



IN Focus

DIGITAL LITERACY & ICT

We are 'IT'! Students are Information & Internet Technologists! Digital Literacy and ICT skills are important for establishing one's presence in the modern world. Lacking the ability to use and take advantage of digital technologies can compromise one's prospects. Possessing digital literacy allows one to improve one's efficiency, access, creativity, connections and success in life.

What exactly is **DIGITAL LITERACY**? The American Library Association's digital-literacy task force says : "*Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.*"

DL promotes student learning by providing a solid foundation for them to engage with online resources by utilizing digital tools effectively in the learning process.

Some initiatives for Digital support for education - DIKSHA, SWAYAM, NMEICT, SAFAL, NISHTHA, E-patashala, SHIKSHA, ei-SHIKSHA, DIET, NASSCOM-Future skills, eSkillIndia. You may also like to visit - <https://www.education.gov.in/en/e-contents>

NEP 2020 (in para 4.25) proposes promotion of digital learning and exposing children to elements of the digital era - *digital literacy, coding, computational thinking* and *AI*. Technology integrated activities can help prepare kids for life and encourage the development of logic & reasoning, programming, problem solving, and creative thinking.

Digital instruction helps show difficult topics that are hard to understand, and kids learn that for every action taken there is a response! There are **2 challenges** :
- digital divide + access to technology
- fear of new technology.

Stimulating exposure to **DL** and **ICT** from a young age + honing '*operational skills*' will give kids an edge to start building their careers and preparing them as professionals for an unknown, but highly digital future. Indeed '**Students are IT!**'

WONDER WORDS

* **NETIQUETTE**

Made-up from the words *net* + *etiquette*, *netiquette* describes the rules of conduct for respectful and appropriate communication on the internet, which are not legally binding rules but recommended rules of social & professional etiquette. Some of these are - remembering the human, being ethical, respecting others' time and data limit, aesthetics and presentability, sharing expert knowledge, being original and not plagiarizing, keeping disagreements healthy, respecting others' privacy, not misusing one's power as administrator, being forgiving to others' mistakes.

* **NETIZEN**

Any world-citizen who uses the Internet a lot" OR is "an active participant in the online Internet community" is a *Netizen*. The identity of a Netizen is important as it can give a person a sense of belonging, which is important to his/her well-being and confidence. *E-netizens* are a new generation of individuals, wired to the Internet via intersecting space, having a "hybrid" identity —both local and global. The identity is a composite shaped by technology, by popular culture, and by mass consumption.

“Technology will not replace teachers but technology in the hands of great teachers can be transformational.”

– George Couros

QED Talk

NEP 2020's focus on INTEGRATING ICT & DIGITAL LITERACY

SRIDHAR RAJAGOPALAN

Co-founder and Chief Learning Officer
Educational Initiatives (EI)



■ **Covid-19 revolutionised school education with ICT. In your opinion,...**

a. Which were the impact areas in the Teaching-Learning processes in schools?

b. Do you think the world of education took a progressive leap forward as a result of the pandemic; or did schools (on reopening post-pandemic) slid back to the old normal?

The first thing we have to acknowledge is that Covid was very hard on everybody, specifically the demand on teachers was crazy; no other profession had to change so much. All the teachers really rose to the occasion, the way they stepped up, acquired the ability to use technology to understand Zoom, break-out rooms etc, was a big advantage. Some of the gain was also in terms of approach, in terms of openness, willingness, new skills learned, accessing open resources, learning new methods, speaking to foreign expert, etc, so that I think is a huge, huge WIN. Across sectors, Covid actually accentuated what was already within a system – if the systems were strong their strengths came out and if the systems were weak those weaknesses were revealed. In India, we have had a system of a lot of teacher-talking, giving notes, and that's why the largest application that picked up during Covid were 'live classes'; which is not the best way to learn because it's nothing but transmitting the classroom lectures onto the online mode, but that's what happened. Once schools reopened, the behavioural issues that emerged in the class (forget the learning issues) are something we are still recovering from. Beyond that, we didn't take as much advantage of Covid as we could have. We used to say that 'learning is not a place' – now we realise that learning can happen anywhere. Covid taught us that eventually learning is about what students retain and a lot of it can be about what they do ...*"can I collect information from multiple places and use it well?"* We could have used Covid to make education a bit like that; so in that sense, it is a lost opportunity. Our system tends to be a bit rigid, textbookish in approach, (e.g. what and how we use assessments), so yes, overall we have slid back to a significant extent, but there are certain gains & newness we have seen that will always stay with us.

