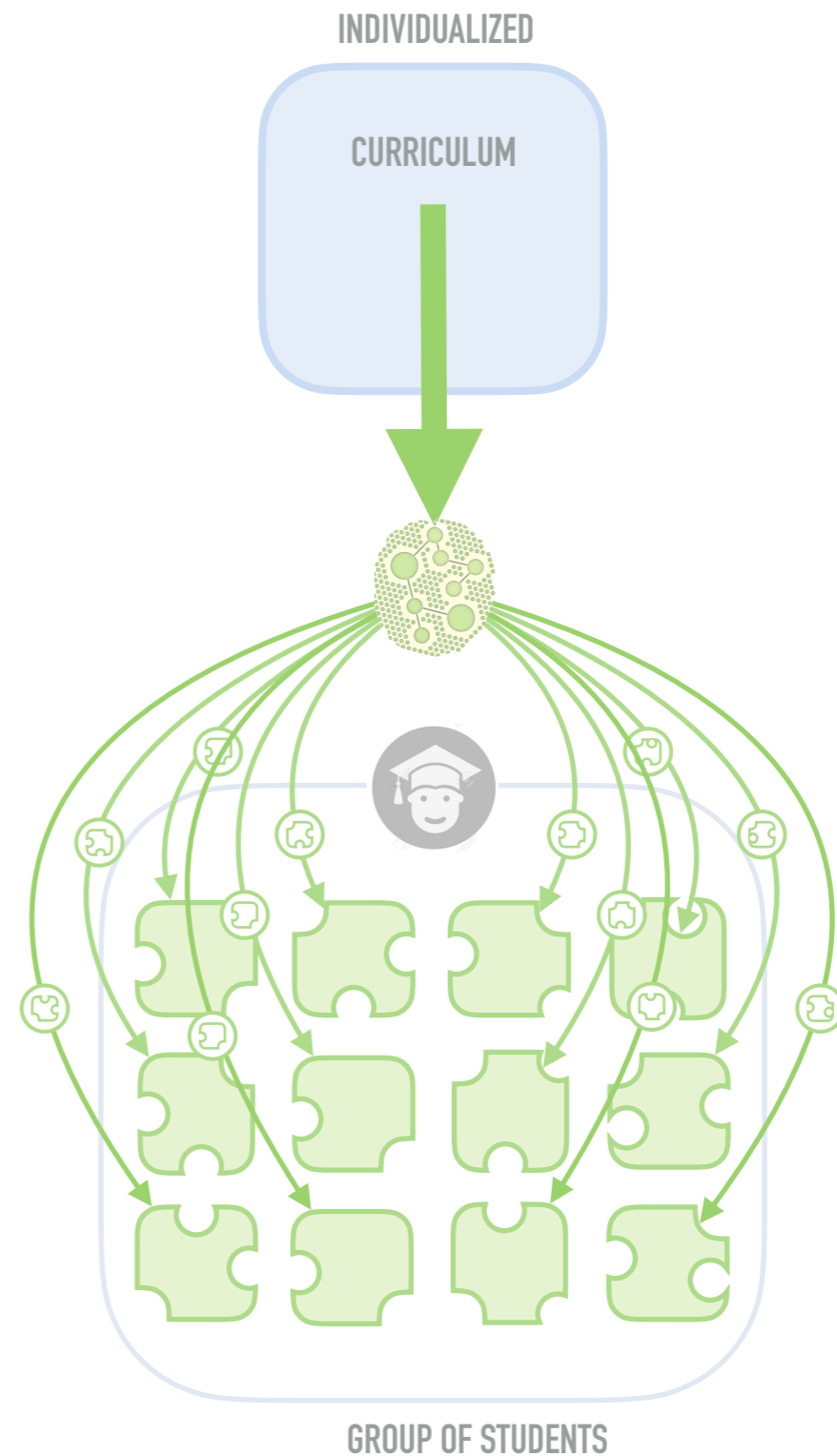
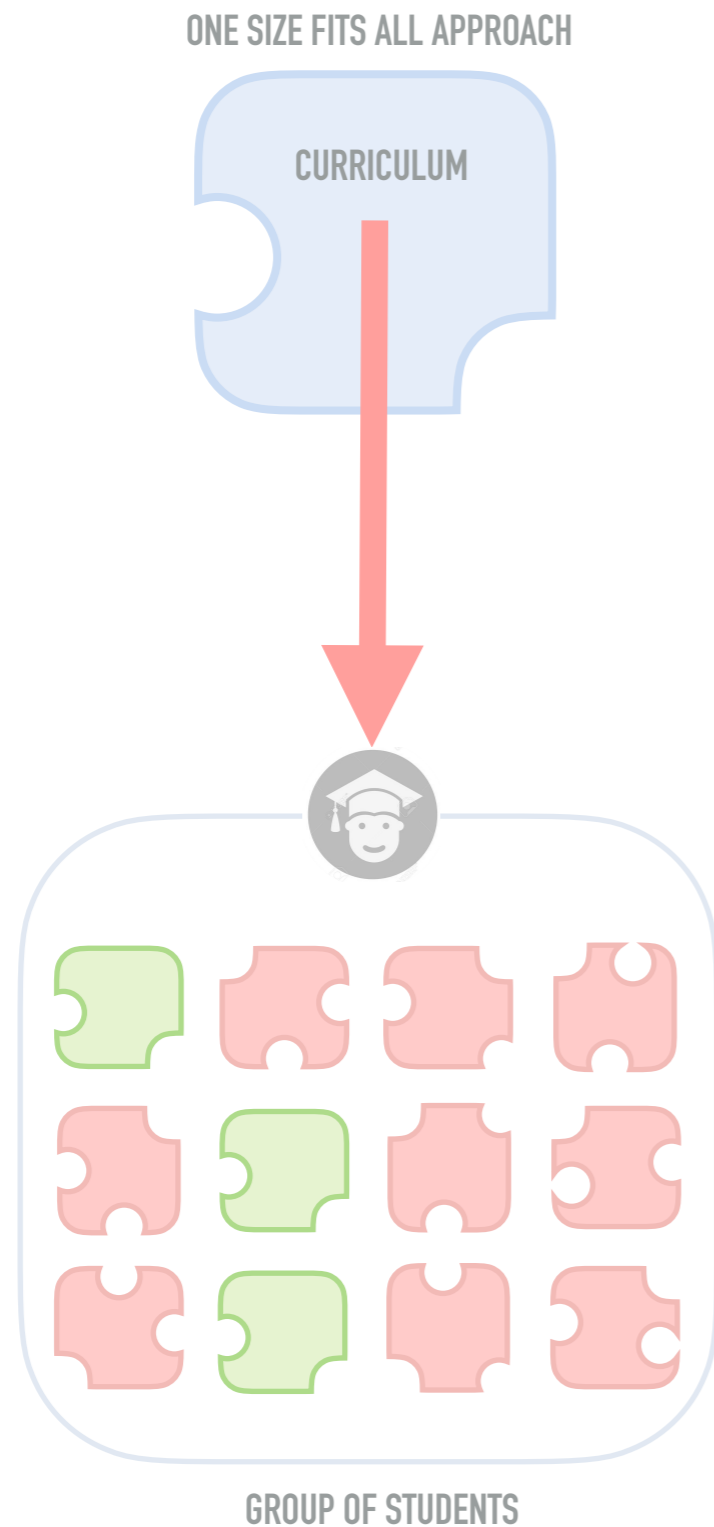


