

The power of information technology to empower the future of learning and teaching

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EDUCATORS, TRAINERS OR NURTURERS?

Are you a teacher? A facilitator? A trainer? A lecturer... or merely parents who involved in teaching and educating the young? Educating and training has always been accepted as the transformation tool to uplift the position of human to a virtuous position (Abdul Hannan, 1981), (Hassan, 2010) (AbuSulayman, 1999) (Hefner & Zaman, 2007). The problem is the current setups in practicing the training or teaching has not been able to directly map with the learning needs in the light of the current challenges faced by the people in the form of a lifelong, community based learning model.

Currently, most of the focus for teaching and training points towards the formal education in the schools or formal traditional educational institutions. A lot of efforts were geared towards innovating and improving the formal educational model in the community to produce the best possible model with the hope to transform the people to its best status and position as a successful generation. With such aim, this paper explores a lifelong learning model meant for formal and informal education scope with special attention on the role of information technology (IT) in achieving it.

To do so, this paper reviews the ability of IT as a powerful teaching-learning tools in view of two points; firstly, how it supports the three basic pillars in Islamic-based teaching-learning model, i.e. the model used by the prophet Muhammad (PBUH) more than 1400 years ago; and secondly, strategize the methods to implement lifelong learning for future learning, teaching, training and coaching using various IT tools. The methods must consider current trends, technologies and needs for we cannot stick to the old approach as urged by John Dewey "If we teach today as we were taught yesterday, we rob our children of tomorrow." Thus the strategy for the current way of teaching and training should not be confined to ours, i.e. not in the same manner in which we were taught.

Worth mentioned, the case of Jeff Bliss, a Texas high school student who rant against his teacher as he decided he'd had enough with his teacher's methods of teaching (<http://www.youtube.com/watch?v=nQIPGK9wYkg>). Here are some of the arguments during the incident (May, 2013).

"There's kids in here who don't learn like that...I'm telling you what you need to do. You want kids to come into your classroom, you want them to get excited for this? You gotta come in here, you gotta make 'em excited. You want a kid to change and start doing better, you gotta touch his freakin' heart...Can't expect a kid to change if all you do is just tell him. You gotta take this job serious. This is the future of this nation. And when you come in here like you did last time and make a statement about 'oh, this is my paycheck,' indeed it is, but this is my country's future and my education."

The Duncanville school district decided not to punish Bliss but the teacher has been put on paid leave while it conducts an investigation. This is because Jeff addressed the obvious and any passionate educator will not take his speech as an attack.

Challenging indeed. Preparing people for life and caring about them when they were at their weakest and most insecure need trainers that value growth and evolution. These people are no longer teacher or trainer, but a nurturer of human beings. These nurturers do not just come with knowledge and theories but equipped with skills and tools. In today's context, computer hardware and softwares are the tools. The computers get faster, the software gets more complicated and sophisticated at the same time. A child Playstation today is more powerful than a military supercomputer of 1996. The nurturers should be aware of this and should consider latest tools for the purpose of their learning-teaching activities in order to be on a par with the trainees.

BASIC PILLARS

One popular educational system implanted by the Prophet Muhammad (PBUH) among the groups/organisations is an internal learning mechanism called *usrah* (family) the method introduced to us more than 1400 years ago. The basic pillars in this informal educational program are *ta'aruf* (Knowing each other), *tafaahum* (understanding) and *takaafu* (helping and caring). Besides the three pillars, there are four basic elements of *usrah* which defines the agenda carried out in a session of a meeting namely instructions, development, training and control (Mahmud, 2001). The same researcher described several objectives of such method for individual level development. They are:

- To develop an effective personality mentally, spiritually and physically.
- To strengthen the real meaning of teamwork in the individual
- To train individuals to be able to voice out his/her opinion freely while at the same time being able to accept others opinion with open heart.
- To develop individual capacity to continuously improve his/herself by means of self-education in a systematic way.
- To be able to work together with others in different training programs.

A detailed description about these pillars can be found in Al Banna (1979) and Mahmud (2001).

