



IMPACTS OF ICT EXPANSION IN FOURTH INDUSTRIAL REVOLUTION FOR ISLAMIC EDUCATION

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ICT EXPANSION IMPACT

- ❑ ICTs expansion in the last 20 or 25 years, that is increasingly very fast, sophisticated and massive have influenced and hegemony to all aspects of life, as: politics, economy, social, cultural, and including religious life and education.
- ❑ The massive expansion of ICTs have become a new challenges and at the same time become a new opportunities, especially in (this case) Islamic education;

ICT EXPANTION CHALLENGES



Ago, we are probably never imagined that people who did not have a lot of transportation fleets could become big entrepreneurs such as: Gojek, grab. That condition, also can be applies in the field of education. Ago, people who like learned they had to go to school to be able to participate in learning, now they can be doing and wherever and whenever. Likewise, in ago we had to deal with a physical book, but now, only with a small device, such as our cellphones, we can access unlimited book content.

In the future we might not be able to imagine what our education format will look like in the future. So, we have to anticipate, we have to prepare, if we do not want to be left behind and escape.

CHALLENGES AND OPPORTUNITIES OF ICT EXPANSION IN RELIGIOUS LIFE

1. Various kinds of **information on religious thought** have been opened widely and very easy to obtain or find out (including liberal, radical, and even heretical thoughts)
2. **ICT-based reference sources for learning and understanding religion have been opening widely and very easy to obtain;**
3. Various kinds of **information on religious thought** have been forming new ways of religion that is not the same as the conventional ways, such as: wanting practicality, diverse sources of reference, etc.
4. The variety and amount of information can weaken and -vice versa- can be strengthen the religious belief and religious practice. Especially for the young generation)
5. **The diversity of information about the religious thought can encourage to reluctance and escape from religion, and vice versa, it can also encourage to radicalism.**

CHALLENGES AND OPPORTUNITIES OF ICT EXPANSION IN ISLAMIC EDUCATION

1. Telah hadir beragam alat teknologi yang makin canggih yang dapat digunakan dengan mudah dan terjangkau untuk kegiatan pendidikan Islam;
2. Sumber informasi dan sumber belajar telah berlimpah dari berbagai media dan sumber (baik yang positif ataupun negatif) yang dapat dengan mudah dan cepat untuk digunakan untuk pendidikan Islam;
3. **Adanya ketergantungan generasi digital native/generasi Y dan Z terhadap ICT dalam kehidupan sehari-hari;**
4. **Telah terjadi perbedaan dan kesenjangan dalam hal konsep dan praktik pendidikan Islam antara peserta didik yang digital native dan pendidik yang digital immigrant.**

CHALLENGES AND OPPORTUNITIES OF ICT EXPANSION IN ISLAMIC EDUCATION

1. Various tools and medias have become increasingly sophisticated, and can be used easily and affordably for Islamic education activities;
2. The sources of information and learning resources have been abundant, both positive and negative, that can be easily and quickly used for Islamic education;
3. There has been a dependence of “the digital native/Y and Z generatio” to ICT in their everyday life);
4. There have been differences and gaps between “the students who are digital native ” with “the educators who are digital immigrant ” in concepts and practices of Islamic education.

PERBEDAAN GENERASI (THEORITICAL REVIEW)

SUMBER	LABEL				
Tapscott (1998)	-	Baby Boom Generation (1946-1964)	Generation X (1965-1975)	Digital Generation (1976-2000)	-
Howe & Strauss (2000)	Silent Generation (1925-1943)	Boom Generation (1943-1960)	13th Generation (1961-1981)	Millenial Generation (1982-200)	-
Zemke et al (2000)	Veterans (1922-1943)	Baby Boomers (1943-1960)	Gen-Xers (1960-1980)	Nexters (1980-1999)	-
Lancaster & Stillman (2002)	Traditionalist (1900-1945)	Baby Boomers (1946-1964)	Generation Xers (1965-1980)	Generation Y (1981-1999)	-
Martin & Tulgan (2002)	Silent Generation (1925-1942)	Baby Boomers (1946-1964)	Generation X (1965-1977)	Millenials (1978-2000)	-
Oblinger & Oblinger (2005)	Matures (<1946)	Baby Boomers (1947-1964)	Generation Xers (1965-1980)	Gen-Y/NetGen (1981-1995)	Post Millenials /Z (1995-present)