CLASS OF MATCHING LEARNERS

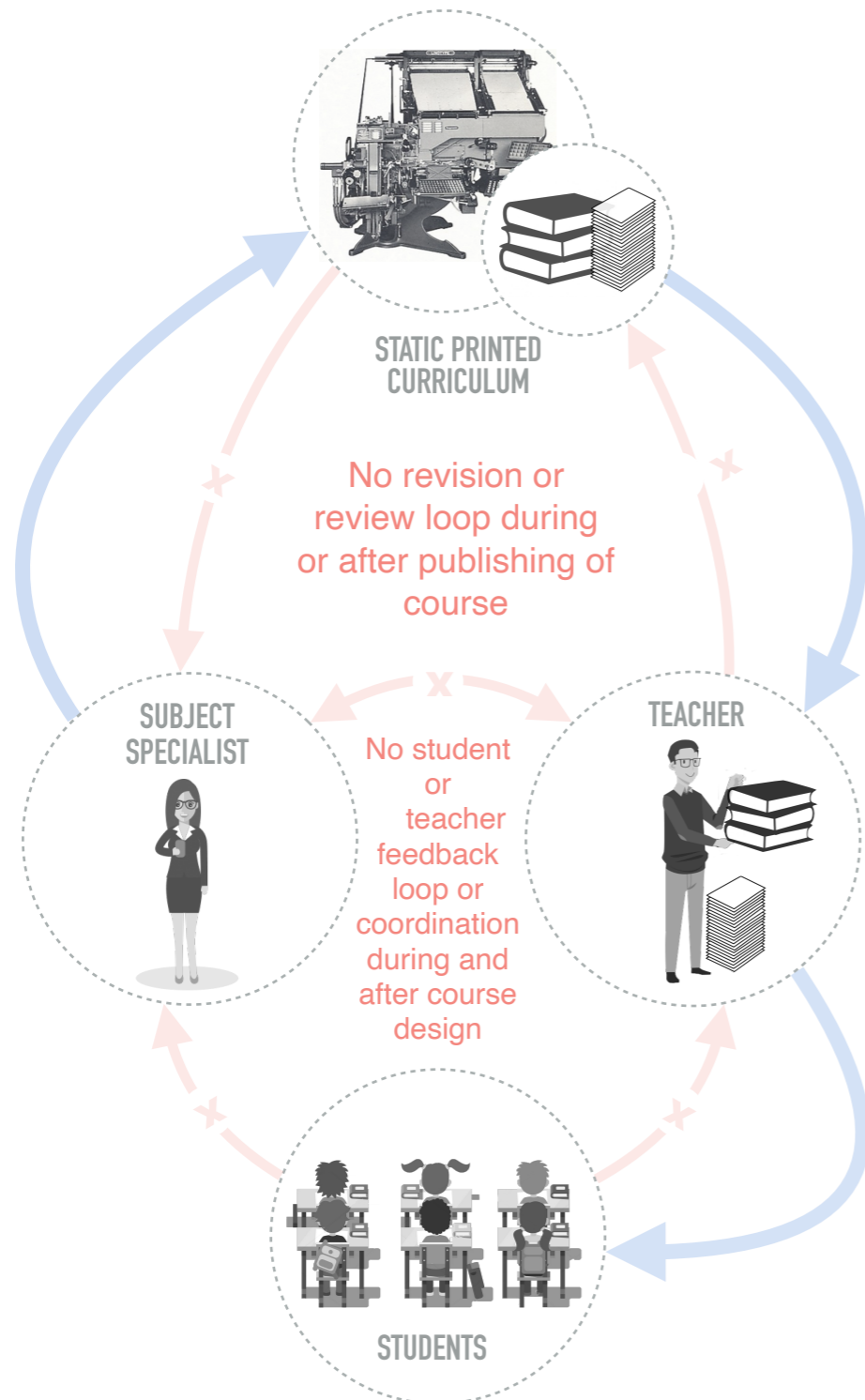


SEQUENTIAL & CONCEPT LEARNING

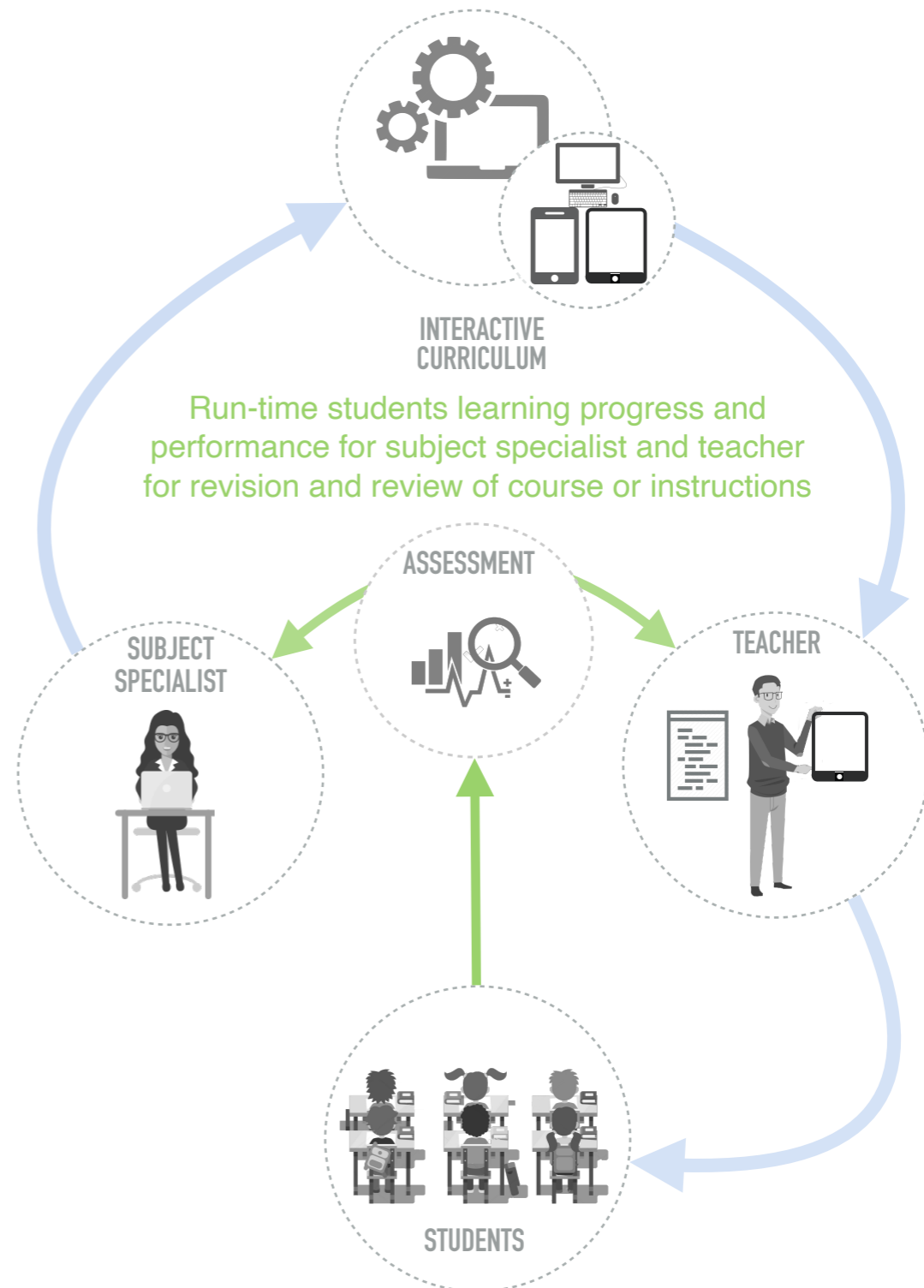
“One size fits all” rigid teaching and curriculum is insensitive and unadaptable to the learning needs & challenges of the learner.