In this system, every week, each member revives their weekly plan of action, evaluate their achievement during the week and help each other to improve. It is important to understand however that the *usrah* session is not a formal academic session whereby everybody sits down to finish study based on certain curriculum only; rather it is a self-development venue where ideology and knowledge is translated into practice (Masyhur, 2000). It is more suited for lifelong learning purposes.

Ta'aruf

The most appropriate translation of this word could be "first who then what". Knowing the trainer, knowing the trainee is crucial so as to find out their strength and weakness. This way, weakness can be overcome, strength can be empowered. Ta'aruf put emphasis on human before anything else. Now with various IT tools, the ta'aruf process can be speeded and made more effective. Hundreds of tools to be used for this purpose that are freely available over the Internet

such as *TodaysMeet*, *Chatzy*, *Facebook*, *Google hangout*, *Smyface*, and *Mahara*. Table 1 describes the tools.

Table 1: Six tools for knowing each other.

No	Example tool	Description
1	<i>TodaysMeet</i>	This tool embraces the <i>backchannel</i> (where people ask each other questions, pass notes, get distracted, and give the most immediate feedback needed) and connect with others in realtime. Encourage the room to use the live stream to make comments, ask questions, and use that feedback to tailor the owners' presentation, sharpen points, and address audience needs.
2	<i>Chatzy</i>	A free private chat service which can be used to communicate with people one already know or people who visits his/her blog or website. With Chatzy one can create a chatroom and send out email invitations very quickly and easily. Chatzy also has a Virtual Rooms.
3	<i>Facebook</i>	A popular free social networking website that allows registered users to create profiles, upload photos and video, send messages and keep in touch with friends, family and colleagues. Available in 37 different languages, includes features such as: Marketplace, Groups - allows members who have common interests to find each other and interact, Events - allows members to publicize an event, invite guests and track who plans to attend, Pages - allows members to create and promote a public page built around a specific topic, Presence technology - allows members to see which contacts are online and chat. Facebook offers a range of privacy options to its members.
4	<i>Google hangout</i>	A free video chat service that enables both one-on-one chats and group chats with up to ten people at a time. Similar to Skype, FaceTime and Facebook Video Chat, Google Hangouts focuses more on "face-to-face-to-face" group interaction as opposed to one-on-one video chats, and utilizes sophisticated technology to seamlessly switch the focus to the person currently chatting. Google Hangouts users can share documents, Scratchpads, images and YouTube videos with other users. Google+ Hangouts also offers a "Hangouts on Air" feature for broadcasting live video conversations that are accessible to anyone with a web browser.
5	<i>Smyface</i>	An excellent tool for gauging the mood and feelings of students/trainees in a safe non-threatening way. It assists in the pastoral care of students/trainees. It gives a very real voice to a shy or quiet trainee but more importantly it gives a voice to those trainees that are considered to be "at risk."
6	<i>Mahara</i>	A personal learning environment mixed with social networking, allowing one to collect, reflect on and share his/her achievements and development online in a controlled space. The Mahara community is vibrant and its users give presentations, write articles and also publish books

Tafaahum

Understanding each other and also make them understand the content. This is where the learning and teaching content being delivered and made understood to each other. The objective of tafaahum was to ensure that the human generation which we trained can become the generation that are pure in heart, pure in mind and pure in understanding (Qutb, 2006). Today, there are a lot of tools (or Web 2.0 tools) to support the tafaahum process. Here are some of the tools we can freely used: *PresentMe*, *EduCreation*, *Voicethread*, *Scratch*, *Kerpoof*, *Penzu*,

TrackStar, *QuestGarden* (structured Internet research exercise), *Flipsnacks*, and *Glinker* (with mindmap features). Table 2 further describes those tools.

Table 2: Six tools for content delivery.

