Infusion of faith-based attributes in engineering education: the Tahfiz Approach

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Universiti Tenaga Nasional (UNITEN)

2014 ASAIHL Conference
## Agenda – what we will cover today

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A career builder company indicates....

Engineers are one of the least happy workforces in Malaysia..

The group provides a job satisfaction rate:

- 58.1% in 2013
- 53.3% in 2012

Happy workers increase productivity.

- Work-life balance is closely linked to work-family balance which is defined as “the extent to which an individual is equally engaged in and equally satisfied with his or her role and family role” (Greenhaus et al, 2003).

- Contributing one’s best efforts is an intrinsic and universal professional value and should be inculcated at the early stage of their professional education and training.

According to Maslow (1945)...

- The hierarchy of needs, there are basically five categories of needs: biological and physiological needs, safety needs, emotional needs, esteem needs and self-actualization.

- Self-actualization is the highest order where one obtained a sense of life fulfillment and accomplishment toward oneself and society.
The breakdown of credit hours of some engineering courses in Malaysian universities....

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<tr>
<th>Institutions</th>
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<th>UNI B</th>
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<tbody>
<tr>
<td>Technical subjects, CH</td>
<td>107</td>
<td>112</td>
<td>122</td>
<td>118</td>
<td>115</td>
</tr>
<tr>
<td>Non-technical subjects</td>
<td></td>
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<tr>
<td>Language/communication skills, CH</td>
<td>6</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Malaysian studies/general studies including “Engineer in society”, CH</td>
<td>8</td>
<td>10</td>
<td>9</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Religious/Moral studies, CH</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>127</td>
<td>135</td>
<td>142</td>
<td>142</td>
<td>139</td>
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</table>

- Higher educational institutions by design provide language classes and technical communication courses to enhance engineering students written and oral communication skills.

- Malaysian education system also add religious education for Muslim students and Moral study for non-Muslim students during their learning years to “acquire” the knowledge rather than instilling the values.

- The need to focus more on technical skills is unquestionable as the ultimate aim of engineering education is to produce a competent engineer and less emphasis is placed on holistic personal development.
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Most of the religions in the world teach us to live with:

- civility
- responsible
- care
- selflessness
- kind

A holistic engineering program should comprise of imparting:

- scientific
- engineering
- communication
- technical knowledge
- plus managerial
- economics
- innovation

- Engineering education encompasses the concept of sustainable development where the development should consider the impact toward environment, society and economic.

- The decision making by engineers indirectly hinges on his/her ethos and moral values.

The term “humanities” is derived from Latin word “humanus” which means “human, cultured and refined”.

Creative, Innovative & Energetic.
The role of the leader’s spirituality in the leadership management skill will affect the overall performance of the organization.

Spirituality of a person is influence by his/her spiritual background and practice

- There is a correlation between leaders that practice his/her spiritual belief and overall success of his/her organization. 
  
  Laura Reave, 2005

- Majority of universally endorsed leader attributes may be considered to be associated with spirituality, values and ethics: positive, trustworthy, just, win-win problem solver, encouraging motive arouser, communicative, excellence oriented, confidence builder, honest, dynamic, team builder, motivational dependable. 
  
  Den Hartog, 1999

- A spiritual person also views the work as a “calling” to serve God and humankind and not just a job or career.

- Spiritual teaching also urges one to treat others with love and compassion, showing respect, demonstrating fairness, expressing caring, listening tentatively and appreciating other’s contribution.

- A spiritual person exhibit humility and recognise his/her strength and limitations, respect others’ contribution to the organisation.
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Comparing engineers and non-engineers for innovation and development, the findings indicate that engineers are more:

- introverted
- intrinsically motivated
- flexible
- creative
- analytical
- tough minded

It also indicates that engineers are lesser in personality traits such as:

- assertive
- emotionally stable
- resilient
- customer oriented
- optimistic
- emotionally resilient
Encourages critical thinking, openness and creativity…

- Include engineer contribution to society and application of sustainable development.
- Encourage students to conduct volunteerism project.
- Volunteers in orphanage homes, old folks home and fund raising for charity.
- Assisting in soup kitchen for homeless.
- Eg: Participation in river cleaning

**Subject discussion topics or assignment should include the religious perspective and contribution to society**
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Background of UNITEN...

1996..