■ **NEP 2020 in para 4.25, has proposed an increased emphasis on mathematics and computational thinking that would cover AI, machine learning and data science. With multidisciplinary and integration, what kind of specific preparation is required for this?**

This is actually much simpler than it appears. What NEP 2020 and educationists basically say is that the kind of world that we have to prepare the child for, is very different from not only the world that we grew up in, but even the world they are growing up in today. The reason this is quite simple is that in our real life, we are in fact living through the digital changes; we are already using digital and computational methods - planning a timetable, using a banking application, or planning a holiday. The way we do it, has changed, gradually but very quickly, step by step over the last 10-15 years, and it's going to change again like this, in the next 10 years. Surprisingly, education has always been very slow and rigid to adapt, with its set curriculum, a set way to deliver, assess and the high stake 10th/12th exams, which are very much the same as they were last year. In the matter of computational thinking, which is how you solve problems - it is not as though people were not solving problems before; we were always solving problems. But you realize that if one can think of certain **processes**, by which one can break up a problem into smaller pieces, identify patterns, - if the problem solving is going to become a very important piece for a lot of people, then making some of these into **systematic steps** and helping students through **practice** is going to be useful. These are some of the changes that the NEP also asks for, and schools can think of maybe initiating them as child-selected projects. The other way is by breaking the walls between school and the world - can Learning be a little more linked to real life? Cross curricular learning - History - Mathematics, Mathematics - Science, Science - Languages. Isn't that what life is?

■ **Given the current wave of many countries revamping their educational systems and classroom practices, and the uncertainty of a workforce that is supposedly going to be a T shaped workforce, what do you feel about the importance of epistemic knowledge being recognized, finding place in classrooms over rote memorisation and factual knowledge?**

We've been studying how curriculums are responding to this. I have been impressed with systems like IB and PISA. While these systems too may not be perfect, there are people out there working on its improvement. In our system too, I think there's a lot of scope to do really good work, whether at a school level or a group of schools. People are thinking about these things - what are the kinds of skills being used, how are we connecting, what kind of exposure to give ...? Everything has changed, and many of the changes have become more computational. There is data



Teachers need to integrate technology seamlessly into the curriculum instead of viewing it as an add-on, an afterthought, or an event.”

– Heidi-Hayes Jacobs

available, and we need to get exposure to that because what we teach today in say grade eight is not going to be there 15 years on! It is about building channels, tunnels, linkages with life, which set the base for more connections to happen. So as the child proceeds through 8-9-10, the kind of learning they're getting, knowledge they acquire, the kind of skill sets they develop, is less of the traditional type, less of the textbook and more of the type where they are constantly building epistemic knowledge.

■ **How can institutions best utilise ICT and DL to prepare students with Futuristic Digital Knowledge and Operational Skills?**

Yes, the basic question is how do I bring in these changes into my teaching? We've realized that when children are in class seven and eight, it's a kind of a magical age because they are not too small. They've started developing interests, they are not yet into hi-stake exams, nor do they have responsibilities, nor anxiety of a career. And this is the phase where I think they should be given the opportunity to explore something of their interest, using access to information from anywhere, using technology, making connections, working solo and in groups. They choose what they want to do, a passion or a hobby, or what they are really passionate about, what they have thought of to help solve a problem in their society. The best part is, different children will think in different ways. In such opportunities, there is something of value it is original, something that they have explored and know; not copy-pasted stuff from somewhere else. A lot of what we said earlier, also kind of gets covered in this and children will automatically use the knowledge, skills, tools, to present their learning in the appropriate form, harnessing technology and digital knowledge.

■ **The government has uploaded and made available a lot of stuff through digital portals, like DIKSHA, NISHTHA, Swayam and e-Ppathshala to name a few. But there is resistance among private schools to even access these resources... why do you think that is?**

I think quality has been an issue. When we talk about open education resources that are being used, there is a sort of process of monitoring and quality curating, but there have been gaps even in that. At times, I find that the focus has been more on just getting stuff out there, rather than having really good quality stuff. Education has remained a very controlled area. One cannot assume that, one will put out material and then the larger population will automatically select the good ones. They might even select the ones that they find attractive or easy or simple, but I will have zero confidence that they will select the 'best' ones. Quality whetting is the key - we are able to do this in other sectors, so why not in education?