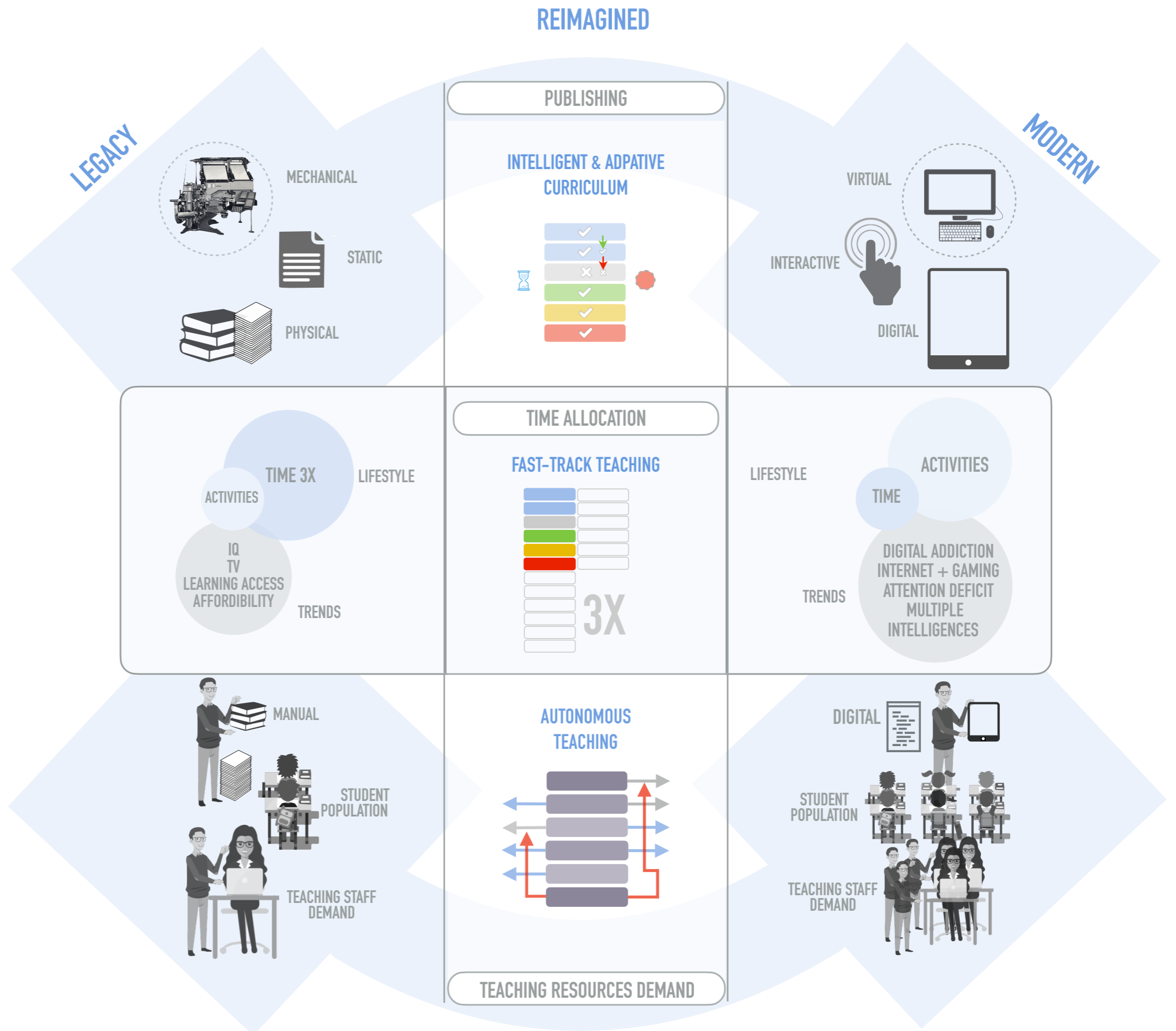
LEGACY PUBLISHING



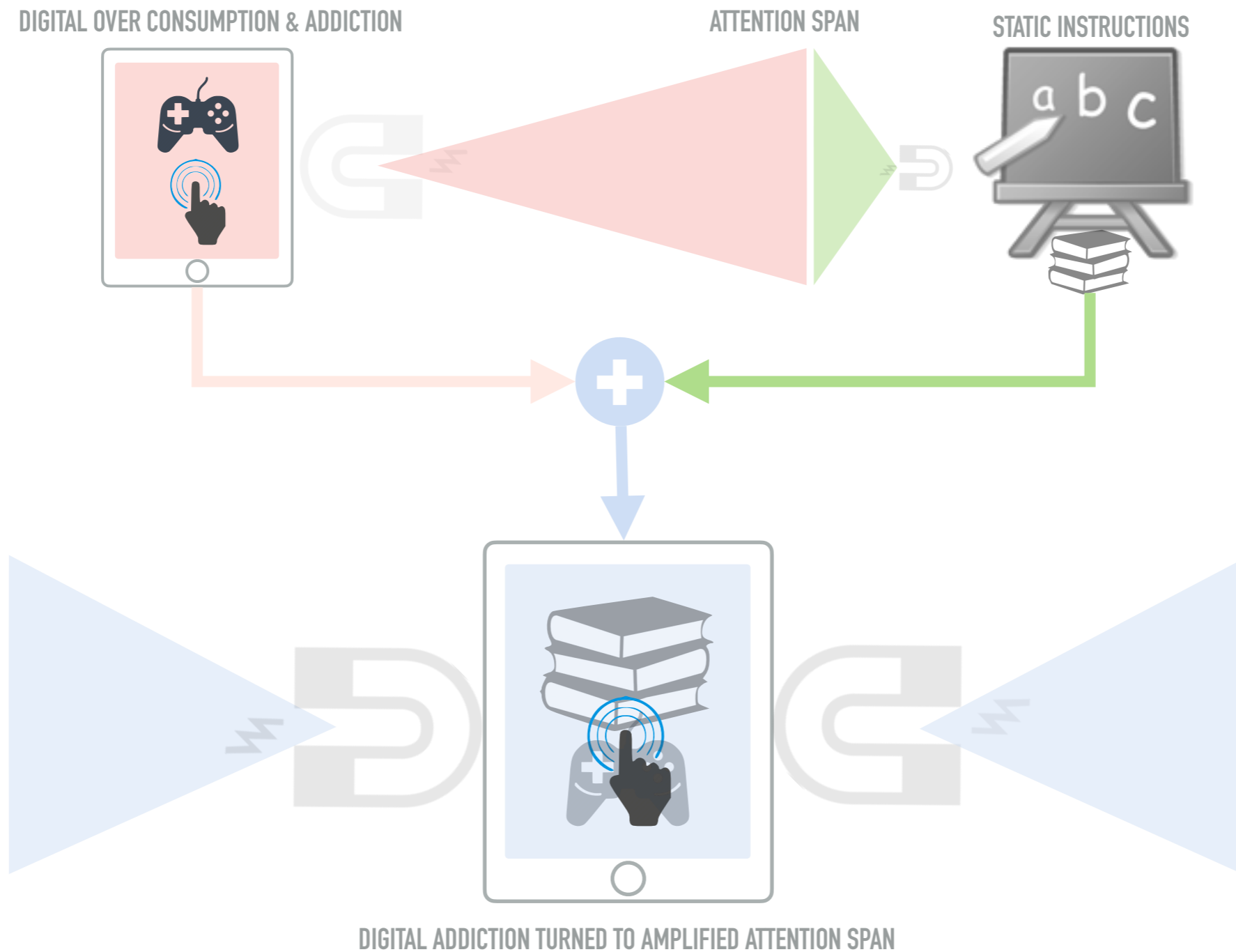
DIGITAL PUBLISHING



Curriculum design, teaching methodology and learning environment need to be re-imagined keeping in focus the advancement in technology, changes in learning and socio-economic behaviours, learning demands and trends of current era.



Digital over consumption and addiction is an emerging challenge for learners that needs to be addressed through teaching medium, methodology and learning environment.