No	Example tool	Description
1	<i>PresentMe</i>	A tool to create effective presentations through PowerPoint files. It allows one to add a narrative to the presentation. Once the PowerPoint is uploaded, a narrative can be recorded through webcam and microphone as if one is presenting the slideshow. The final presentation then appears with the webcam recording on the right and slides on the left. A filmstrip view of the slides is also given at the bottom of the presentation.
2	<i>EduCreation</i>	A recordable interactive whiteboard that captures voice and handwriting to produce video lessons that can be shared online. Trainees and colleagues can replay the lessons in web browser/iPads.
3	<i>Voicethread</i>	A digital storytelling program that enables users to upload pictures or documents, record accompanying audio (or video) commentary, and invite others to record commentary as well. Its combination of visual and recorded media enables multimedia presentations in a relatively short time frame. It allows trainers and trainees to create contents such as virtual tours, reports, comment on historically significant photographs, or debate a topic. A multiple audio commentaries can be added to image/document/artifact.
4	<i>Scratch</i>	An application that allows users to create and share animations, games, music, stories, and art. It also allows user interactions. Scratch allows anyone who uses it to create their own sort of “mix” of pictures, videos, and music.
5	<i>QuestGarden</i>	An online authoring tool, community and hosting service that is designed to make it easier and quicker to create a high quality WebQuest. Images, worksheets and other documents can easily be attached or embedded in the WebQuest, and users have complete control over the appearance of the final lesson. Users can comment on each others' work, share links and images, and build new WebQuests on existing ones.
6	<i>Flipsnack</i>	A tool that enables the user to create digital books that have pages that can be embedded into websites and blogs or simply viewed by a web link. It can also be used to display students work, create brochures, information booklets and online newsletters.

Takaaful

Takaaful is sharing and caring for each other. This pillar should be the ultimate aim of education, formal or informal. If the aim is not for this purpose of a learning organisation, then we have to check again the strategy we put forward. The learning model laid at the time of the prophet (PBUH) fulfills the ideals and principles of an effective lifelong learning environment, implemented in a learning community set up in the community of the first Muslim. The model within this method comprises of a good mixture between student centric and facilitator involvement.

IT tools that can be utilised for takaaful purpose are *Ning*, *Cacoo*, *Skrbl* (collaborative workspace), *Vyew*, *iEARN* (international education and research network), *TakingITGlobal* and *Yammer*, to name a few. Table 3 lists the description of the tools.

Table 3: Six tools for sharing.

No	Example tool	Description
1	<i>Ning</i>	A tool to launch users' own social network in only a few minutes. Users can nurture and engage their own community at a larger, scalable and integrated social platform. Ning can handle the building of a new site, integrate community into an existing site, and re-launching a site.
2	<i>Cacoo</i>	A real-time collaborative diagramming and design tool. Diagrams such as sitemaps, wireframes and network charts can be drawn and shared via a large stencil set in Cacoo. It can also be used for brainstorming ideas. Diagrams created can be linked directly from websites and web applications. When an update is made to the diagram, all linked images are also updated.
3	<i>Skrbl</i>	An online multi-user whiteboard, a creative way to share desktops and ideas. It allows teams to look at a single screen and organize their thoughts collectively by simply share url. Users can Sketch, text, share files, upload pictures all in one common shared space, in real time. Users can brainstorm via the whiteboard to start thinking together, everyone sees the same screen, everybody gets on the same page.
4	<i>Vyew</i>	A tool that allows users to meet and share content in real-time, and upload images, files, documents and videos into a room. Users can access and contribute anytime. Features include whiteboarding, video conferencing, screen sharing, and Voice-over-IP. Other collaboration features include contextual discussion forums, voice-notes, track and log activity and continuous rooms are always saved and always-on.
5	<i>iEARN</i>	A collaborative academic endeavor between two or more groups of students and educators in different parts of the world. iEARN projects are rooted in the pedagogy of project-based learning. Most projects are process-oriented, but also result in some kind of end "product" that is shared between the participants who can collaborate with their peers around the world.
6	<i>Yammer</i>	A private social network that helps users to get connected to the right people, share information across teams and organize around projects so they always connect to coworkers, information and conversations.

There are thousands of tools, mostly free, that can be used for the three pillars mentioned earlier. Choosing them are not easy. Fortunately at least here is one tool that can help users to compare and find the best web tools solutions namely, *Catchfree*. It is a useful site that asks users what type of tool they are looking for and then present them with five options. These are ranked in user popularity.