■ **In India, there is a major gap in the access / equity to ICT in education, particularly in marginalised sections and rural India. What in your view could bridge this gap and at which level – central govt / state govt / private initiatives?**

I think the government has to play a key role in this; it has to realize that India is too large to be governed at the central or the state level, or even at the district. The government needs to work with **partners**. If we talk about assessments, the technology part of it, one can be tempted to say, 'oh where are the connections, the infrastructure and people's expertise to handle such a large framework?' In the past we had one DOT, one airline, ... today we have so many. In education the Govt wants to do everything on its own. Look at the NEP itself - there is no presence of private schools, their expertise or contribution. The government needs to open up and have tie-ups. If this field opens up, there will be 50/100 agencies willing to offer their expertise with affordability. One can also use the model of "Zero Rated" software practiced in countries like South Africa. The internet usage for schools with this facility is free (up to a limit) or if billed, then reimbursed by the government. Tablet usage can also be made affordable and used efficiently with minimal pieces. You also need quality software for such digital platforms. If individual's contributions are passed by subject experts, they should be paid for it. A lot is being done - if it's not the government, then it happens at a small scale, which then affects only some people and that is already happening today. But that's not 'fair', and does not address the huge equity gap. But, I don't see it as a difficult situation, because it's actually about the energy and the capability, which already exists in the country. And the hunger. In India, there is, a sense of wanting to serve the country. So I feel Partnerships will work.



FOR TEACHERS

EDUCATIONAL TECHNOLOGY

FOR TEACHERS: *Technology Integrated Education*

- by **Marmar Mukhopadhyay**

Authored during the Pandemic-Lockdown in 2020 - when schools and colleges were closed but education was open, this book is presented in a unique way of looking at Educational Technology. It is designed to help teachers *integrate technology* based on the scientific principles of learning. The book is divided into 4 tiers building up from - (Tier 1) foundational concepts of education - learning theories, taxonomies and basics, to (Tier 2) pedagogical practices, knowing one's self as a teacher, to (Tier 3) technology integration in education with varied tools and strategies, to (Tier 4) Frameworks for Educational Technology and Environment Building for Technology-Integrated Education.



FOR STUDENTS

NERDY BIRDY

- by **Aaron Reynolds**

(4 - 8 yrs) Nerdy Birdy likes reading, video games, and reading about video games, which immediately disqualifies him for membership in the cool crowd. One thing is clear: being a nerdy birdy is a lonely lifestyle. When he's at his lowest point, Nerdy Birdy meets a flock just like him. He has friends and discovers that there are far more nerdy birdies than cool birdies in the sky.

■ How has your organisation, EI, used ICT to complement and enhance Student Learning?

I guess it helped that people like me, while starting the organization, were automatically interested in technology. Basically, I always say that we work at the **intersection of technology and content**. Say, you want to help children learn algebraic expression. So there is a *content* part of it, that we handle in a traditional way, in a non-computer sense. But then when you think of the *computer*, the child can solve the same equation and at every step... the moment the child makes a mistake, the system will indicate there's an error, not give the answer, but give a hint that helps the child figure it out on his own (if they read the hint carefully as to what the error might be). This can be done with intelligent software, and one can literally receive feedback as if the teacher is sitting close by, every step of the way, patiently, without losing her cool. Essentially, it's about WHAT technology can do. Our work is based a lot on educational research and sometimes I feel the magic is more in the educational research. Technology is there . . .that's magic, too. But what is pure magic is the educational research, because we can analyse that children answer in a particular way, because their thinking is in that way. We have been able to identify patterns of errors particularly in India (our focus area was Maths, but this goes on to all other topics). A lot is possible with technology and it really is the *overlap of assessment and learning*. **Good assessment is going to cause learning in itself**. That is one way. Secondly, we are able to use and collect data from literally hundreds of 1000s of responses, see patterns, look at the patterns not only of individual students mistakes (which is very useful), but also the kinds of mistakes that a collective group is making. These are the things that have worked to really shift the needle of learning. And like I said, the overlap between the education or the learning part AND technology is where the where we find a lot of interesting work can still get done.

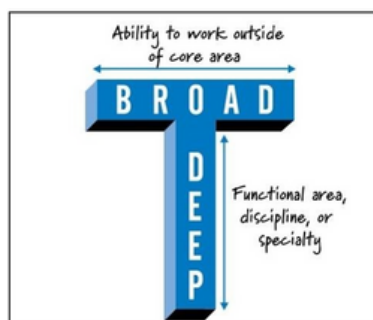
QED Feed

INTEGRATION & MULTIDISCIPLINARITY

-CHANGING THE FUTURE OF TEACHING (PART 2)

This is the 2nd part of a two-part series on the topic of **Multidisciplinary and Interdisciplinary teaching** by **Dr Anuradha Sridhar**. The articles highlight different aspects of Integrated Teaching and which form of integration should happen at which stage of cognitive and mental development of a student. (If you wish to read Part 1, please view the November '22 issue of QEDpress).

