

Academic Leadership and Pedagogical Strategies in Malaysian Polytechnic for 21 Century

¹Hanipah Hussin, ²Aliza Che Amran, ³Mohd Ariff Mat Hanafiah,
³Fadzilah Salim, ³Adlan Ali, ⁴Gede Ananta Pramudya, ¹Mohd Razali Yunos
⁴Noorayisahbe Mohd Yaacob and ⁴Mustafa Musa Jaber

¹Center of Language and Human Capital Development,

²Center of Teaching and Learning,

³Faculty of Engineering Technology,

⁴Faculty of Information and Communication Technology, University Teknikal, Melaka, Malaysia

Abstract: Malaysian Polytechnics are read aloud rethinking academic leadership and professional training of academic staff through MOHE Strategic Plan from 2007-2020. Academic leadership in technical based is importance to enhance and address their pedagogical issues. The statements of the problem is entire Malaysian polytechnics have to full fill the malaysian polytechnics national agenda during the second phase (2011-2015). Where all academic staff from technical based, need to boost and reinforce their pedagogical strategies and technological instrument in order to convey Malaysian Polytechnics in to a regional and global exceptional institution in future. The aim of this study are to examine the planning, implementation, the technical content knowledge, learning ability, the usage of the instrumentation to boost learning, the reflective practice among academic staff, attitude toward technical teaching and learning and their leadership and professionalism behavior. Methods in this study performed two qualitative and quantitative studies. First, at the beginning, there are 120 academic staff from Federal Land Development Authority (FELDA) generation volunteer in this study and 30 Polytechnics from entire country in Malaysia participated in nationwide surveys. The objective of the survey is to ponder the phenomena and the categories of the problem in teaching and learning. Second, for the qualitative, this study used in-depth interview and participatory dialogue in group interview. The 21 informants with academic leader strengthen data qualitative to be triangulated. About 8 categories and 35 items on teaching and learning from pilot study were used and through Rasch Model the reliability value was 0.96. Finding shows that about 5 categories have been the best practices in teaching and learning among academic staff in Malaysian Polytechnics. There are some barriers to effective Malaysian Polytechnics academic leadership in strategies their pedagogical environment, data shows that 3 categories have been under effective and need more training to address matters such as planning for teaching and learning in Outcome Based Education (OBE) to be a practitioner on reflective practice and doing Continue Quality Improvement (CQI) after teaching and learning. Academic leader in Malaysian Polytechnics need to have knowledge about professionalism in teaching and learning and how to be a leader in technical field. For Discussion, effective academic leadership in teaching and learning in Malaysian Polytechnics is in hampered by centralization on curriculum design, conservativeness on teaching and learning, lacking of self knowledge about leadership in teaching and learning. They also are deficient in their career path. For conclusion this study proposed in service training, enhance faculty members to plan some OBE skills, evaluate the reflective practices and CQI, last, self-involvement in participatory decision making within department and also develop a networking with technical based universities.

Key words: Academic leadership, teaching and learning, reflective practice, pedagogical, teaching, professionalism

INTRODUCTION

Malaysian Polytechnics has been committed to transform into human capital development through MOHE Strategic Plan from 2007-2020. Academic leadership in technical based is importance to enhance and address

their pedagogical issues in teaching and learning. In year 2011-2015 Malaysian Polytechnics enhance teaching and learning in order to be the first medium for Malaysian youth committed in professional body in technical based so that they can be a champion and plan for higher income by 2020.