Worth noting that all the tools mentioned are merely tools. It depends on how we as educators/trainers/nurturer use them. Ideally, they should be used according to the positive objectives. Because it if is abused, the result will no longer be positive. Also, one must be aware that in some way web tools has created a cult of digital amateurism, which undermines the notion of expertise by allowing anybody, anywhere to share and place undue value upon their own opinions about any subject and post any kind of content, regardless of their particular talents, knowledge, credentials, biases or possible hidden agendas. The core assumption of web tools, that all opinions and user-generated contents are equally valuable and relevant, is misguided. This is because some sites are exploiting the "free labor" of user-created content. The IT tools, especially the Web 2.0 sites use Terms of Service agreements to claim perpetual

licenses for user-generated content, and they use that content to create profiles of users to sell to marketers. This is part of increased surveillance of user activity happening within Web 2.0 sites. Researchers and members of Internet societies also argue that such data can be used by governments who want to monitor dissident citizens. (Tiziana, 2000; Soren, 2008; Robert, 2011; Mark, 2007 & Jonathan, 2012).

MALAYSIA'S INITIATIVE VIA LIFELONG LEARNING BLUEPRINT AND DePAN

In the case of Malaysia, the Malaysian government strategy for lifelong learning laid out in its 'Blueprint on Enculturation of Lifelong Learning for Malaysia for 2011 to 2020' (MOHE, 2011) expressed the direction for a national lifelong learning plan with its sole focus to enhance the country's productivity and population income via personal improvement. This is captured in the statement of lifelong learning policy of Malaysia which is

"...to create a knowledge society which embraces lifelong learning as a culture that contributes towards high income productivity- led economy, inclusiveness and sustainability, while appreciating our national culture and heritage, as well as ensuring personal development and sense of self-worth".

(MOHE, 2011, p. 38)

For this reason, lifelong learning is considered to be Malaysian 'third pillar of Human Capital Development' agenda besides school and tertiary education. On top of that, a solid e-learning policy (Dasar e-pembelajaran Negara, or DePAN) was also established on April 2012. The policy stresses on the use of technology for university education as well as for lifelong learning support. DePAN put forward eight objectives altogether, character to

1. Provide an opportunity for a fair and quality education via e-learning (open, neutral, and active).
2. Provide relevant and friendly e-learning infrastructure.
3. Produce all sorts of e-contents to strengthen learning and teaching process.
4. Empower staffs, students and stakeholders via e-learning.
5. Perform R&D in e-learning technology.
6. Develop a repository for digital learning content.
7. Develop original e-content and encourage the e-learning and e-content resource sharing culture
8. Develop the community and acculturate e-learning

CHOOSE YOUR 21ST CENTURY TOOLS

What software tools should be chosen? As new tools are developed everyday one cannot really keep up with the technology. There are too many tools to select, practice and evaluate before use. It is time consuming and sometimes requires extra training. The solution is by choosing only a few tools and master them. Optimise their usage so that all the features of the tools can be mastered and used. A popular application software like Microsoft PowerPoint, should be mastered to the upmost. There are a lot of features in a tool. Becoming completely proficient in a few selected tools is better than trying to use bit and pieces of hundreds of tools without being able to be truly skilled even in one tool.

STRATEGY: CASE OF UNIVERSITI UTARA Malaysia

Using Blueprint on Enculturation of Lifelong Learning for Malaysia for 2011 to 2020' and DePAN as fundamental push, Universiti Utara Malaysia has taken an initiative in fulfilling the national agenda. Strategies for three different groups of trainers have been laid out in order to achieve 50% original e-content and 30% of all courses are offered in blended mode by 2015. Auto-generated learning objects are planned for those who has no skill in developing their own content. For the purpose, Lecture Capture software and its accompanying Echo360 platform are purchased and installed in our larger lecture halls. For those who are skillful with tools and commercial software, they are given incentives to come out with their own e-content. There is also a unit, called Learning Object Unit, been established to help in developing professional e-content. Figure 1 illustrates the strategies in the form of a roadmap laid out for 2011-2015.

