

IEM Log Book Training Scheme – Its Relevance and Effectiveness

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ACCORDING to The Institution of Engineers, Malaysia (IEM) Log Book Training Scheme Guidelines, the Log Book Training Scheme (LBTS) was established to provide proper practical training to graduate member engineers entering the profession. IEM also plays a role in ensuring that such training conforms to the rules and regulations concerning the admission of Corporate Members and towards allowing the graduate engineers to achieve the Professional

Engineers status with the Board of Engineers (BEM). Since the beginning of the LBTS, numerous graduate engineers have benefitted from the programme and have attained the status of Professional Engineers.

However, presently, there are some concerns pertaining to the relevance and effectiveness of the implementation of the LBTS from various aspects including producing sufficient numbers of qualified Professional Engineers to meet the nation's aspiration to become a developed nation, the response of young engineers and potential mentors towards the LBTS, and other related issues. To get a more objective review on these issues, *JURUTERA* conducted interview sessions with a few mentors of IEM LBTS from different fields of engineering, namely Y.Bhg. Datuk Ir. Prof. Dr Ow Chee Sheng, Past President of IEM for Session 2005/2007; Ir. Gunasagaran Kristnan, the 2013/2014 Executive Committee Member of IEM, Ir. Hj. Tunai Shamsidi bin Ahmad, Technical Director, Project Management Division of Minconsult Sdn. Bhd. and Ir. Ali Askar Sher Mohamad, Chief Operating Officer of Sustainable Energy Development Authority Malaysia (SEDA Malaysia).

THE RELEVANCE & EFFECTIVENESS OF LBTS

Ir. Ali Askar Sher Mohamad started to get involved in preparing engineers for the PI since he was a Training Manager at Tenaga Nasional Berhad (TNB) in charge of the development of training modules for engineers for specific training. Throughout his experience as Training Manager, he observed that most of the engineers had never sat for

the competency examination to become a Professional Engineer (PE).

"At that time, some of the very senior engineers in TNB were not even registered with the Board of Engineers (BEM)," commented Ir. Ali. He added, "Hence, I began to organise various workshops, collaborating with IEM, to raise awareness amongst the engineers of TNB about the importance of becoming Professional Engineers. These workshops were held throughout Peninsular Malaysia; central, northern, southern and eastern region." According to Ir. Ali, such initiatives had received a very positive response from the engineers of TNB. "Those who were eligible to sit for the PI went for it while those who were not eligible, took their first step, preparing themselves to pass the requirements to achieving PE status," said Ir. Ali.

"Many years ago, when young engineers joined an engineering consultancy firm, especially smaller firms, they were usually mentored by their superior, even though the official log book system did not exist then. As time went by, the engineering field made remarkable progress where more Multi-National Corporations (MNCs) were established. The superiors no longer had time to actually mentor their subordinates due to the increased staff size and the scale of business", explained Ir. Ali. "Thus, the IEM LBTS is a good way to ensure these young engineers acquire sufficient guidance from the mentors assigned by IEM. It is quite effective."

"In the past, I had been mentor to a number of engineers for companies that did not have a professional engineer the same discipline. For example, when Proton started, its engineers did not have mentors from the same engineering discipline. So, we started off by mentoring them. I was a mentor to a number of Proton engineers who subsequently became professional engineers," said Y.Bhg. Datuk Ir. Prof. Dr Ow Chee Sheng, sharing his past experience as a mentor.

He highlighted that LBTS is also a good way to assess the knowledge and skills of an engineer. "An engineer working in any industry should be able to demonstrate the application of his/her knowledge in producing the products or facilities for that industry and so forth, developing something from scratch, from the initial to the final stage. And all these can be tracked if clearly recorded in the LBTS" said Datuk Ir. Prof. Dr Ow, who is currently mentoring three young engineers in his faculty.

"If an establishment already has professional engineers (of the same discipline with the young engineers) within its organisation, then it would not be necessary to have the young engineers in this establishment to participate in the

LBTS, as the professional engineers there would be able to provide the necessary guidance and training to the young engineers," commented Datuk Ir. Prof. Dr Ow.

He added, "On the other hand, if an establishment is similar to the case of Proton as I have mentioned earlier, where it does not have any professional engineer within that establishment, this is where IEM comes into the picture to ensure the young engineers gain the necessary training and knowledge through the LBTS".