Corresponding Author: Hanipah Hussin, Center of Language and Human Capital Development, University Teknikal, Melaka, Malaysia

In this case, they are almost 265 lecturers in 30's Malaysian Polytechnics come from Federal Land Development Authority (FELDA) generation background. Some of them are an expert group in TVET. They are also claimed as a successful icon in rural area who appointed as a lecturer in technical and engineering based and 99% of them are Malays ethnic who now responsible in teaching leadership in order to generate more numbers that successful from FELDA generation in technical and engineering field. Recently issues academic leadership among Malaysian Polytechnics become breathtaking because Malaysian Vision 2020 only left 5-6 years to be accomplished. TVET was often disregard as a significant player in academic orientation and those statement has been slowly discarded since many are aware that TVET are the best providers of knowledgeable and skilled workers in the 21st century. Brennan also suggested leadership and leaders are the pursuers of TVET successfulness. In particular, leaders are expected to be responsible for the branding defend faculty right to speak controversial issues, shape the direction of institutions responsible for research enterprise and keeping up with academic activities and bring the transformations (Ahmad, 2015). The ability of leadership is become a key component of an organization, management and administration of educational organizations and systems to application new innovation in teaching and learning. This concept is consistent with the learning system that can affect TVET students to improving their understanding. This skill can help TVET student to enhancing the creativity and innovation of students from the context of the application of technological innovation in the production of active learning, especially in practice of hands on (Hassan, 2015).

Statement of the problem: During the second phase (2011-2015) the entire Malaysian polytechnics have to full fill the National Agenda where all academic staff from technical and engineering based, need to boost and reinforce their pedagogical strategies and technological instrument in order to convey Malaysian Polytechnics in to a regional and global exceptional institution in future.

Aim of the study: The overall aim of the research underlying this study was to explore teaching leadership needs among Malaysian Polytechnics academic staff that basically came from FELDA generation.

Research questions: The specific research questions in this study are to examine the ability in practicing Outcome Based Education (OBE) approach. There are 8 categories in teaching leadership scrutinize in this study such as does academic staff involve in planning OBE objectives for lesson plan? Does OBE implemented in the classroom?

Does Technical Pedagogical Content Knowledge (TPCK) practiced? How about the students participation in OBE classroom,? Does Teaching adds used as the instrumentation to boost learning,? Do they take reflective practice as Continue Quality Improvement (CQI) tools? How about academic staff's attitude toward technical teaching and learning and also Do they attentive on their teaching leadership and professionalism behavior?

Academic leadership: Fundamental point of views, academic leadership should be considered as complementary system of actions with two distinctive focuses: one dealing with changes, future and uncertainty and the other concentrating on routines, commands and short-term predictability. Remsden (1998a). However, according to Bikmoradi, academic leadership includes chancellors and boards of trustees at the middle are deans of faculties and heads or chairs of departments in different disciplines and at the line level are faculty members such as academic leaders of teaching research and services. Another point of views is Bikmoradi, through his thesis on exploring academic leadership in universities in Iran affirmed that academic leadership is normally recognised based on academic expertise and credibility, character and attitude (personal qualities), exposure and experience.

In Malaysia, MOHE context, Zaini Abdullah and Norzaini Azman through their studies on succession planning practices in Malaysian Public Universities claimed that a well conceived holistic understanding of what academic leadership entails may reduce role tensions and status and power-seeking activities that tend to exist when top management leadership positions in universities are considered the optimal pursuit of many Malaysian academics. Secondly, a well conceived rounded path for academic leaders will encourage Malaysian academics to build their expertise and leadership in teaching, research, public services and management, all of which will be regarded as making valuable contribution to academic leadership.

From that particular review this study agreed that in the academic environment, there are three distinct types of leadership, teaching leadership, research leadership and public leadership or scientific community leadership. Academic leadership differs from management leadership in that an academic is considered a 'leader without authority and leadership is based on credibility and the acceptance by peers and knowledge-based community. Although an individual academic can qualify for all three types of leadership, usually most academics excel in one or two types of academic leadership. In all types of leadership, the main emphasis is placed on the quality of performance and accomplishments since reputation as an academic leader in academia is acquired through excellence. Therefore, academics are expected to perform

their roles in accordance to the highest standards and to reach the highest achievement possible in order to promote academic leadership and institutional reputation.