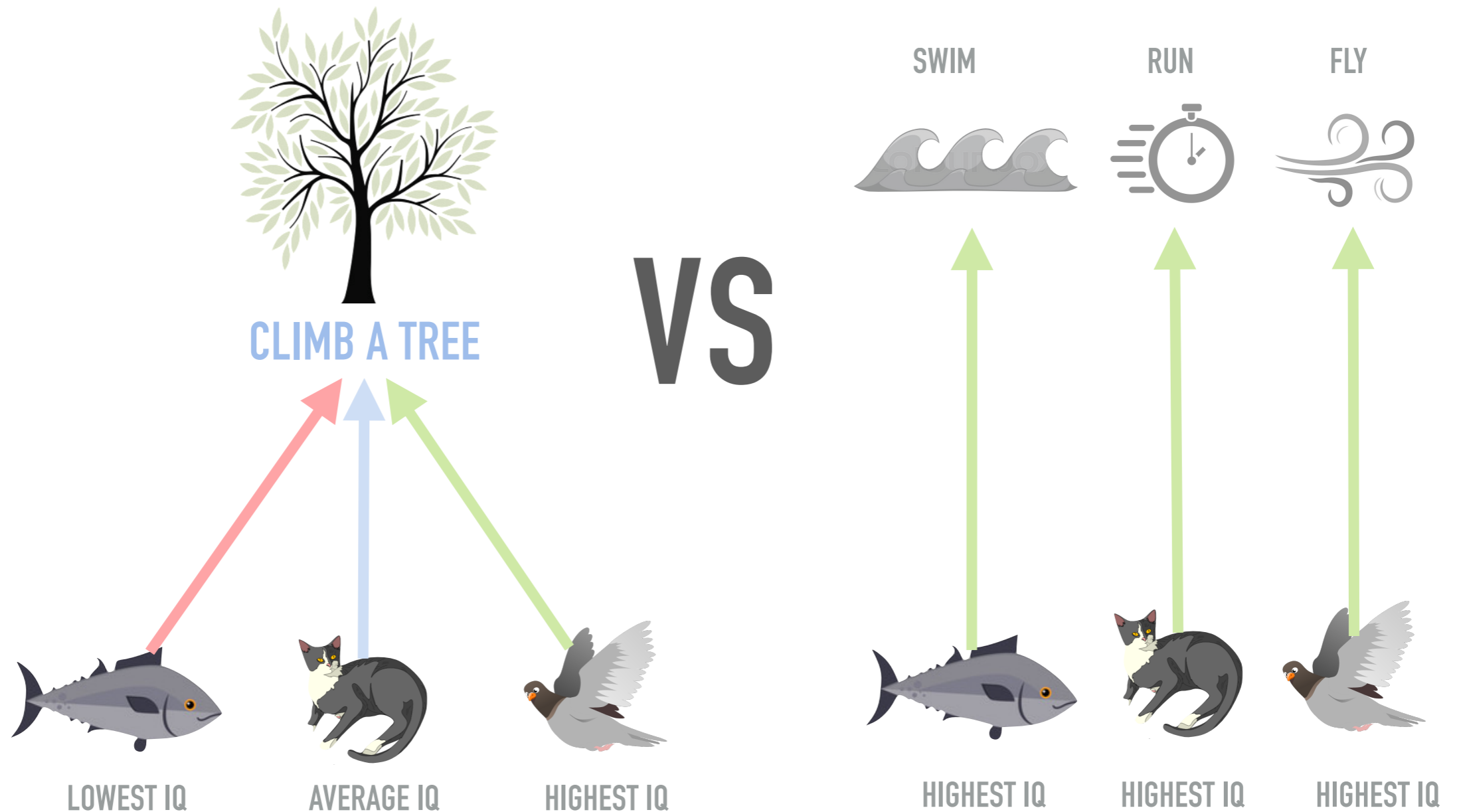


LEARNING APTITUDE

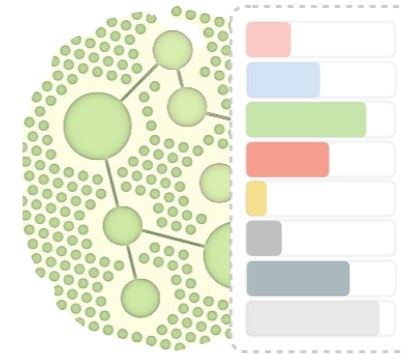
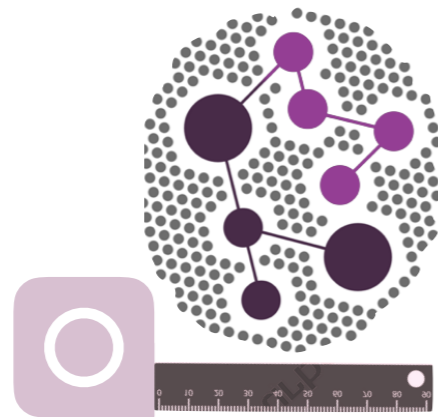
Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid.

Albert Einstein

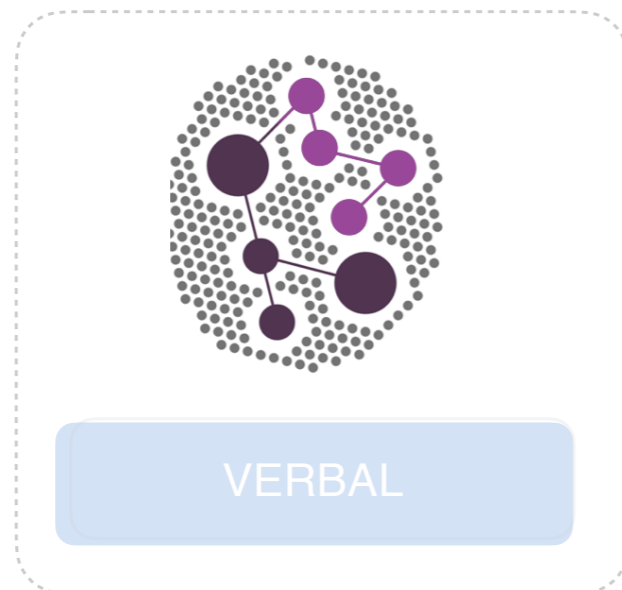
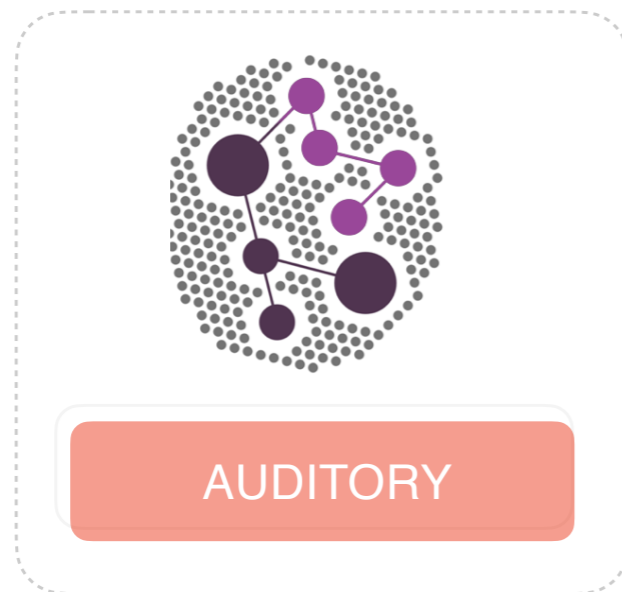
Humans have multiple intelligences. These multiple intelligences can be nurtured and strengthened, or ignored and weakened. – Howard Gardner (Frames of Mind) Harvard University



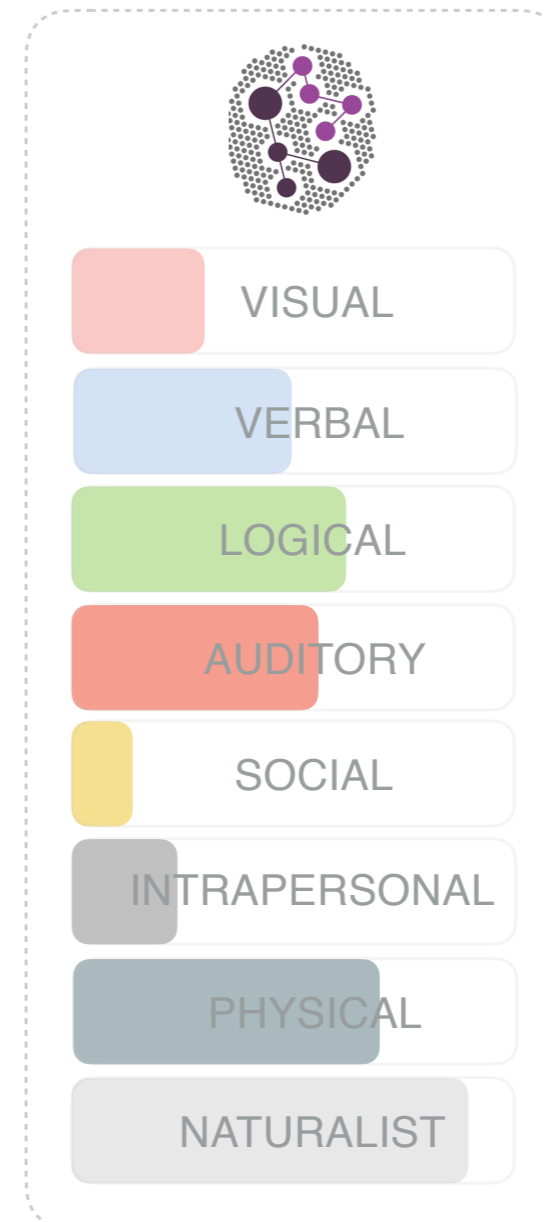
Traditional education supports the concept of “amount of learner intelligence is fixed, can be measured and invariable over lifetime” against “each learner has a unique intelligence profile that can be assessed but not measured and can be improved over time.”



At its best, traditional education is more focused on labelling the learner with one style (e.g verbal or aural) ignoring the profile of learner that is the combination of varying levels of aptitude (e.g, aural, visual or logical etc.).