Many of today's global problems are just too complex to be solved by one specialised discipline. Problems are always multifaceted and require **transdisciplinary** solutions. **Tim Brown** (CEO of the "innovation and design" firm IDEO), has described the *ideal work force* of the next decade as **T shaped** - the one who brings in specialisation of one discipline but has the capacity to converse in a wider range of disciplines.



- The **top** of the T is the generalized part.
- The **upright stem** of the T is the deeper understanding of one's expertise.

An alternate phrase for "t-shaped" is "**generalizing specialist**". To be one requires a sense of curiosity and a willingness to go on learning, beyond the years of formal education.

1) The **Transdisciplinary Approach** is one in which

- one adapts when a child looks at concepts and world view through an *open lens of all knowledge domains*; for example in the foundational years of life and learning.
- as they further grow up and start seeing connections between disciplines is the time to introduce them to *Interdisciplinary teaching and learning and making connections between different subject areas in a deeper sense*;
- and finally, when they have mastered to look at concepts and the world view through an integrated lens, it is time to get them to *master subject specific domains to gain expertise* and this should happen at the high school level to be able to decide upon a futuristic career path.

In this second part, we delve deeper into each aspect of Integrated teaching and how one can use concrete examples to implement them in the real world. Some of the best transdisciplinary classrooms need a lot of **integration and planning** on part of the teachers.

Here is how a transdisciplinary unit may look like in terms of central idea, related concepts and conceptual understanding.

Some technology related terms we should know :

* Adaptive Learning Systems

Programs that adapt (change) the content and process of learning offered to learners on the basis of their response to questions and tasks.

* Content Delivery Systems

Computing-based systems to structure and manage delivery of content & assessment to learners; real-time & individualised.

* Gamification

Turning an experience into a game-like process by using elements of game design to improve student engagement and interest.

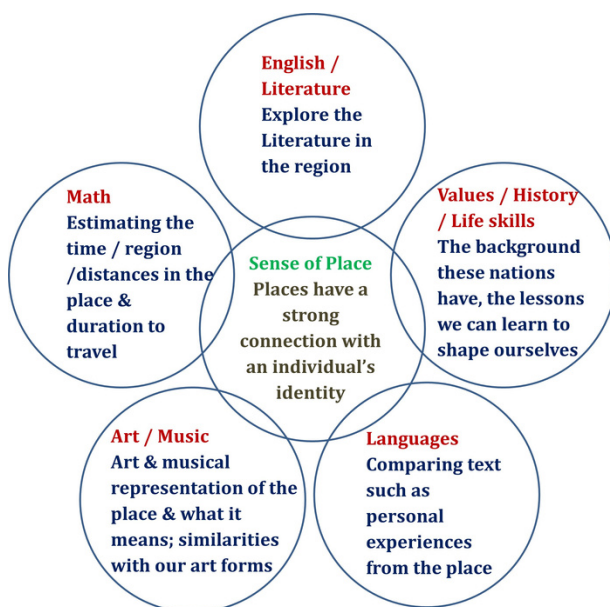


Image 1 : Transdisciplinary Unit for Preparatory Level

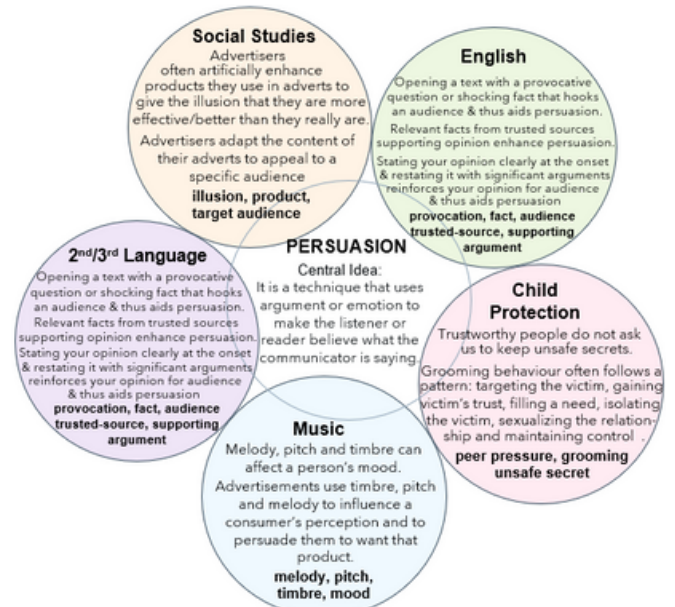


Image 2 : Transdisciplinary Unit for Middle & Secondary Level

5 things to keep in mind while planning for Integrated units :