Literature review on why academic leadership is the issues for Malaysian polytechnics? Teaching leadership can be defined as the capability and credibility in teaching practice. Teaching practice consists of teaching undergraduates, post-graduates and supervising research students. This is the fundamental duty of an academic. Teaching leadership involves bringing new ideas into one's teaching and supervision whilst inspiring and creating interest among students to advance new knowledge. Teaching capabilities and skills must be based on the highest knowledge and expertise in a particular discipline/sub-discipline which is developed through research and continuous engagement with students. Ultimately, a mature teacher/lecturer who is a teaching leader would be a suitable candidate to take on the responsibility of leading and managing a teaching program, a department in a school or faculty.

They were some study on teaching leadership carried by lecturer from Malaysian Polytechnics. Nik Azida bring the issues on how to transfer mindset on changes and innovation in teaching while according to Wan Nooraini and Mohammed Sani, she claimed that identify issues for competent teaching personnel who are able to deliver quality education especially for three Malaysian polytechnics that selected as the nation's premier polytechnic). The Malaysian Ministry of Higher Education (MOHE) has the target that premier polytechnics will encourage the disguise of information, development and innovation applications. In that capacity to suit these progressions, polytechnic technical lectures need to cultivate an eagerness to take an interest in expert advancement programs and participate in professional development program.

Latest researches by Yusmarwati Yusof in their study on technical instructor certified that outcomes support much a significant part of the past exploration in approving capabilities required by technical instructors. A comparable investigation was led by Simandjuntak in his studies on skills of professional and technical teachers in Indonesia. According to Olson, he claimed that other researchers reported similar results and were in agreement that these competencies were necessary and should be possessed by technical instructors (Coyner and McCann, 2004; Gauld and Miller, 2004; Toglia, 2004; Kagaari and Munene, 2007). Similarly, polytechnic technical lectures also perceived all the 38 items representing the

general competency scale to be important. Discoveries by Idris *et al.* (2007) reported comparative results. Therefore the things speaking to the English dialect viewpoint were finished up to be required by these polytechnic technical lecturers. The outcomes likewise uncovered that the mean score for expert competency was higher than general competency. In any case, both expert competency and general competency showed that the level of significance was the most elevated, trailed by the level of learning and the level of execution. The results demonstrated that in spite of the fact that the technical lecturers were in ascension that both sorts of abilities were essential, their level of information and execution of these capabilities were not on a standard with the level of significance.

Study done by focuses on teachers desires and difficulties to perform active teaching practices in faculty on technical and vocational education at Universiti Tun Hussein Onn, Malaysia. Their studies concentrates on teaching approaches that are currently implemented at polytechnic level and the surrounding the choice of those approaches. It is reflects on teachers teaching practices and their passion to their career and teaching conventions that they wanted to utilize. The point of this study is to investigate and consider angles/figures that affected their teaching practices which by indirectly give impact on students academic performance and competencies. As indicated by Hussin (2010), other than every tasks, lecturers need to remain the standard grade and achievement to show a good reputation of each learning organization which is one of the way of life that reflect to the lecturers teaching practice.

According to Kamaruddin and Ibrahim (2010) she claimed that using a survey questionnaire, among 401 technical lecturers from five Malaysian polytechnics participated in their study on distinguishing the capabilities required by Malaysian polytechnic technical lecturers based on the level of significance of every competency. Utilizing an inconsistency investigation, the study aimed to identify the lecturer competency consists of professional competency and general competency (English language proficiency). The exploration on both competency dimensions was based on the level of importance, the level of knowledge and the level of performance of these competencies.

In general, it is difficult to manage such a large organization comprising many field and disiplin of technical and engineering in polytechnics (Ramsden, 1998a, b). The situation of teaching leadership is exacerbated by human capital problem such as charismatic, integrity and professionalism.