Ir. Gunasagaran shares the same opinion with Datuk Ir. Prof. Dr Ow. He said, "Actually, if a graduate engineer works in a firm that has a professional engineer with the knowledge in the same discipline, this graduate engineer can also personally adopt the approach of the LBTS as a measure to keep track of his/her work performance and experience, as long as the professional engineer in his/her firm is willing to offer guidance. Though unofficial, it is a good way to help this graduate engineer progress in his field of specialisation".

"However, presently many young engineers are assigned by their employers to work on tasks or projects without being given proper and sufficient training, and this has made them unable to cope with the tasks given to them," said Datuk Ir. Prof. Dr Ow. "Due to various limitations, sometimes young engineers have to work on a project that is less related or not-related to their field of studies, thus, in the long run, it will make them lose touch with their field of expertise, jeopardising their development as a competent engineer in that field".

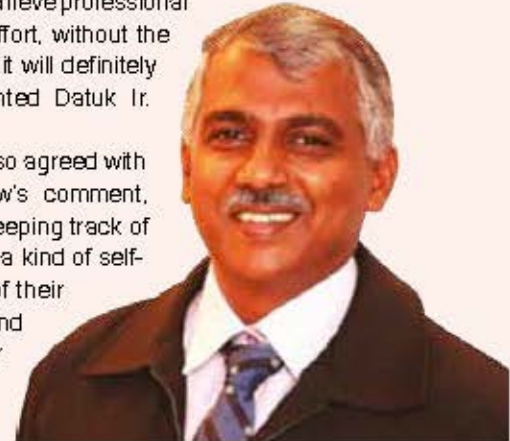
Meanwhile, Ir. Ali also pointed out that in today's work environment, multi-tasking is inevitable regardless of which engineering firms that these young engineers choose to join. They will not be solely working on their related field of engineering, but are also required to perform other field of works such as those involving IT, soft skills and so forth. "In such a scenario, only the engineers themselves can decide on the direction that they desire to take in their career and make every effort to pursue their desired goals such as attaining the Professional Engineer status and not merely blaming the external factors for hindering them," said Ir. Ali.

On this note, Ir. Gunasagaran shares the same opinion as Ir. Ali. "It is important for young engineers to decide what direction they want to take when they first enter the workforce, as they need to acquire an adequate amount of experience and exposure that are consistent with the discipline of engineering that they have studied and chosen to specialise in. The frequency of the mentor-mentee meeting is set at once every three months by IEM. However,

it is up to the commitment of both mentor and mentee to decide if they would like to meet up more frequently so that the mentee could progress better and a quicker pace".

"LBTS is good for young engineers in terms of guiding them towards their desired outcome. It makes the route to achieving the status of a professional engineer much shorter. If one tries to achieve professional status on one's own effort, without the guidance of a mentor, it will definitely take longer," commented Datuk Ir. Prof. Dr Ow.

Ir. Gunasagaran also agreed with Datuk Ir. Prof. Dr Ow's comment, "LBTS is one way of keeping track of their work experience, a kind of self-tracking assessment of their work experience and performance in their specific engineering discipline. It is more than a tool for the purpose of



*Ir. K. Gunasagaran
2013/2014 Executive Committee Member of IEM*

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- Ir. Ali Askar Sher Mohamad

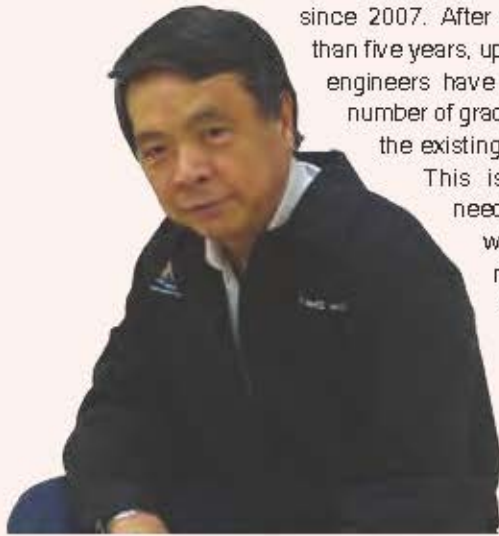
of becoming a professional engineer. It is a well-run system and it has been proven to help engineers towards becoming a professional engineer. However, to achieve that, commitment as well as unyielding determination and consistency from the mentees are crucial, as they are the ones who need to determine how good they want to be in their respective field of specialisation. With a clear direction, these mentees can then seek guidance and advice from their mentor to ensure that they do not sidetrack from their actual aim," said Ir. Gunasagaran.