DIGITAL NATIVE & DIGITAL IMMIGRANT

- ▶ Mac Prensky (2001) dalam tulisan ilmiahnya yang berjudul “*Digital Natives, Digital Immigrants*” membagi umat manusia menjadi 2, yakni generasi *digital immigrant* dan *digital native*. *Digital native* adalah kelompok yang saat mulai belajar menulis sudah mengenal internet. Sedangkan *digital immigrant* adalah yang mengenal dunia internet setelah mereka dewasa.
- ▶ Digital native adalah net generation yaitu generasi yang lahir setelah tahun 1980an, dimana mereka selalu dikelilingi dan menggunakan computer, video game, pemutar music digital, kamera video, telepon selular dan mainan digital lain. Sedangkan digital immigrant adalah orang-orang yang lahir sebelum tahun 1980 dan tidak tumbuh di era budaya digital. Mereka memerlukan kemampuan beradaptasi dengan teknologi dalam kehidupan sehari-hari (Hill, 2010:22)

DIGITAL NATIVE & DIGITAL IMMIGRANT

- ❑ (Mac Prensky (2001) in his scientific writing entitled "Digital Natives, Digital Immigrants" divided educational community into two generations, namely the generation of digital immigrants and digital natives. Digital native is a group that when they start learning to write are familiar with the internet. Whereas digital immigrants are those who know the internet when they grow up)
- ❑ (**The** Digital native is a net generations, the generations who were born after the 1980s, where they are always surrounded and use computers, video games, digital music players, video cameras, cellular phones and other digital toys. While digital immigrants are people who were born before 1980 and did not grow up in the era of digital culture. They need the ability to adapt to technology in everyday life (Hill, 2010: 22))

PERBEDAAN POLA PIKIR DAN TINDAKAN GENERASI DIGITAL NATIVE DAN IMMIGRANT

□ **Digital Native** memiliki karakter:

- 1) sangat peduli pada identitas diri mereka masing-masing dan ke"ada"an diri mereka. Hal ini dapat dilihat dari banyaknya akun pribadi yang dimiliki oleh mereka, misalnya akun pada *facebook*, *twitter*, *youtube* dan *instagram*. Rasa narsis di dalam diri mereka dapat dipuaskan melalui media yang membuat mereka menjadi eksis.
- 2) cenderung lebih terbuka, blak-blakan dan *open minded*.
- 3) tidak suka diatur dan dikekang. Mereka ingin memegang kontrol, dan internet menawarkan hal itu. Jika mereka tidak suka suatu website, mereka bisa menutupnya saat itu juga.
- 4) merasa bosan jika disuruh untuk membaca ensiklopedia, tapi mereka tetap tahu banyak hal. Hal ini bisa jadi merupakan salah satu dampak yang didapatkan karena mereka begitu akrab dengan Google atau *search engine* lainnya. Kemampuan belajar mereka jauh lebih cepat karena segala informasi ada di ujung jari mereka.
- 5) Cara berfikir mereka non-linear. Contoh kasus, ketika membaca buku tidak harus dari halaman pertama. Mereka bisa memulai dari halaman mana saja yang ingin mereka tuju (berdasarkan rasa ingin tahu dan yang dikehendaki). Mereka bisa memanfaatkan daftar isi, indeks, dsb., untuk mengarahkan keingintahuan mereka terhadap isi buku.
- 6) Dapat melakukan pekerjaan dalam satu waktu. Contohnya, dapat ber-SMS ria sambil ngobrol dengan temannya tanpa memperhatikan tombol HP. Lainnya misalnya, dapat mengakses internet sambil membuat makalah, sambil ngobrol dengan teman, makan dan minum camilan, disertai main Facebook.