MATERIALS AND METHODS

This study performed two quantitative and qualitative studies. At the beginning, there were 120 academic staffs from Federal Land Development Authority (FELDA) generation who are volunteered in this study. Unfortunately only 93 volunteered and fill the questionnaire with full accountability. All of them came from 30 Polytechnics from entire country in Malaysia and participated in nationwide surveys for informant profile development. The objectives of the survey are to consider the phenomena and the categories of the problem in teaching and learning in Malaysian polytechnics.

Second, for the qualitative, this study used in-depth interview and participatory dialogue in group interview. The 21 informants with academic leader strengthen data qualitative to be triangulated. About 8 categories and 35 items on teaching and learning were identified according to Malaysian Higher Education Framework (MQF). From the pilot study and through Rasch Model, the reliability value in teaching and learning items was 0.96. The informants make an effort for suggest some continue quality improvement and training need analysis. Training module developed after Phase 1 (report and profile) and the training module was implemented at the end of the research period. This indicator that this research group members were accomplished Continues Quality Development (CQI) in order to manifest the teaching leadership to all Malaysian Polytechnics academic staff from FELDA who were volunteer involved in this research.

RESULTS

The study and review of literature has enlightened the researchers in understanding more deeply the concept of teaching leadership and it phenomena among Malaysian Polytechnics academic staff from FELDA generation.

Figure 1 show that only 20% respondents have >10 year experiences and 7.8% have 15 year experiences. Only 2.7% have experience >20 year experiences. Data affirmed that >70% lecturer in Malaysian Polytechnics were young (62.2% of them are about 30-39 year old). Some of them start their teaching profession in polytechnics after have experiences from some industries so, it is nature for some of them just have experience <5 year experience in teaching technical based.

This study recognize lecturers who involved in this study who came from FELDA generation are young and

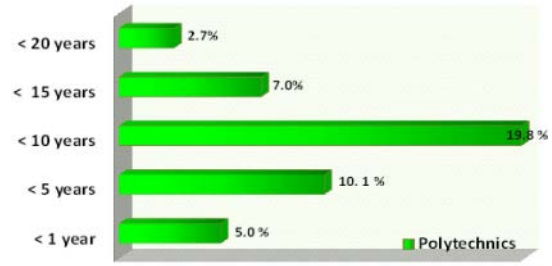


Fig. 1: The percentage of teaching experience in Malaysian polytechnics by academic staff from FELDA generation

need more time and challenge in order to develop teaching leadership. This argument support by another research done by Joan from Kota Kinabalu, Sabah, he stated that basically, OBE curriculum is well designed, the question is are the lecturers ready for the changes? Secondly are the lecturers competences to teach and incorporate the learning domain and generic skill (as required in the OBE curriculum) in their lesson? Since there is a limited information base that policy makers can draw from the education reform/curriculum changes implementation process, therefore there is an urgent need for research that focus on the education reform/curriculum change implementation process in order to improve our knowledge on the actual processes of changes. Ali Bikmorandi in his study teaching and research leadership in Iranian medical institution stated that leadership of teaching and researched should be strengthened by role models and role models always happened among experts in the particular field.

Academic leadership: The findings from the survey have been categorized into the following major research questions.

- Does academic staff involve in planning OBE objectives for lesson plan?
- Does OBE implemented in the classroom?
- Does Technical Pedagogical Content Knowledge (TPCK) practiced?
- How about the student's participation in OBE classroom?
- Does teaching aids used as the instrumentation to boost learning?
- Do they take reflective practice as Continue Quality Improvement (CQI) tools?
- How about academic staff's attitude toward technical teaching and learning?