However, Ir. Hj. Tunai Shamsidi seems to have a different opinion. "LBTS is a systematic way that lets the mentors assist mentees in preparing themselves to face the challenges of becoming a professional engineer. It helps young engineers to identify career plans. However, from my point of view, the current LBTS is not very effective in terms of the mentor-mentee ratio. The current LBTS has set a maximum of three mentees per mentor in a three-year mentoring duration. I participated in the LBTS as a mentor

passing the Professional Interview session. The participation of young or graduate engineers in the LBTS also allows them to develop their characters and attitude as well as work ethics in their chosen field along the way".

"In my opinion, the LBTS is effective in helping the young or graduate engineers to plan their way to reach their goal

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*Datuk Ir. Prof. Dr Ow Chee Sheng
Past President of IEM for Session 2008/2007*

since 2007. After mentoring for more than five years, up to present, only four engineers have passed the PI. The number of graduates is greater than the existing number of mentors.

This is a bottleneck that needs to be addressed, if we aspire to have more professional engineers," commented Ir. Tunai Shamsidi.

Ir. Hj. Tunai Shamsidi further elaborated, "In a nutshell, the objective and concept of LBTS are good, but the execution has its

limitations. I suggest that IEM reviews the implementation of the LBTS so that it can benefit more young engineers in the long run.

Ir. Hj. Tunai Shamsidi also urged IEM to review whether sufficient quality engineers or professional engineers are being produced to meet the demand of the industry. "Developed countries, for instance Japan, are producing a certain number of graduate and professional engineers annually who are usually well-recognised for their competency in the engineering field, both locally and internationally. Hence, in line with our aspiration to becoming a developed nation, are we producing sufficient quality engineers, especially professional engineers to meet an increasing demand in future? These are some of the concerns that we must look into," suggested Ir. Hj. Tunai Shamsidi.

RESPONSE TO LBTS

According to Datuk Ir. Prof. Dr Ow, whether or not the LBTS is well-received among young and graduate engineers depends highly on how LBTS is marketed. He pointed out that frequent job-hopping by some graduate engineers also hinders them from making progress towards achieving the status of Professional Engineers as there could be quite a hassle for them to keep track of their own performance in the LBTS. As a result, the response towards LBTS from young engineers is not so favourable.

Both Ir. Ali and Datuk Ir. Prof. Dr Ow also pointed out that busy work schedules of most Professional Engineers is one of the reasons why they are not keen to participate in the mentoring system.

Ir. Tunai Shamsidi highlighted another probable reason. "Certainly, the stringent peer review of IEM and the strict selection process of the PI panels are meant to maintain a standard quality of the selected panel members. However, this has also led to the scenario where we are outnumbered by the candidates, which is also a concern that needs to be dealt with".

HOW CAN THE LBTS BE IMPROVED?

"Instead of the young engineers merely reporting their involvement in the project assigned by their respective engineering firms where they work, the LBTS can be improved with some assignments of tasks in the related field of the young engineers, for instance, 2 or 3 relevant projects, so that the mentors can have a better assessment on their mentees and offer the required guidance accordingly to help them progress and acquire the necessary knowledge and skills that allows them to be better prepared for their PI," suggested Ir. Ali.

ASSIGN CO-MENTORS

"The mentors assigned by IEM are usually senior engineers who have lots of experience not only in their respective field, but also in other related engineering fields. So these mentors are basically very knowledgeable and are more than capable of advising these young engineers in their chosen field of engineering," said Ir. Ali. However, he also

suggested that a co-mentor be appointed in the case where the main mentor is unfamiliar with a certain part of the engineering works which requires a lot of knowledge from another more specific engineering branch that could be out of his field of expertise.

“In a nutshell, the objective and concept of LBTS are good, but the execution of the system has its limitations”

- Ir. Tunai Shamsidi bin Ahmad

GET MORE MENTORS

When asked about the limitation of the mentor-mentee ratio, Datuk Ir. Prof. Dr Ow replied, "There is no harm to increase the ratio of mentor to mentees by IEM. In fact, there should be more flexibility on the number of mentees that a mentor could have in the LBTS, as long as the mentor is able to cope with the mentoring tasks".

"The lack of publicity of the LBTS is also one of the reasons why the number of mentors is still quite low. It is necessary to initiate more marketing activities to promote the LBTS especially to encourage more mentors to volunteer," suggested Datuk Ir. Prof. Dr Ow. He urged more professional engineers, especially retirees, to participate as the LBTS mentors, as they would be able to allocate more time for the mentees as compared to those who are currently working full-time.