□ **Digital immigrant** mempunyai karakter yang berbeda yaitu: Hanya mengerjakan satu tugas dalam satu waktu; Lebih menyukai membaca dalam format hardcopy; Masih menganggap yang banyak ilmunya adalah yang banyak tulisannya (*values text more*); Bekerja secara konsisten dan bertahap, sehingga memakan waktu lebih banyak; Baru mulai belajar teknologi.

DIFFERENTIATION OF DIGITAL NATIVE & DIGITAL IMMIGRANT IN MIND AND ACTION PATTERNS

□ Digital Native has the characters:

- 1) Very care to their individual identities and their "being". This can be seen from the number of personal accounts owned by them, for example accounts on Facebook, Twitter, YouTube and Instagram. Narcissism in them can be satisfied through the media that makes them exist.
- 2) Tend to be more open, outspoken and open minded.
- 3) Don't like to be regulated and restrained. They want to be in control, and the internet offers that. If they don't like a website, they can close it right away.
- 4) Feel bored when told to read encyclopedias, but they still know a lot of things. This could be one of the impacts obtained because they are so familiar with Google or other search engines. Their learning ability is much faster because all information is at their fingertips.
- 5) Their way of thinking is non-linear. Case in point, when reading a book does not have to be from the first page. They can start from any page they want to go (based on curiosity and desired). They can use the table of contents, indexes, etc., to direct their curiosity about the contents of the book.
- 6) Can do work at one time. For example, you can text while chatting with friends without paying attention to the cellphone button. Others, for example, can access the internet while making papers, while chatting with friends, eating and drinking snacks, along with playing Facebook.

□ Digital immigrants have different characteristics, namely: Only do one task at a time; Prefers reading in hardcopy format; Still assume that a lot of knowledge is that many writings (values text more); Work consistently and gradually, so it takes more time; Just starting to learn technology.

Sources from: Prensky (2001 and Kenneth Young:

PERBEDAAN KARAKTER BELAJAR SESUAI GENERASINYA

GERERASI	KARAKTER
Silent/Veterans Generation (1925-1943)	1. mempercayai logika; 2. berorientasi masa lalu; 3. menyukai konsistensi dan keseragaman.
Baby Boom Generation (1943-1964)	<i>1. Suka mendengar kuliah atau penjelasan, 2. mengaitkan pelajaran dengan pengalaman pribadi; 3. Suka belajar di lingkungan yang suportif</i>
Generation Xers (1965-1980)	1. Belajar secara cepat dan efisien; 2. Hanya mau mempelajari hal yang akan langsung memberikan manfaat; 3. Menyukai waktu belajar yang fleksibel .
Gen-Y/ NetGen/Mellinial (1981-1995)	1. Suka belajar kelompok; 2. Memanfaatkan teknologi dalam kegiatan belajar; 3. Menyukai experiential learning;
Post Millenials /Z (1995-present)	1. Menyukai metode belajar learning by doing dan esxprement; 2. Bisa mengerjakan banyak hal dalam satu waktu; 3. Membutuhkan tujuan yang jelas di awal pembelajaran dan feed back yang cepat.

PERBEDAAN KARAKTER BELAJAR SESUAI GENERASINYA

GERERASI	KARAKTER
Silent/Veterans Generation (1925-1943)	1. Trust logic; 2. Past-oriented; 3. Likes a consistency and uniformity.
Baby Boom Generation (1943-1964)	1. Likes to hear lectures or explanations, 2. Associates lessons with personal experience; 3. Loves to learn in a supportive environment
Generation Xers (1965-1980)	1. Learn quickly and efficiently; 2. Only want to learn that will immediately benefit; 3. Loves flexible study time.
Gen-Y/ NetGen/Mellinial (1981-1995)	1. Loves to study groups; 2. Utilizing technology in learning activities; 3. Love experiential learning;
Post Millenials /Z (1995-present)	1. Liked the learning method of learning by doing and escalation; 2. Can do many things at one time; 3. Requires clear goals early in learning and fast feed backs.