Table 1: Teaching and learning category compliance by Malaysian polytechnics academic staff from FELDA generation

| Teaching and learning categories | Min | SD |
|---|------|------|
| Does academic staff involve in planning OBE objectives for lesson plan? | 3.65 | 0.33 |
| Does OBE implemented in the classroom? | 3.80 | 0.29 |
| Does teaching Pedagogical Content Knowledge (TPCK) practiced? | 3.78 | 0.30 |
| How about the students participation in OBE classroom? | 3.81 | 0.38 |
| Does to teaching adds used as the instrumentation boost learning? | 3.76 | 0.32 |
| Do the take reflective practice as Continue Quality Improvement (CQI)? | 3.51 | 0.53 |
| How about academic staff attitude toward technical teaching and learning? | 3.90 | 0.24 |
| Do the attentive on their teaching leadership and professionalism | 3.69 | 0.42 |
| Overall min | 3.74 | 0.24 |

- Do they attentive on their teaching leadership and professionalism behavior?

Table 1 shows 8 categories of teaching leadership. This study found that there are 5 categories have been meeting the item and comply (above overall min score 3.74) in teaching and learning among academic staff in Malaysian Polytechnics from FELDA generation. Categories such as implementation of OBE (3.80), the delivery of TPCK (3.78), student's participation in OBE classroom (3.81), teaching adds used as the instrumentation to boost learning (3.76) and have right attitude toward OBE system in teaching and learning (3.90). This finding shows that some effort and time consuming in OBE curriculum reformation has been happened in order to translate OBE in to classroom reality.

This finding also indicate that although Malaysian Polytechnic academic staff from FELDA generation are young and less experiences but manifestly the antecedent of the curriculum change to gain insight into the understanding and experience of the implementation process (transaction) and to identify the outcomes of the curriculum change.

On the other hand, Fig. 2 above show clearly (in red color) that there are 3 categories are not meet the item or not comply (under overall min score: 3.74) to teaching leadership. This study found that Malaysian Polytechnics academic staff from FELDA generation state that they less competence (3.65) when involved in OBE and developed objectives for daily lesson plan. Second they state that they have not comply (3.51) to teaching leadership when they do not take reflective practice as Continue Quality Improvement (CQI). Last, they state that they have less considerate (3.69) and understand on their teaching

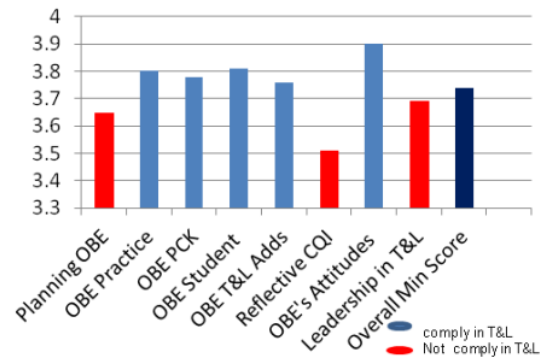


Fig. 2: Items comply and not comply in teaching and learning by Malaysian polytechnics academic staff from FELDA generation

leadership and professionalism. The challenges for polytechnics in implementing the OBE curriculum are not just in adopting the new curriculum content but it is also an overall change of the organization working and social system and adaptation process of the traditional education process, system, belief and philosophy towards OBE principles.

Addressing challenges facing teaching leadership: There are some reasons why they want to involve and commit to develop learning outcome in daily lesson plan. Although, the learning outcomes are provided from centralizes system from Polytechnic Division in Ministry of Higher Education (MoHE) at Putrajaya, they still want to learn how OBE learning outcome has been developed. In addition, the key personal send by the department are some time not capable in knowledge transfer and in house training also need experts to deal with. This is unreasonable for some cases and for many reason they don't follow the OBE lesson plan and without close supervision in teaching and learning, planning OBE learning outcome only stated in a module and ISO file. Some of them admit that, Students Centered Learning (SCL), Problem Based Learning (PBL) approaches and the integration of generic values during implementation slots, sometimes fail to be recorded and documented because there are so many thing to record on paper then they have less time for coaching students in the classroom. They preferred teaching in the classroom rather than writing some reports and fill in all rubric which compulsory in OBE system. According to the results of Phase 1, Profiling and survey on teaching leadership is confronted with complicated challenges which this study summarized into three categories related to involvement in planning for OBE learning outcome, reflective practice for CQI in