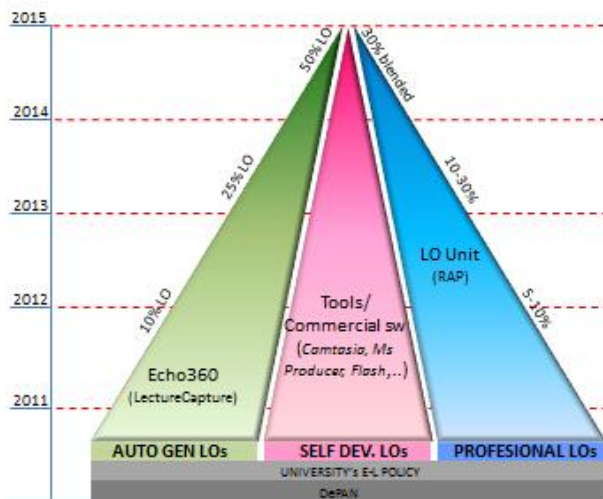
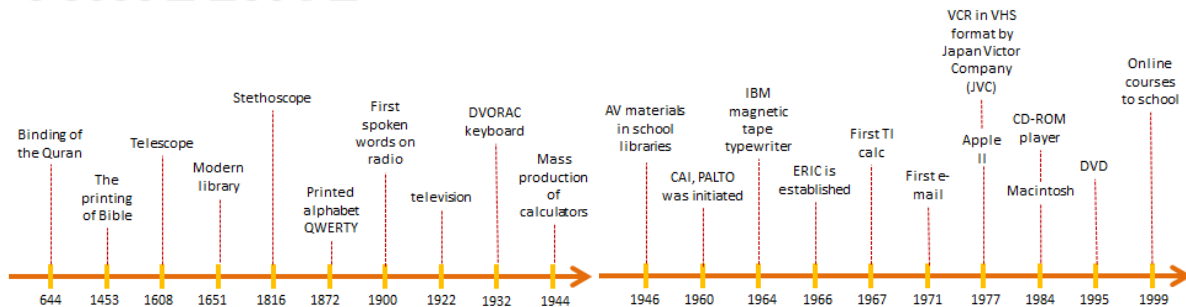


Figure 1: The roadmap for 2011-2015 with its strategies and targets.

Figure 2 is an example of an e-content, automatically generated for the trainer who does not have any skill in developing e-content. A product like this is considered as a learning object and be automatically uploaded to our learning management system and can be accessed by registered users.

technologies that still survive, progressed into more sophisticated versions, and massively utilised until now.

LEARNING TECHNOLOGIES TIMELINE



*ERIC – Educational resources information centre

*TI -- Texas instrument calculator

Figure 4(a): Learning technologies from 644 – 1999.

The year 1999 marked the history when online courses were introduced in the schools in the USA. Slowly but surely, this method of information delivery has undergone rapid progress and pervasive implementation throughout the world. It is now common for a school, a university, and even a company to host online courses.

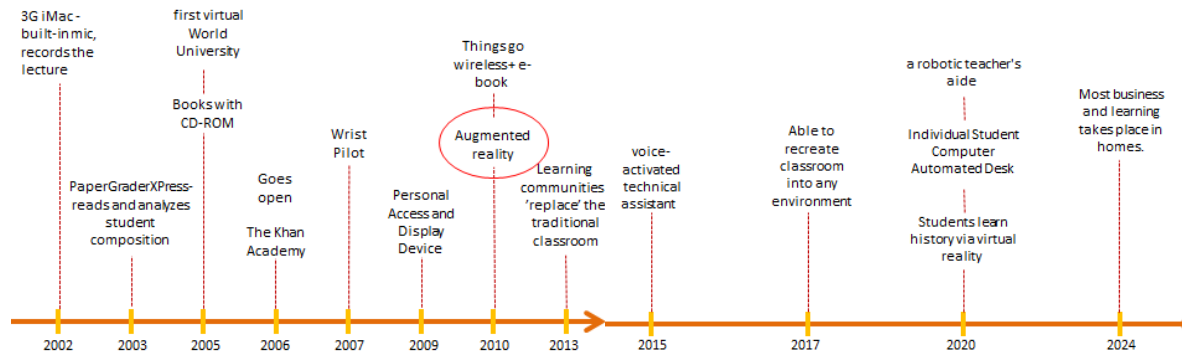


Figure 4(b): Learning technologies from 2002 – 2024.