- Tenaga Nasional Berhad was officially invited by the Minister of Education Malaysia to set up a private university

2014..

- Putrajaya (1997) and KSHAS campuses (2001)
- Putrajaya (483 acres) and KSHAS (168 acres)
- 11,403 students enrolment; 5% international
- 20,680 graduates
- 543 academic staff; 43% PhD; 5% international

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<td>9 Foundation Programs</td>
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<td>6 Diploma Programs</td>
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<th>College of Engineering</th>
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<td>5 Degree Programs</td>
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<th>College of Information Technology</th>
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<td>4 Degree Programs</td>
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<td>6 Degree Programs</td>
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<th>College of Graduate Studies</th>
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<tr>
<td>16 Master Programs</td>
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<td>4 PhD Programs</td>
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UNITEN approach to instill humanistic attributes via its academic curriculum and Islamic recitation of Al-Quran...

- The students will enroll in **tahfiz certificate** course while pursuing his/her engineering degree.
- The students are **encourage** to practice its religious teaching such as practicing obligatory prayers, volunteerism, and community service.
- Encourage the students to reflect on its **meaning**, **implication** and application.
- Lead to **purification** of the heart and mind of the young.

UNITEN together with National Religious Department of Wilayah Persekutuan Malaysia (JAKIM) initiated a program named “Tahfiz” or rote recitation of Al-Quran.
In 2011, UNITEN initiated a one year certificate course on Al-Quran rote recitation,

1. The course is assessed by Darul Quran JAKIM.

2. This program is a collaboration effort between Jabatan Kemajuan Islam (JAKIM).

3. The students will receive a certificate upon completion.

4. The course is offered to students who have completed minimum 25 ‘juzu’ or chapters of Al-Quran.

5. The course also provides the certified curriculum and assessment of the students.
**In order to widen the access to this program to more students,**

1. Offers the *tahfiz* course to **new students** who have never enrolled in any of *tahfiz* program.

2. The students are **selected** based on interest in **rote memorizing** of Al-Quran and exhibit **good character** during an interview.

3. The rote memorizing Al-Quran program is run **concurrently** with UNITEN pre-university program.

4. The “Tahfiz Engineering” students are also enrolled in Diploma in Corporate Islam course while **undertaking** their bachelor program.

5. The students will be **awarded** with both an **engineering degree** and an **Islamic-based diploma**.
**Tahfiz Approach...**

**Objective**

- To generate Muslim professionals that were taught based on pure science methodology and the concept of Islamic knowledge and curriculum comprehensively and holistically.
- By providing a conducive learning environment, the *tahfiz* students are able to understand and memorize Al-Quran.

**The ultimate aim...**

- To produce graduates that are knowledgeable, skilful and holistic.
The learning process…

- Daily recitation of Al-Quran before the academic lessons.
- The students will recite further the Al-Quran in the evening for two hours.
- The remaining time is for academic activities.
- Attending lectures and laboratory practices.
- Group work exercises and participating in sports activities.
- Required to perform voluntary work in community service.
- “Smart Prayer Camp”, “Professional Huffaz Camp’, “Huffaz mobility program” “Tadarus” and “Khatam Al-Quran”
- This program demands the students to be fully committed in their learning process and time management in their pursuit of engineering knowledge and spiritual knowledge.
- The program has been offered for three batches and the students’ achievement has been very encouraging.
The tahfiz students agree that this program has provided them with an opportunity:

- to learn to handle stress
- to focus and acquire time management skills
- to provide a deeper meaning of education and not just a process to acquire a paper qualification
- to be a technology-savvy cum religious/spiritual entrepreneurs or technocrat
- taught them the living skill as a religious technical person in a technical society
- to learn technical knowledge coupled with social science and management subjects.
- to become a holistic faith-based technocrat or entrepreneur propel them to shoulder and overcome the challenges
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Engineering education generally emphasize greatly in acquiring technical knowledge and soft skill in order to produce a versatile engineer.

It is imperative to educate engineers to have strong spiritual attributes that will guide her/him in making decision.

UNITEN recently introduced a Tahfiz Engineering program that combined the pursuit of spiritual knowledge and practice with engineering knowledge concurrently.

It is the hope of this Tahfiz engineering program that UNITEN will be able to generate a new group of engineering professionals that are strong in technical knowledge, communication skill and also humanistic skills.
Thank You

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