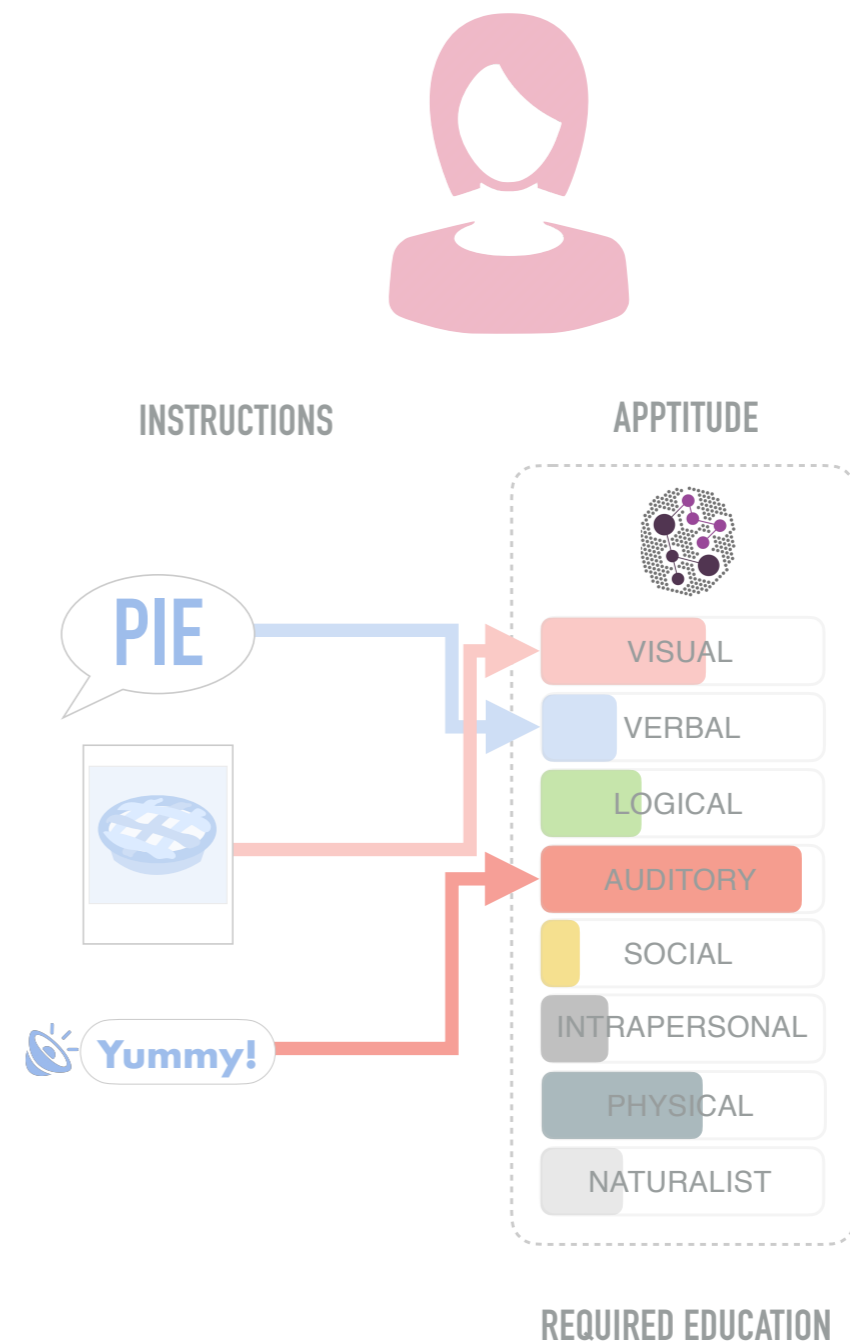
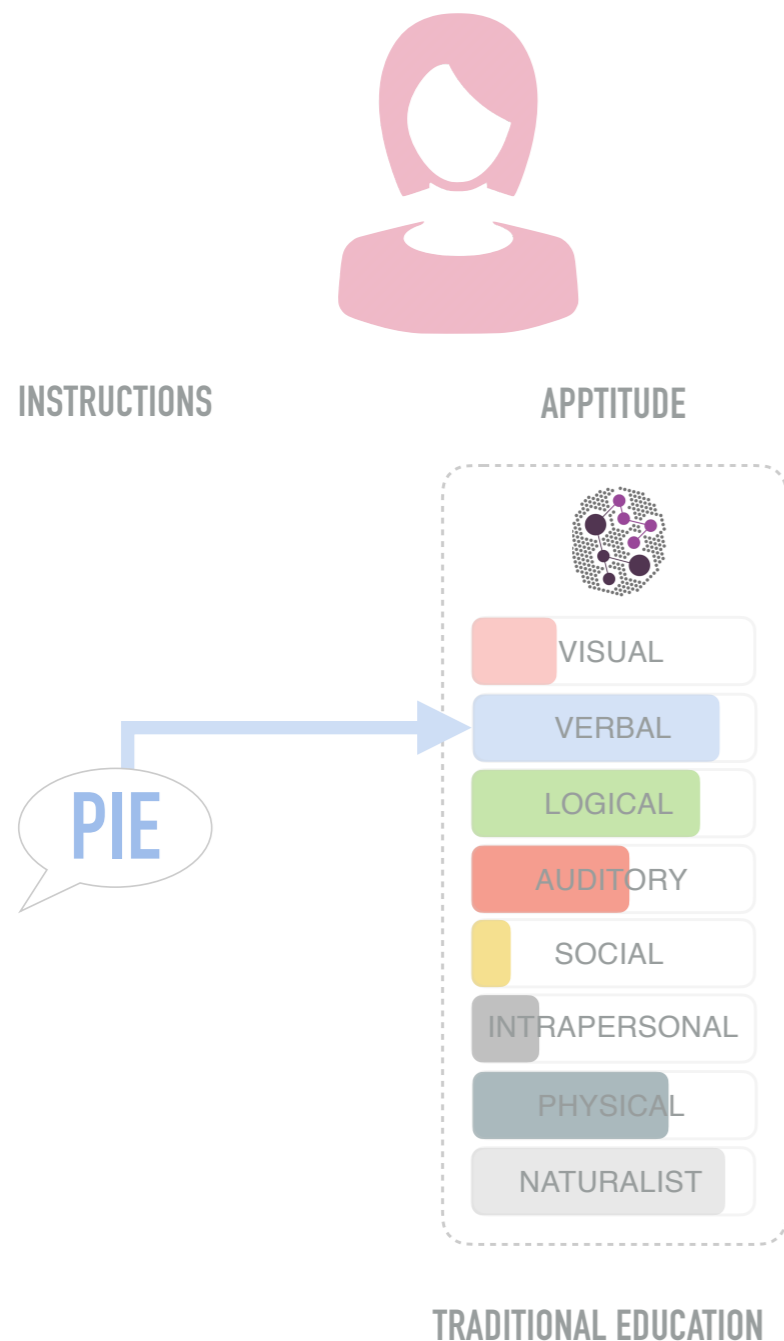


TRADITIONAL LEARNING APTITUDE CLASSIFICATION



LEARNER PROFILE OF MULTIPLE APTITUDES

Traditional education well serves only learners with strong verbal aptitude through traditional verbal explanation of concepts leaving out rest of the aptitudes within learner profile adding the compromise of learning quality through rote memorisation of concept that require alternate instructions to match with left out aptitudes.



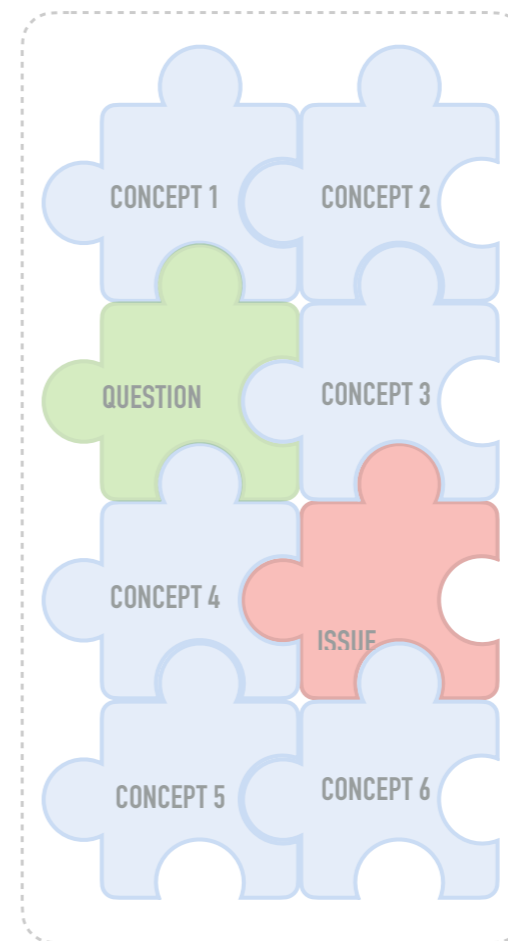
Traditional education structures learning activities around a topic or subject instead of an issue, question or concept in learners understanding.

ACTIVITIES STRUCTURE



VS

TOPIC/SUBJECT ACTIVITIES STRUCTURE



Traditional education is insensitive and unaware of the learning needs & challenges of the learner in the absence of assessment of adaptability with learner aptitude.



TRADITIONAL EDUCATION



REQUIRED EDUCATION

CHRONOLOGICAL CLASS

AVERAGE PERFORMER

HIGHER PERFORMER

POOR PERFORMER



NOT ABLE TO CATCH UP

UNDER PERFORMANCE PRESSURE

10

12

8

UNFAIR ADVANTAGE

UNFAIR ADVANTAGE

 Chronological Age

 Mental Age

TRADITIONAL EDUCATION SYSTEM SCALABILITY CHALLENGES

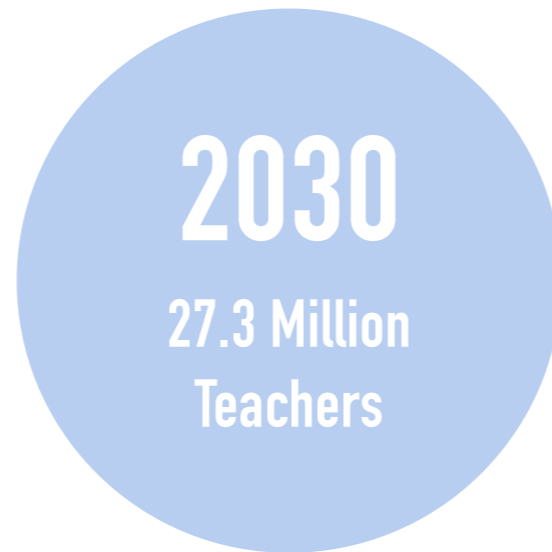
An education of good quality is the right of every child. It affirmed that quality was the heart of education, a fundamental determinant of enrolment, retention and achievement.