1. Agree as a school, **how integration will be incorporated** into the curriculum: Investigate a shared concept, and avoid applying forceful integration.
2. Look outside the box to investigate **shared concepts**: A shared concept means you will learn about the topic in both the subjects. For example, students likely learn about shape and symmetry in gymnastics, art, science and mathematics, including when our teachers teach them in isolation. So, these concepts are shared between subjects.
3. Concepts **should really be shared** between subjects: People sometimes confuse this. They think if they are teaching recycling or sustainability in social studies then they can use recycled materials in physical education. Physical Education has concepts like Endurance, balance, collaboration - -so it is difficult to talk about Sustainability in Physical Education.
4. A shared concept should **not be too broad**: To allow each discipline to enter into the integration process the theme has to be broad enough to encompass different curricula, but not too broad to be superficial.
5. **Period boundaries do not work** while dealing with Transdisciplinary teaching: Transdisciplinary teaching does NOT happen in subject compartments and time spans of 40 minutes. To be able to teach in a seamless manner across subject disciplines requires good planning and teaching almost everywhere – be it the library, school sports ground, field trips and as many experiential methods to bring in real-life connections.

2) The **Inter-disciplinary approach**, on the other hand, is all about *making connections between 2 or more subject areas*, in a more *holistic* framework and *integrates different perspectives* to the subjects in exploration.

For example, in a class you and the students are exploring why a powerful historical figure made certain decisions. Completing this activity may require insights from politics, economics, sociology, as well as history.

Here are some quick ways to carry out Inter-disciplinary teaching :

1) **News analysis:** To launch the exercise, you must play a news clip that discusses a local, national or international topic. Then, give students a related question to solve either individually or in groups. *For example*, the clip can be about a store shutting down. Using skills and concepts from different subjects, ask students to determine an ideal new location for it. They can volunteer to present their solutions, answering questions from their own classmates.

2) **World Traveller:** Let students plan vacations, building research skills while touching on core subjects. A teacher would need to designate time for independent study in a library or computer room, as students work to create week-long travel itineraries to their ideal destinations. The product should, *for example*, include information about:

- How to get there, currency, seasonal information
- Landmarks and their historical significances
- Popular foods, dishes and the predominant cuisine, attire
- Languages or dialects spoken in the area or country
- Cultural events that take place in the area or country

This interdisciplinary activity lends itself to *second-language classes* as well. *For example*, students could write an itinerary for a trekking camp, what to plan, what to take, how to cook, deal with emergency situations etc.

3) **Field Trips:** Introduce new learning environments by using an outdoor field study as the basis for a short unit. As with an Interdisciplinary unit, the field trips also need to be planned and student tasks should be outlined well in order for the Field trip to be fruitful. *For example*, the field study can concentrate on finding local bugs and animals. Then, the teacher could base the unit on exploring a specific theme related to wildlife. Students could:

- Read and evaluate relevant poetry
- Write and submit profiles about wildlife they spotted
- Watch and discuss documentaries about animals, such as Planet Earth
- Research and deliver presentations about how certain environments sustain wildlife

To launch the in-class part of the unit, the teacher can hold a class-wide discussion about how the field study connected with past lessons.



LIFE (every second of it), exists ONLY in the transdisciplinary & interdisciplinary forms!

Both, **Transdisciplinary** and **Interdisciplinary** teaching-learning, require detailed planning and coordination on part of all the connected teachers.

The planning must ensure that:

- a) students are engaged with active learning strategies,
- b) students make connections with different subject areas & life,
- c) teachers effectively organise learning centres / stations / teaching material, and above all...
- d) there are quality teacher questions—their applicability & relevance, promoting critical & higher order thinking amongst students.

Finally, let us accept the fact this is an era of **Multidisciplinary** in Teaching-Learning (as highlighted even in NEP 2020), and we must move over classrooms for students to explore real world connections and have authentic learning experiences that make them masters in one field but have the width and exposure to find relevance and extensions into many other fields that constitute life!