Augmented reality (AR) technology, born in 2010, is another landmark in education technology. Only after three years, i.e. in 2013, a service and tool for AR is available for free. One can visit <http://www.learnar.org/> and use the AR marker to view the AR elements provided by the website without having to code any programming for AR implementation.

The other major landscape will be determined by these future learning technologies.

- 2015 - a revolutionary, voice-activated technical assistant that can troubleshoot technology-related problems will be implemented in many applications, not only in the learning organisations but also in public places.

- 2017 – as LCD priced lower, more wall-sized touchscreen LCDs and wall-mounted DVD players be installed in order to recreate classroom, lecture halls, training rooms and even home into any environment chosen by the users. Surrounding like desert, forest, or outer space can easily be switched to create different environment and mood for learning.
- 2020 – The use of a robotic teacher in a training room is anticipated. The robot is capable of monitoring the trainees/students which has become essential due to the trainer/teacher shortage. They are primarily used to monitor student behavior while the teacher teaches from another location via the internet. This will allow all students to have a wonderful, well paid teacher instead of spending money on teacher's aides. Parents can take comfort in the fact that the robots really do have eyes in the back of their heads. They also have been programmed to record all the noises in the classroom. For this reason there will no longer be the battles of he said, she said.
- Also in 2020 it is projected that a computer automated desk be implemented with built in wireless computer systems. Nothing is on the table except a small command pad with buttons to activate the pop-up digital display, the pop-up microphone headset, and the log on button. The digital display allows trainee to see demonstrations the trainer is performing on his or her command center workstation, it allows for virtual field trips with the trainer controlling what all workstations are seeing at the same time. The pop-up microphone headset is used by the trainee to give all computer commands and to input assignments into the computer. The system will through the wireless network keep track of all of the trainee's assignments, notes, and allow for review of workshop discussion from any previous sessions they have attended. There of course are no more excuses from trainee not knowing the tasks or losing the assignment since there is an electronic trail. For university-level implementation, all courses can benefit from the system. Learning history, for example, will finally be fun. Students will be participants in the event, similar to Back to the Future. They will make decisions which will alter the course of events. Science experiments will be done primarily on the computer using simulation. A sample video on this project can be viewed on YouTube (Figure 5).



Figure 5: The SCOLAR project on future computer automated desk (source: <http://www.youtube.com/watch?v=Cw8c7Q-WIJQ>).

CONCLUSION

The educational experience should be in the form of a lifelong learning process in its real meaning that it is an education process that happened along with the living experience of the learner. The approach introduced in this paper is introduced more than 1400 years ago and it is actually still valid for a 'Just-in Time' (JIT), a transformative and a spiritual learning experience at the same time.

Pedagogically, ta'aruf, tafaahum and takaafuul introduced a lively and interactive educational method. At the earlier time, the Prophet (PBUH) as the unique facilitator, managed to develop a generation of the companion of the prophet as the students while the whole span of the prophet's life in Mekah and Madinah as the learning space where the unique lifelong learning programs were implemented. Through this program, the companions were transformed from a generation of rough and illiterate community to become the best community of learning. With respect to its inherent nature, the method should be reconsidered with additional configuration of the architecture of the system and application of latest technology which will be able to deliver the desired formal and informal learning environment suitable for the community consumption as a whole. It will also function as a lifelong learning structure for today's community.

'New' technology comes and goes, indeed it is, but the destination remains. Technologies are just tools and as such should not be considered as targets. They are a means or channels for achieving the destination. Using different means to achieve the target will definitely involve different effort, duration, cost, experience, feeling, ...in reaching the destination. Planning for the right target and right destination is far more complex than introducing and using new technologies as Sir Peter Blake once said "new technology is common, but new thinking is rare."

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