PERMASALAHAN YANG DIHADAPI DALAM PROSES PENDIDIKAN AGAMA ISLAM

1. Adanya ketidaksesuaian konten dan proses pendidikan Islam dengan realitas tuntutan kebutuhan peserta didik di era kini.
2. Terjadinya perbedaan dan kesenjangan antara pendidik, orang tua, dan masyarakat yang merupakan generasi digital immigrant (generasi baby boomers dan generasi X) dengan peserta didik yang merupakan generasi digital native (generasi Y, Z dan Alpha) antara lain dalam hal:
 - a. Makna dan tujuan pendidikan Islam
 - b. Pengetahuan dan perilaku keagamaan (konten/materi pendidikan keagamaan) yang diinginkan
 - c. Model pendekatan, metode dan teknik pembelajaran
 - d. Penggunaan sumber dan media pembelajaran.

IMPACTS ICT EXPANSION TO ISLAMIC EDUCATION

1. There are some discrepancies in the content and process of Islamic education with the reality and demands or needs of students in the current era.
2. There are differences and gaps between educators, parents, and the community who are the digital immigrant generation (baby boomers generation and generation X) with students who are the native digital generation (generation Y, Z and Alpha), such as:
 - 1) The meaning and purpose of Islamic education
 - 2) Religious knowledge and behavior (religious education content/material) desired
 - 3) Model of approaches, methods and learning techniques
 - 4) Using of learning resources and media.

PENELITIAN MILWARD BROWN (2017)

1. Menurut penelitian Millward Brown (2017), generasi Z memiliki karakteristik berbeda dibandingkan generasi Y atau bahkan generasi X (baby boomers).
2. Generasi Z lahir saat teknologi digital tengah berkembang pesat. Generasi ini juga lebih melek internet dibandingkan generasi-generasi sebelumnya.
3. Sebanyak 74 persen generasi Z mengakses gawai sedikitnya satu jam per hari. Persentase itu lebih besar dibandingkan generasi Y (66 persen) dan generasi X (55 persen).
4. Ekses dari kondisi di atas adalah remaja kekinian itu kurang gemar membaca. Mereka lebih suka menyerap informasi dalam bentuk visual, misalnya konten video pendek.
5. Survei Millward Brown mendapati generasi Z menyukai video pendek berdurasi 10 detik, lebih singkat 50 persen dibandingkan generasi X yang masih mampu menyerap video berdurasi hingga 20 detik.

TUNTUTAN PERUBAHAN

1. Reformulasi model dan desain kurikulum dan pembelajaran yang sesuai dengan tuntutan kebutuhan peserta didik di era kini dan ke depan (4.0 dan menuju 5.0).
2. Penyiapan tenaga pendidikan profesional yang memahami dan dapat mempromulasi kegiatan pembelajaran yang sejalan dengan perkembangan kebutuhan peserta didik dan tuntutan zaman, baik melalui in-service maupun pre-service training.
3. Repormulasi model dan desain kurikulum LPTK sebagai lembaga menyiapkan tenaga pendidik yang profesional sesuai zamannya.

REQUIREMENT OF CHANGE



1. Reformulation the schools curriculum and learning models and design in accordance with the demands and the needs of students in the present and future eras (4.0 and towards 5.0).
2. Preparation of professional education personnel who understand and able to formulate learning activities that are in line with the development of the needs of students and the demands of the eras, both through in-service and pre-service training.
3. Reforming the LPTK curriculum and learning design, as an institution providing professional educators, according to their eras.