Some more terms :

*** SAMR**

(Substitution, Augmentation, Modification and Redefinition): a framework for understanding the impact of digital tools on education.

*** MOOC**

Massive Open Online Courses (MOOCs) are online courses available for anyone to enroll. They provide an affordable and flexible way to learn new skills.

*** OER**

Open Educational Resources are digital material available for reuse & repurposing in teaching, researching and learning, through open licenses, not restricted by copyright, so the flow of knowledge is boundless



Information Communication Technology (ICT) is a modified term of Information technology (IT). It is modern and dynamic in nature and provides access to information through telecommunication. Globally, ICT is recognized as a catalyst of change and it has the power to influence and affect every aspect of the society. By embracing **ICT**, education has become much more effective. Researchers, academicians and industry professionals have proved that **ICT** provides opportunities to all educational participants to learn and excel, with enjoyment, with individualisation and at one's own pace, as well as with collaboration, creativity,...all without judgement. Across the world it has been included through curriculum integration and has cast a significant impact on student achievement.

A Teachers' role in the ICT environment

Besides having content mastery over their own subjects, educators and teachers of the ICT-enabled knowledge society will require new digital skills to become technically competent. They need to have the operational skills to harness the power of ICT to enable teaching-learning to lead to the best possible learning outcomes and achievement.

They should be **savvy** with :

- basic computer operations for day to day work (for speed, organisation, aesthetically presented output and data analytics)
- evaluate and use computers and related ICT tools for instruction (including subject specific tools like Geogebra, PhET, Stellarium, Bhuvan Maps etc.)
- apply current instructional principles, research, and appropriate assessment practices to the use of ICTs
- evaluate educational software
- create effective computer-based presentations
- research / deeper knowledge base by accessing Internet resources
- integrate ICT tools into student activities across the curriculum
- create multimedia content to support instruction

Just as the Teachers roles, attitude and functional areas have changed with ICT, so have the **Students' Roles** and attitudes, as well as the nature of **Curricular Deliverables** for Teaching-Learning.

Digital Literacy

Digital literacy involves **four major pillars**, according to *Joaquim Miro*, partner and CMO at Hoppin' World. *Miro* explains these four pillars as the abilities to:

- Stay up to date with existing technologies
- Properly communicate in an online environment
- Manage your ideas in an online environment
- Manage teams leveraging technology

Within these pillars, there are **5 basic Digital Literacy skills** that one must have in order to perform efficiently in the new age world:

1. Independent research
2. Familiarity with terms and common platforms
3. Collaboration
4. Adapting to new technology
5. Teaching or explaining technologies you use

The ever-growing ubiquity of technology has made **digital literacy the new currency of the 21st century**. The ability to navigate the tectonic shift from physical to virtual interactions has assumed great significance, with the pandemic having induced a wave of hyper-digitalisation and tech-dependence. To address this, the Indian Government has launched **Digital sakSHarta Abhiyan (DISHA)** to make one person in every Indian household digitally literate.

STUDENT ROLES

FROM BEING ...

- Passive learners
- Reproducers of Knowledge
- Dependent Learners
- Solitary Learners

TO BECOMING ...

- Active learners
- Producers of Knowledge
- Autonomous Learners
- Collaborative Learners

CURRICULUM DELIVERY

FROM ...

- Memorising facts
- Rigid delivery (1 size fits all)
- Inflexible time & space

TO ...

- Inquiry based learning
- Open, varied, flexible
- Anytime, anywhere

ENTRY SLIPS & EXIT SLIPS

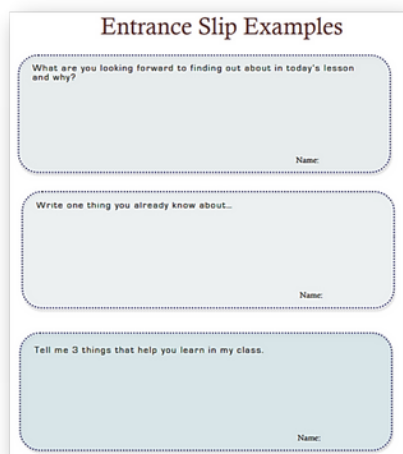
The **Exit / Entry Slip** strategy (Fisher & Frey 2004) helps students summarise and reflect on information learned (some use the word 'ticket' for 'slip'). They are simple student diagnostic tools that educators can use as a **formative assessment**, for measuring the amount of progress made by each student during a lesson, a very important **assessment OF learning** for both, the teacher and the student.