Table 2: Training need's in addressing challenges facing teaching leadership T and L

| catagories/teaching field | Engineering | TVET | ICT | Training need's (%) |
|---|-------------|------|-----|---------------------|
| Does academic staff involve in planing OBE objectives for lesson plan? | 26 | 9 | 3 | 40.8 |
| Does OBE implimented in the classroom? | 10 | 3 | 1 | 15.0 |
| Does Technical Pedagogical Content Knowledge (TPCK) practiced? | 20 | 6 | 4 | 33.2 |
| How about the students participation in OBE classroom? | 11 | 2 | 0 | 14.0 |
| Does teaching adds used as the instrumentation to boost learning | 10 | 8 | 5 | 24.7 |
| DO the take reflective practice as Continue Quality | 24 | 14 | 2 | 40.0 |
| Improvement (CQI)? How about academic staff 's attitude toward technical teaching and learning? | 4 | 4 | 0 | 0.80 |
| Do the atteniyve on thier teaching leadership and professionalism? | 15 | 10 | 0 | 26.8 |

teaching and learning and last attentive on teaching leadership and professionalism (Table 2). Result from training need analysis survey and group interviewed stated that the percentage of training needs frequently required among academic staff (21 academic staff from FELDA generation) in engineering field TVET and ICT. They want to have more training in developing learning outcome in OBE (40.8%), they want to competence in reflective practice for CQI (40%), they want training in practicing TCPK in the subject matter (33.2).

According to Joan Wang Yee Juen with the new curriculum, lecturers are required to make great changes in preparing the lesson plan; adopt new teaching and learning instruction and approach, innovation in assessment and evaluation strategy and method, practice reflective writing (Hussin, 2010) on CQI and most of all academic staff are require being competence to incorporate and promote the learning domains and generic skills in the teaching and learning process. Much of this research project required extra time, energy and effort from the academic staff side in order for it to be materialize. The question is are the Malaysian Polytechnics young academic staff from FELDA generation ready for the changes?

Some literature (Ramsden, 1998a, b), stated in his study finding that to stimulate effective teaching leadership in planning, reflective and encourage professionalism, it is importance to engage in sharing knowledge and share vision, goals and strategies to establish collaborative and transformational leadership among department, to help department development with fair and effective reward system according to time and appropriate feedback, to increase meritocracy, to gain sufficient autonomy and authority to direct recourses towards the achievement of overall objectives of technical education and finally to have document-based strategies

and plan. According to Kamaruddin and Ibrahim (2010). Hence, there was a need to determine the competencies that could be enhanced by Malaysian polytechnic technical lecturers. Professional competency refers to the pedagogic aspects and instructional techniques that Malaysian polytechnic technical lecturers should engaging in learning communities and professional development activities: as life-long learners, teachers engage in a continuous learning journey by participating in processional development activities to enhance their roles. They also become part of planning and conducting professional development for others such as their peers and other staff. These engagements result in a clear manifestation of leadership skills in action (Suleiman, 2013). The study on professional competency was based on the Roberts *et al.* (2007) model and other related literature (Simandjuntak, 1984) (Toglia, 2004; Kaagari, 2007). Thus, there is a need to shift from the traditional roles that tend to revolve around passive managerial tasks to active leadership roles conducive to preparing instructional leaders in light of the change forces affecting schools and society at large.