World Education Forum 2000

Increase in demand causing decrease in quality

27.3 million teachers demand by 2030 forcing the hiring of less qualified, less trained or even not formally educated teachers on contract and lowering quality of education. (UNESCO, 2015) (UIS, 2014)

DEMAND



QUALITY

Enough number of teachers are not effective literacy solution

An adequate pupil/teacher ratio (40:1) is not sufficient condition of quality of education if not combined with pupil/trained teacher ratio that can be as high as 3X in some countries.

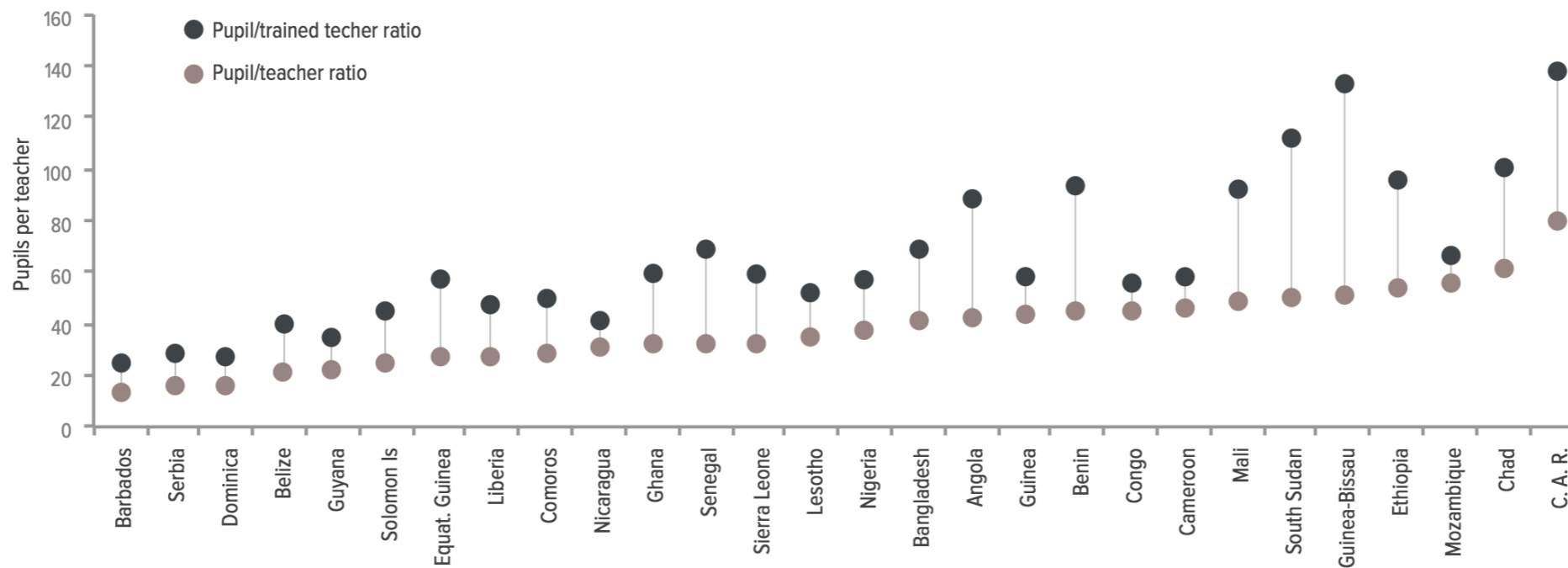
LOWEST PTR/PTTR GAP



HIGHEST PTR /PTTR GAP



AVERAGE PTR/PTTR GAP

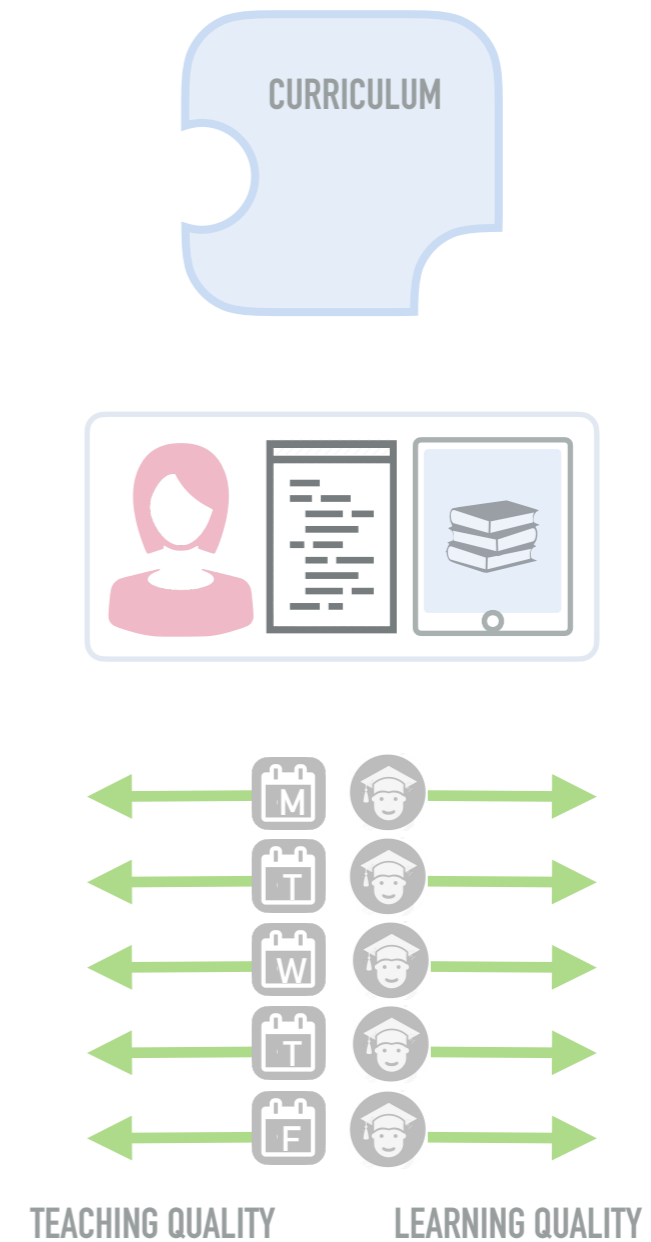
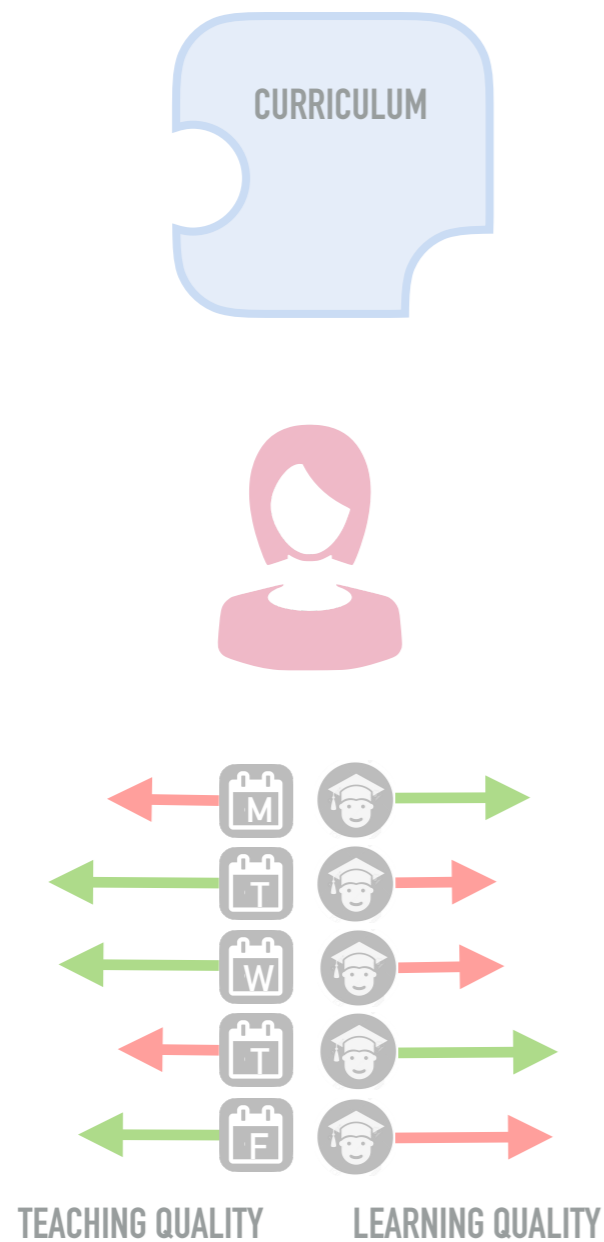