The purpose of each is different :

(a) **Entry Slips** are used at the **beginning** of a class. They inform the teacher about connections to previous knowledge, current knowledge about the new topic, any misconceptions so far.

(b) **Exit slips** are used at the **end** of a class. They inform a teacher about the - clearly understood / vaguely understood / not understood aspects of learning for that day's lesson, and what the students assume will come next in the topic.

There are many **styles & formats** available on the internet for each of the slips.; here are a few samples :



Entrance Slip Examples

What are you looking forward to finding out about in today's lesson and why?

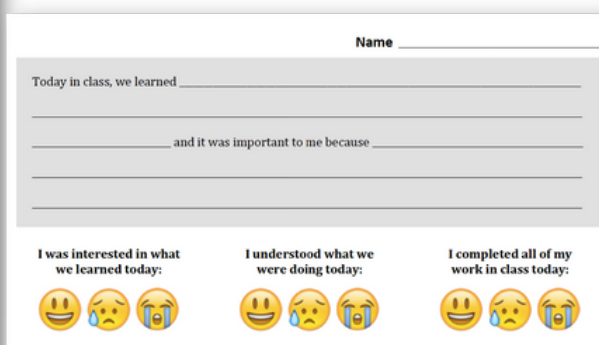
Name: _____

Write one thing you already know about...

Name: _____

Tell me 3 things that help you learn in my class.

Name: _____



Name _____

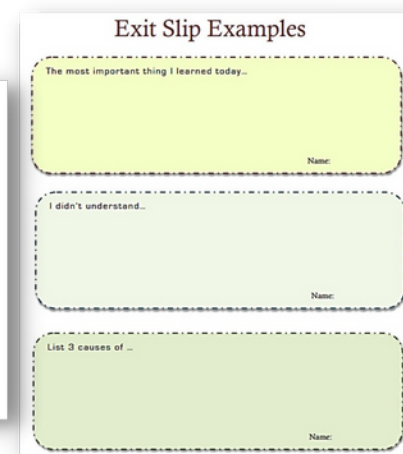
Today in class, we learned _____

_____ and it was important to me because _____

I was interested in what we learned today: 😊 😞 😭

I understood what we were doing today: 😊 😞 😭

I completed all of my work in class today: 😊 😞 😭



Exit Slip Examples

The most important thing I learned today...

Name: _____

I didn't understand...

Name: _____

List 3 causes of ...

Name: _____

To use the Entry / Exit Slip :

- Set aside a little time for this activity
- Hand out the slips at the designated time (at the onset for Entry slips OR at the end of the lesson for Exit slips). The slips should have the desired questions about the topic (OR a scale of the level of understanding for a topic), which will give you an indication of the students depth of understanding (you may use ready made templates).
- Give students time to complete the slip - students can use phrases, short sentences instead of lengthy answers. You may like to walk around the class as they are filling in the slips and pick up cues along the way.
- Collect the slips and arrange them in your desired order
- Review the sharing and decide on ...
 - (a) how to proceed with the lesson -if Entry slips were used, OR
 - (b) how to address the gaps in learning in the next class -if Exit slips were used.

To know more about Entry & Exit slips, please visit - https://prezi.com/p/3z4fdgrng1g_/entranceexit-slips/

The **January 2023** issue will focus on **Vitamin 'H' in the Classroom - the Happiness quotient!** Please send your contributions of an effective classroom strategy / class humour / vocab word / a featured article / book titles, to - team@qedrak.com

RIB TICKLERS

"People who smile while they are alone used to be called insane until we invented smartphones and social media." — *Mokokoma Makhonoana*

"First we thought the PC was a calculator. Then we found out how to turn numbers into letters with ASCII — and we thought it was a typewriter. Then we discovered graphics, and we thought it was a television. With the World Wide Web, we've realized it's a brochure." — *Douglas Adams*

"Wi-Fi went down for five minutes, so I had to talk to my family. They seem like nice people." — *CaughtInAStorm*

"Life was much easier when Apple and Blackberry were just fruits." — *Carl Henegan*

PATHSHALA HOSTEL

Lasundhra, Vadodara



PATHSHALA & PATHBHAVAN are schools with a difference. Run by the Srotoswini Trust, 'Pathshala on Wheels' was started in 2013 and has since, transformed innumerable lives, gaining in numbers reputation, faith and accolades. Since 2019, Pathshala Hostel is housed in a beautiful residential educational facility, outside Vadodara. The education provided to the 100+ co-ed students is free and the teacher empowerment provided by QEDRAK follows the same ethos. On 12th November 2022, Team QEDRAK conducted a special session on **PROFESSIONALISM MATTERS**, attended by the teachers, mentors, trustees and high school students. The active participation by students & educators with everyday examples, and a touch of humour made the session memorable for those 'in' service and those 'preparing' to be!