ARAH DAN POLA PIKIR PERUBAHAN DALAM PENDIDIKAN ISLAM YANG DIPERLUKAN

1. Perubahan dari pembelajaran tujuan dan pemikiran faktual menuju kritis.
2. Perubahan dari pembelajaran mono disiplin ilmu pengetahuan bergeser menuju pengetahuan multidisiplin dan integratif.
3. Perubahan dari media pembelajaran tunggal menuju multimedia.
4. Perubahan dari sumber pembelajaran tunggal menuju sumber belajar jamak;
5. Perubahan dari pembelajaran berpusat pada guru menuju berpusat pada siswa.
6. Perubahan dari pembelajaran satu arah menuju interaktif.
7. Perubahan dari pembelajaran isolasi menuju lingkungan jejaring yang terjamin
8. Perubahan dari pembelajaran pasif menuju aktif-menyelidiki (pendekatan saintifik).
9. Perubahan dari pembelajaran abstrak menuju konteks dunia nyata.
10. Perubahan dari pembelajaran pribadi menuju pembelajaran berbasis tim.
11. Perubahan dari pembelajaran dengan pola hubungan satu arah bergeser menuju kooperatif.
12. Perubahan dari pembelajaran dengan kontrol terpusat menuju otonomi dan kepercayaan
13. Perubahan dari pembelajaran dengan pola penyampaian pengetahuan menuju pertukaran pengetahuan.

PARADIGM OF CHANGES IN ISLAMIC EDUCATION

1. The change from learning goals and factual thinking towards critical.
2. The change from mono learning to scientific disciplines shifted towards multidisciplinary and integrative knowledge.
3. The change from a single learning media to multimedia.
4. The change from a single source of learning resources to multiple learning resources;
5. The change from teacher-centered learning to student-centered learning.
6. The change from one-way learning to interactive.
7. The change from isolation learning to a guaranteed network environment
8. The changes from learning passive towards active-investigating (scientific approach).
9. The change from learning abstract towards the real world context.
10. The change from personal learning to team-based learning.
11. The change from learning with one-way relationship patterns shifts towards cooperation.
12. The changes from learning with centralized control towards autonomy and trust

MILWARD BROWN RESEARCH (2017)

1. According to Millward Brown's research (2017), generation Z has different characteristics compared to generation Y or even generation X (baby boomers).
2. Generation Z was born when digital technology was developing rapidly. This generation is also more internet literate than previous generations.
3. 74 percent of Generation Z access devices at least one hour per day. That percentage is greater than generation Y (66 percent) and generation X (55 percent).
4. Excess from the above conditions is that today's teenagers are **less fond of reading**.
5. They prefer to absorb information in visual form, for example short video content. Millward Brown's survey found that Generation Z likes short videos with a duration of 10 seconds, 50 percent shorter than Generation X which is still capable of absorbing videos up to 20 seconds in length.
6. to be able to balance the digital penetration of the generation of "gadgets", the parents and teachers in schools should change the way their students. It can't be outdated anymore, but it must be more contemporary!

KEUNGGULAN INTEGRASI ICT DALAM PEMBELAJARAN

Fu (2013 :113) menyimpulkan beberapa keuntungan integrasi ICT dalam pembelajaran:

- 1) membantu siswa dalam mengakses informasi secara efektif dan efisien
- 2) mendukung pembelajaran student centered dan belajar mandiri;
- 3) menciptakan lingkungan belajar yang kreatif. ICT memberikan kesempatan yang luas dalam mencari solusi atas persoalan-persoalan dalam pembelajaran.
- 4) mendorong pembelajaran kolaborasi dengan pembelajaran jarak jauh. Pembelajaran kolaborasi melalui sharing informasi, komunikasi, dan mengerjakan tugas akan lebih mudah dan tidak dibatasi waktu serta tempat dengan penggunaan ICT.
- 5) lebih banyak kesempatan untuk membangun kemampuan berpikir kritis. ICT akan membantu siswa untuk fokus dalam konsep level lebih tinggi daripada tugas-tugas yang kurang bermakna.
- 6) meningkatkan kualitas belajar mengajar. ICT memberikan peluang bagi proses belajar mengajar yang berkualitas dengan karakteristik: otonomi, kapabilitas, dan kreativitas.
- 7) mendukung pengajaran dengan fasilitas untuk mengakses materi pembelajaran.