DISCUSSION

Effective academic leadership in teaching and learning in Malaysian Polytechnic is in hampered by centralization on curriculum design, conservativeness on teaching and learning, lack of self-knowledge about meritocracy in career path and instability of management. The researcher in this study learned several lessons through this study that are worth sharing with others. Malaysian Polytechnics teaching leadership reform initiatives tend to capitalize on lecturers roles by providing them greater opportunities to enhance their teaching leadership. They play multiple roles and engage in various activities and functions that can be manifested in the polytechnic classroom and beyond. The manifestation of their expansive role can be seen when teachers serve in a wide range of capacities that include but not limited to the following

CONCLUION

Malaysian Polytechnics academic staff from FELDA generation have seriously take some initiative to collaborating with practitioners in the areas of teaching leadership: the partnerships between Malaysian Polytechnics and university technical provide great opportunities for academic staff to demonstrate their instructional leadership especially in the area of academic

staff preparation. Recent finding by Suleiman (2013) in California State Bakersfield and Yusmarwati state that lecturer play a key leading role in working with university faculty and supervisors, interns and professionals they invest an enormous amount of time and energy in various avenues of this endeavor. Therefore, this study suggest that engaging in reflective practice and action research to transform self as teacher (Hussin, 2004) will help intrinsic changes. Academic staff from FELDA generation in their classrooms are in strategic positions for cultivating and manifesting their leadership roles as action researchers to transferring their mindset for innovation in teaching and learning (Hussin, 2010).

REFERENCES

- Ahmad, H., 2015. Leadership in TVET for the 21st century: challenges, roles and characteristics. *Procedia Social Behav. Sci.*, 195: 1471-1476.
- Coyner, S. and P. McCam, 2004. Competencies of technical instructors and technical trainers: Validation of a postsecondary technical education program. *Workforce Educ. Forum*, 31: 210-217.
- Gauld, D. and P. Miller, 2004. The qualifications and competencies held by effective workplace trainers. *J. Eur. Ind. Training*, 28: 8-22.
- Hassan, N.F., 2015. Implementation of innovation to improving leadership skill of TVET student. *J. Educ. Pract.*, 6: 85-87.
- Hussin, H., 2004. *Learning to be Reflective: Malaysia Experiences*. Universiti of Pendidikan Sultan Idris Publication, Tanjung Malim, Malaysia.
- Hussin, H., 2010. *Reflective Teaching Innovation: Science and Engineering Fields*. Publisher University Technical Malaysia Melaka, Durian Tunggal, Malaysia.
- Idris, N., S.C. Loh, N.M. Nor, A.Z.A. Razak and R.M. Saad, 2007. The professional preparation of Malaysian teachers in the implementation of teaching and learning of mathematics and science in English. *Eurasia J. Math. Sci. Technol. Educ.*, 3: 101-110.
- Kagaari, J.R. and J.C. Munene, 2007. Engineering lecturers' competencies and Organisational Citizenship Behaviour (OCB) at Kyambogo University. *J. Eur. Ind. Training*, 31: 706-726.
- Kamaruddin, W.N.W. and M.S. Ibrahim, 2010. Lecturer efficacy, professional and general competencies of Malaysian polytechnic technical lecturers. *Proceedings of the Regional Conference on Engineering Education and Research in Higher Education*, June 7-9, 2010, Kuching, Sarawak, pp: 27-32.
- Ramsden, P., 1998a. *Learning to Lead in Higher Education*. Routledge, New York, USA.,
- Ramsden, P., 1998b. Managing the effective university. *Higher Educ. Res. Dev.*, 17: 347-370.
- Roberts, T.G., K.E. Dooley, J.F. Harlin and T.P. Murphrey, 2007. Competencies and traits of successful agricultural science teachers. *J. Career Tech. Educ.*, 22: 213-218.
- Simandjuntak, A., 1984. An analysis and assessment of professional competencies required by vocational and technical teachers in Indonesia. Ph.D Thesis, Ohio State University, Ohio, USA.
- Suleiman, M., 2013. A global context for instructional leadership: Implications for teaching and teacher preparation. *J. Teach. Teach. Educ.*, 1: 31-44.
- Toglia, T.V., 2004. An analysis of the instructor competencies perceived as needed by community and technical college automotive technology instructors teaching in manufacturer affiliated training programs and manufacturer affiliated technical trainers. Ph.D Thesis, University of New Mexico, Albuquerque, New Mexico.