ALCHEMY SCHOOL

Surat



Nestled in the midst of farmlands and lush greenery in the outskirts of Surat, **ALCHEMY SCHOOL** is an ideal location for meaningful learning. As part of their ongoing CPD and Teacher empowerment, the School (through **Collins India**) invited Team QEDRAK on 30th November, '22 - for a session on **CLASSROOM MANAGEMENT**, a topic that may seem *deja vu*, but has become very important in these post-Covid 'back-to-school' times.

Attended by 50+ educators across all grades & curricular domains, the session focussed on understanding the meaning of learning spaces, classrooms, classroom management, as well as - what managing a classroom entailed, what it was and what it was not! The session had many group activities and participation by the attendees was full of energy and enthusiasm.



The introspective & experience-based collaborative responses came when teacher-groups were handed case-studies and real-life class-situations, in which they had to study the scenario, identify the problem and propose what they felt was a good classroom management solution.

The objective of **ICT** is to connect the gap between the parents, educators, and students by prompting viable, cooperative, and straightforward modes of communication. It plays a crucial role in education, not just in Teaching-Learning, but significantly in the *Administration* and *Management* of institutions. Particularly in *Learning*, it makes students' experiences more engaging, exciting and fun-filled, in tune with what gets the dopamine flowing in them! Students love to work with ICT and its multi-sensory involvement vs. the dry classroom lecture and copious written style of notes, Q&A, revisions and tests. However, just like any other technology, **ICT comes with certain limitations**. While most educational specialists empathize with *putting aside the few disadvantages*, few still argue otherwise and essay the **drawbacks of using technology** in education :

1. Misleading and misguiding information
2. Risk of cyber attacks and hacks
3. A risk to the traditional book and handwriting methods
4. Managing courses online is difficult
5. Implementing computers and the internet for ICT replace the convention education curriculums
6. Misuse of technology
7. Not accessible everywhere
8. Teachers require experience to handle ICT
9. implementing computers and the internet is expensive
10. Few believe that computers can limit imagination

In addition, there are **major health hazards** related to the 'overuse of' and 'addiction to' technology.

This article that featured in the **The Times Of India** (Ahmedabad edition dated 6th December 2022, Pg 5) serves a fair warning to everyone !



SCREEN-TIME WITHDRAWAL HITS 50% KIDS
DIGITAL DETOX MUST AS BEHAVIOURAL FIX

A cross-sectional study by KEM Hospital, Parel, has found an alarmingly high prevalence of addictive screen use behaviour among children under 13 in the Mumbai Metropolitan Region. Sumittra Deb Roy reports

THE STUDY
 Published in International Journal of Contemporary Pediatrics 154 parents from 4 schools in Dadar, Borivli, and Vasai interviewed. Classes covered: Nursery to VII
 Demography: Mean age of children 10.17 years. Proportion of boys (51.3%) slightly higher than girls (48.1%). 41% from urban, 59% from semi-urban/rural areas

KEY FINDINGS
18% of children have addictive behaviour, indicating that almost 2 out of every 10 children under 13 are already showing signs of being addicted to their screen devices

6.2±1.2 hours | Total screen time

2.8 hours
 Average discretionary (non-home-work) screen time

BEHAVIOURAL CHANGES SEEN

- > Almost 41% children failed to reduce or stop screen activities and continued despite negative consequences
- > They even used it to escape adverse moods and lied about the extent of use
- > Addictive screen use behaviour was significantly associated with gaming genres such as shooter and fighting games

DEVICE PREFERENCE

- 91%** used devices for playing games
- 87%** also accessed social media

64.3% children used their phone at bedtime within an hour before sleeping and 20.8% had due to late-night screen use

27.3% kids preferred using screen devices over several other activities

26% preferred it over spending time with family

27.3% preferred a device over playing outdoor sports, and almost 38% liked it over studying

17.5% liked it over spending time with friends

“An alarming 50% of participants showed signs of withdrawal... irritability, restlessness and aggression... upon stoppage of their use of screen devices, which meant that five out of every 10 children, not even teenagers yet, were already the victims of withdrawal”
 Raghav Paranjape & Shreeya Raai | AUTHORS OF REPORT



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