PTR VS. PTTR REPORT 2012 (28 COUNTRIES)

Sources: UIS database, EFA Global Monitoring Report team calculation (2015)

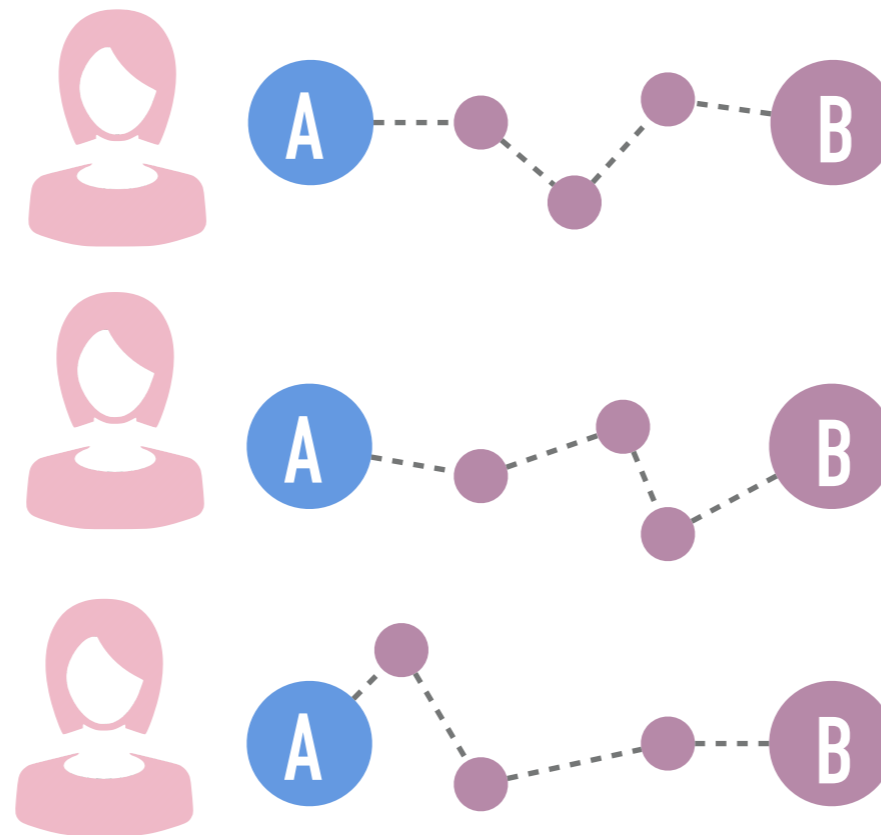
Learning quality is at the compromise of teachers discretion

Learning quality and logistics is directly dependant upon teacher's availability, pupil/trained teacher ratio, training quality, focus and motivation that may add the risk of compromise in teaching and learning.



No standardised teaching methodology or best practices to ensure quality

Teaching quality is dependant on teachers and every teacher invent his own methodology to teach without any benchmarking for best quality and most effective teaching instructions to follow or having an option to re-use best contents.



Infrastructure & scalability glass ceiling

Effective deployment, management, monitoring and retention of teachers is a major challenge making educational infrastructure hard to scale, sustain and maintain as it grows. It needs to be reimagined.



LEARNING ISSUES AND CHALLENGES

Dyslexia (reading disorder) – the most common learning issue with 37 symptoms comprises of 80% of all learning challenges – is not a clinical disability and can be overcome just by changing teaching style.

1 out of 10 children is learning challenged (has learning issue) that goes undetected because of lack of awareness and unavailability of skills in parents at home and teachers at school to detect them.

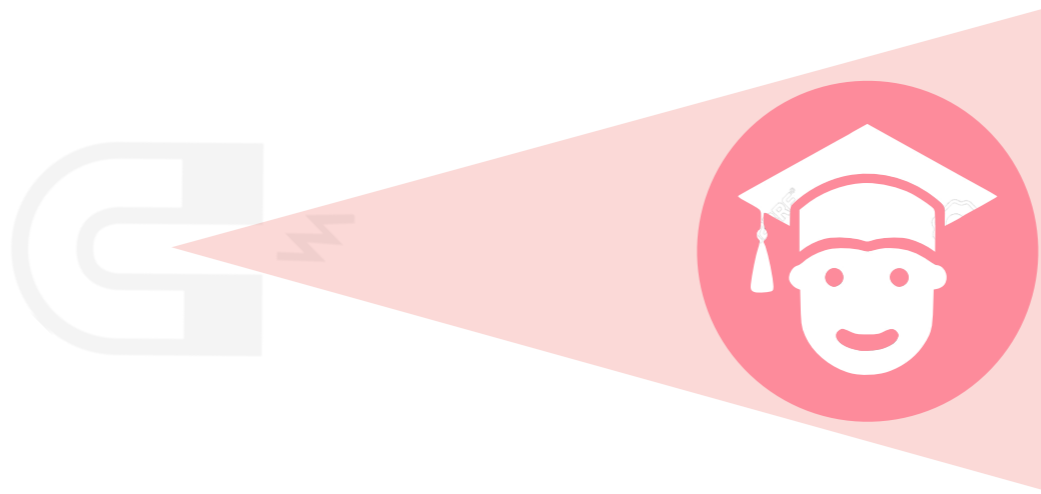


Over consumption of digital technology and devices giving way to digital addiction, increased affect of learning issues and anti-social behaviors, increased impulsivity and decreased ability to self-regulate, e.g. tantrums, sleep disorders.