PROMOTING LBTS AMONGST YOUNG ENGINEERS

According to Datuk Ir. Prof. Dr Ow, in UITM, for the past few years, it was compulsory for their young engineering staff (TPMs) to attend a 1-year full-time training at any of their preferred company under the Vice Chancellor's (Y.Bhg. Tan Sri Dato' Sri Prof. Ir. Dr Sahol Hamid Abu Bakar) Special Project Scheme (VCSP) and to participate in the LBTS to record their training. Faculty staff requiring industrial experience and who were not able to attend training on a full-time basis, were advised to go through the training on a part-time basis until they had accumulated the required 1-year equivalent of training in a Career Roadmap introduced by the Mechanical Engineering faculty.

Ir. Hj. Tunai Shamsidi also highlighted that awareness on LBTS among young engineers should be raised. "They need to know why they should aim to become a professional engineer. What are the motivating factors that will excite them to choose the path to becoming a professional engineer?"



*Ir. Hj. Tunai Shamsidi Ahmad
Technical Director, Project Management Division
of Mimosconsult Sdn. Bhd.*

TECHNICAL DIVISIONS TO PLAY A MORE PROACTIVE ROLE

"The response to IEM's initiative to get more qualified professional engineers to participate as mentors has been less than favourable. That could be due to the busy work schedules of these professional engineers. In order to increase the number of mentors, perhaps every technical division of IEM could play its role in acquiring more mentors for the LBTS, as the divisions

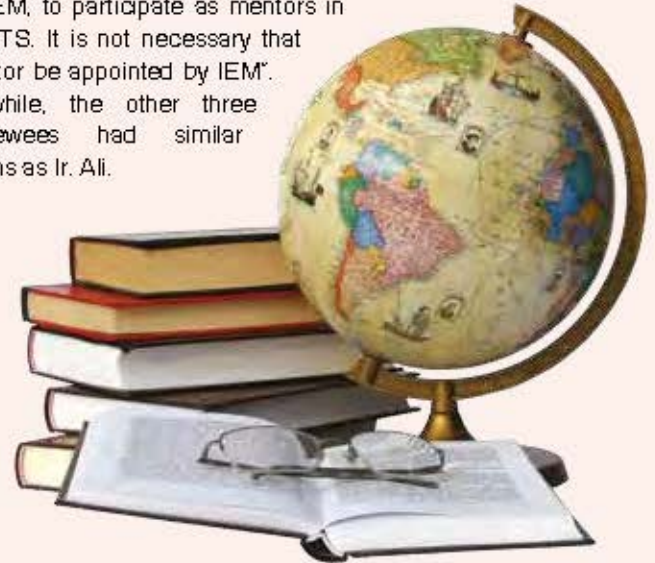
have access to contacts of engineers who are qualified to become mentors," suggested Ir. Ali.

He also suggested that certain points be rewarded to motivate the committee members of the technical divisions to be more actively involved in acquiring more mentors for the LBTS. Ir. Hj. Tunai Shamsidi agreed with Ir. Ali on the roles of technical divisions in capturing the attention of more professional engineers in their respective field to participate as mentors in the LBTS.

PI CANDIDACY: OPTIONAL VS. PRE-REQUISITE

Pertaining to the question making PI candidacy a pre-requisite for all graduate engineers, Ir. Ali answered, "If we want it to be a pre-requisite, we must first determine whether or not IEM has enough mentors to implement it. To make the PI a pre-requisite for all graduate engineers, perhaps

IEM can consider allowing engineers with the status of professional engineers from organisations other than IEM, to participate as mentors in the LBTS. It is not necessary that a mentor be appointed by IEM". Meanwhile, the other three interviewees had similar opinions as Ir. Ali.



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- Ir. Gunasagaran Kristnan

CONCLUSION

When all's said and done, all the interviewees agreed that LBTS is still an enabling tool that IEM provides to both the employers and young engineers that benefits not only the engineers but also the overall industry, if the professional engineers and young engineers are willing to be more proactive in their involvement in the LBTS, and if issues related to the execution of the LBTS including the mentor-mentee ratio, promotion of the LBTS, and selection of the PI panels are addressed accordingly by IEM.

In a nutshell, the interviewees urged IEM to review the concerning issues and to constantly come up with ideas or solutions to overcome or at least minimise the impact of these issues in order to implement the LBTS more effectively and help more graduate engineers achieve Professional Engineers status. ■