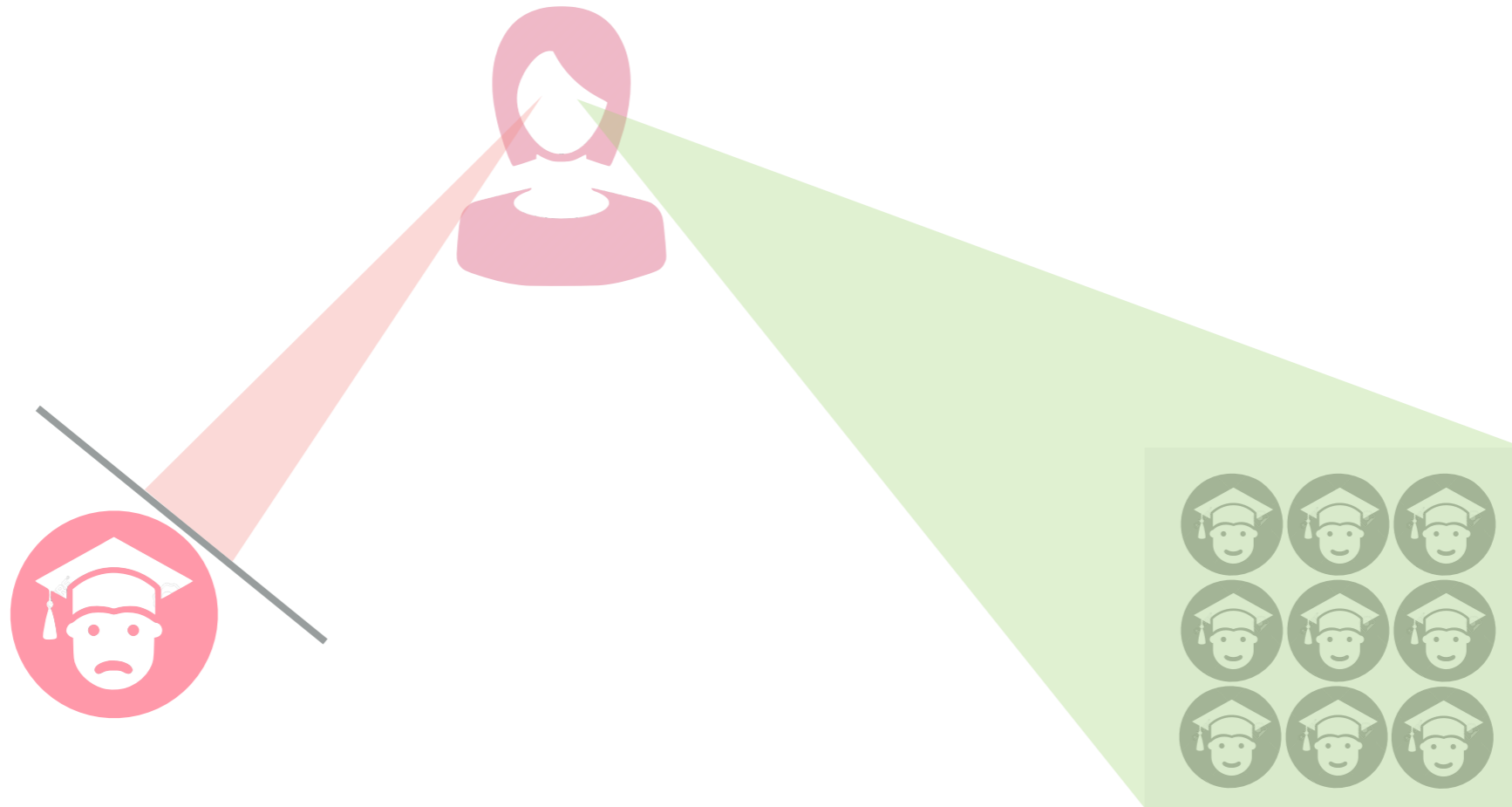
DIGITAL OVER CONSUMPTION & ADDICTION



ATTENTION SPAN



Teachers are unable to help kids with learning issues because of lack of training, skills and time allocation required for individual learning for such kids in making personalised lesson plans.



Parents are unable to help kids because of lack of awareness, knowledge and unavailability of benchmarking of what to expect in learning outcomes and progress with respect to the age, personality, educational level of their kids.



Learning challenges are confused with learning disabilities and thus children with learning challenges are expected to attend special schools which they don't fit it because they are intended for children with clinical grade learning disabilities. Learning disabilities are taken care of through specialised schools but learning challenges can be overcome in normal schools by changing instructional styles (special lesson plan etc). This way 35% children with learning challenges are dropped out making them not fit both in normal and special schools.



LEARNING CHALLENGES

Dyslexia, Colour Blindness,
Attention Deficit, Digital
Addiction, On-sit Behaviour

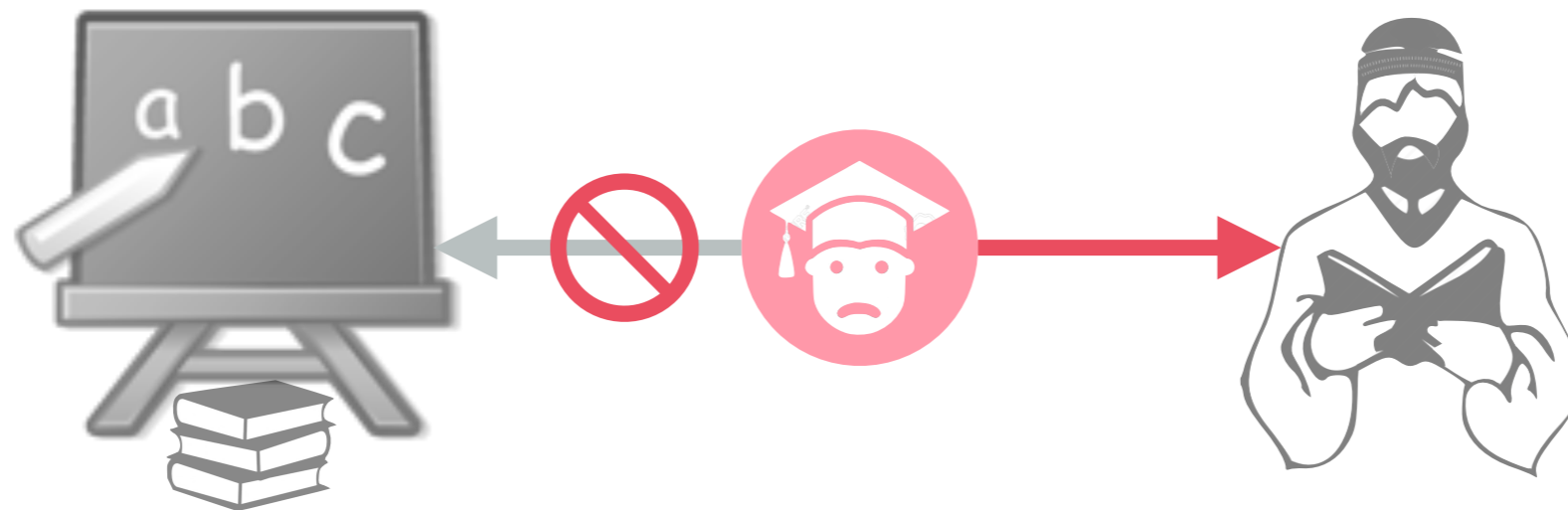


LEARNING DISABILITIES

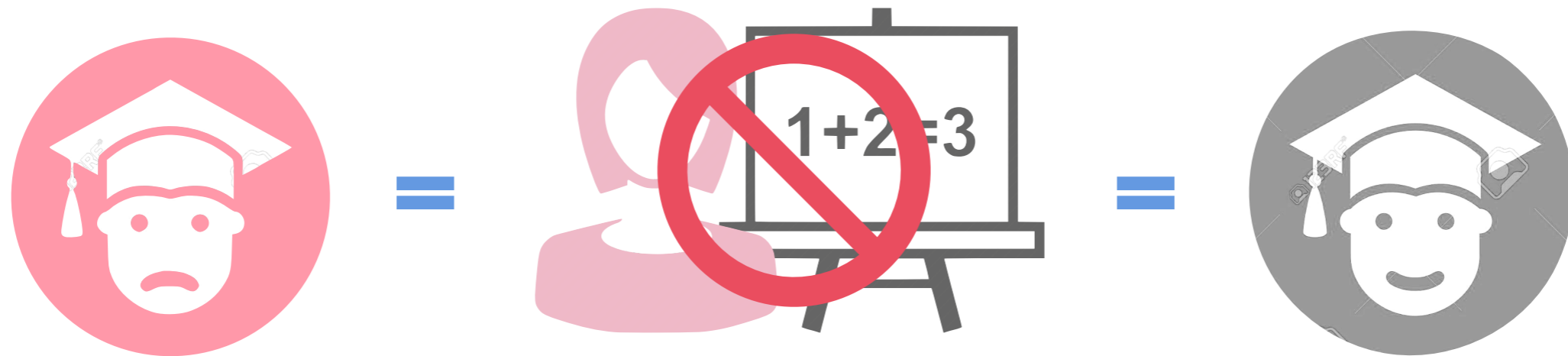
Autism, Mentally Impaired, ADHD

Learning issues not detected at earlier age (during age 1-5) root deeper and harder to solve at a later stage.

Children with learning issues unable to keep up with other non-challenged peers are often regarded as “dumb” and sent to religious seminaries widening the anti-social and extremist behaviour.



Learning environments have not evolved over time to respond to learning issues (identification, validation, facilitation).



BASIC LITERACY FOR ALL – A GLOBAL ISSUE

- A shift is vital to improve education for millions of children who have not acquired basic literacy and numeracy skills, even after at least four years in school.
- It recognized that ensuring universal access to primary education would only be a first step in enabling education to contribute fully to the development of individuals and society. UNESCO Education for All Global Monitoring Report (GMR) and the UNESCO Education Sector 2015 Report
- Dependancy on teachers, student teacher ratio, infrastructure cost makes educational not scalable and basic literacy for all seems far fetched.

BASIC LITERACY FOR THIRD WORLD MARGINALISED CHILDREN

- 33 million children in child labour in Pakistan
- 25 million out of school children in Pakistan - nearly half of all children of school-going age out of school

Any literacy elevation effort for marginalised kids can not be seen in separation of the poverty conditions which forced the family to compromise on the child labour. A program that only focuses on child education can not encourage the drive for learning in such kids without changing their economic conditions at home that discourages the kids to keep attached to any education program ignoring plight of its family and siblings. Therefore education & family support go hand in hand and community school program can tackle this issue effectively without disturbing the financial and supportive role of kids within their families.

- Rigid time allocation of conventional schooling and tightly integrated role of marginalised child in his/her family financial support system doesn't encourage parents to let their child for 5-6 hours per day daily schooling
- Long hours conventional brick & mortar school commitment prohibit any support in education from his/her labour work/employer
- Being part of less privileged family structure, sustaining motivation is a challenge after returning home in the same financially challenged home environment even if child is admitted to 5-6 hours school agreeing to leave labour work by parents.
- Less privileged kids may suffer with increased learning issues or disabilities (learning challenged - on-sit behaviour etc) because of socio-physical factors (in-adequate intake and care during pregnancy and medical facilitation during birth, less hygienic and civilised environment & social activities, inadequate daily nutritional intake & malnutritious growth (Phase 2)