

## *Participation Factors of Education Service Officers in Lifelong Learning*

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### **Abstract**

Lifelong learning needs to be practiced by education service officers (ESO) so that they remain relevant to the changing world of education globally. This study was conducted to identify factors that encourage and hinder the participation of education service officer's in lifelong learning. A total of 400 ESO was involved as respondents in this study. This study was a quantitative research that uses the survey method. Data were collected through feedback from the respondents using questionnaire. Quantitative data were analysed using the Statistical Package for Social Sciences (SPSS) software version 24.0. The results showed that the overall factors that encourage participation of ESO in lifelong learning (LLL) are at high level. Whereas the barrier factors that obstruct ESO participation in LLL are at a moderate level. The final analysis revealed all 31 items are suitable to measure the encouragement and barrier of participation in lifelong learning. This study can provide information for training centres and institutions to plan appropriate course and training that fulfil the needs of the ESO. Meanwhile ESO and schools' administration can take into account the barrier factors that hinder the ESO participation in LLL. At the same time, education service officers can plan their own learning using the information given.

Keywords: Lifelong Learning, profesional development, teachers

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## **Introduction**

Lifelong learning (LLL) has been linked to human capital development ever since. This is because according to Bostrom and Schmidt-Hertha (2017), LLL is associated with human capital as one learns and develops new skills that can be used in the workplace. Human capital development is a country's success in developing both economically and individually through LLL (Ministry of Higher Education Malaysia, 2011; World Economic Forum, 2017). In Europe, LLL has been seen as a way to raise human capital since 1919 after the first world war through a military education scheme by emphasizing the learning of lifelong adults (Field, 2001). However, LLL's discussion ceased until 1990 when a special body of government was in charge of decision-making and the position to formulate policies. In this regard, LLL is often discussed and even the European Commission has designated 1996 as the Year of Lifelong Learning in Europe (Gass, 1996). Through this conference, two (2) resolutions were made to promote the first LLL, to motivate individuals to engage in LLL and the second to enhance the role of institutions through education and training to develop LLL.

To the contrary, in order to promote LLL in Malaysia, the government emphasized the provision of facilities for the people to gain knowledge and improve their skills through the Third Plan (2001-2010) under the Eighth Malaysia Plan, 2001-2005 (8<sup>th</sup> Malaysia Plan, 1993). Through this plan, the formation of a knowledgeable society is through education by acquiring knowledge while increasing productivity through the use of ICT. However, the 8MP does not emphasize on how to develop individual involvement in LLL. As the emphasis is more on institutions in developing LLL through education and training, the LLL agenda is incorporated into the National Higher Education Strategic Plan (Ministry of Higher Education, 2007). Under this plan, it is the intention of the nation that LLL practices can be incorporated into Malaysian culture through institutions of higher learning (HEIs) (Ministry of Higher Education, 2007). As such, the plan also outlines several strategies for LLL into Malaysian culture. Among the LLL strategies are: 1. The infrastructure is enhanced so that lifelong learning becomes a tool for enhancing knowledge and skills based on interest; 2. Increase promotions to enhance community participation and awareness of lifelong learning; 3. Continuation and recognition of lifelong learning and 4. Financing support provided. This shows that the public's awareness and motivation to engage in lifelong learning is an important strategy.

To ensure this strategy is achieved, the Blueprint on Enculturation of Lifelong Learning for Malaysia (2011-2020) was developed with a list of activities and programs to be undertaken (Ministry of Higher Education Malaysia, 2011). In addition, the plan also addresses issues and challenges that need to be addressed in LLL. However, the plan emphasizes the functions and roles played by higher education institutions both public and private as well as other educational institutions such as community colleges that offer various training and skills. This makes the focus of LLL available only to those who are pursuing training and study at the institution level after graduation.

Recognizing the weaknesses in extending LLL does not cover all societies, especially those who have dropped out of school or who have not continued their studies after graduation, resulting in the need for comprehensive human capital development. This

is based on the report of the Eleventh Malaysia Plan (11MP) which states that community development is the development of human capital beginning in schools including students, students, teachers and educators. The plan also reports that the development of human capital is achieved by improving education delivery through improved access and quality education under the government transformation program (GTP) in line with the National Philosophy (FPK) aspiration (Economic Planning Unit, 2015). Therefore, in order to provide quality education, teachers must practice LLL because through LLL the teachers can improve themselves and their profession as envisaged in the Teacher Development Professional Development Plan (PIPPK) (Ministry of Education Malaysia, 2016). This shows the country's commitment to improving the quality of teachers as this quality improvement is prioritized in the Malaysian Education Development Plan through professional development (Ministry of Education Malaysia, 2012; Ministry of Education Malaysia, 2013).

The PIPPK urges teachers to take LLL as a practice by emphasizing the development of training and learning throughout their service. In line with what Khair said (Ministry of Education Malaysia, 2016), teachers need to increase their knowledge professionally so that they become more effective and relevant throughout their service (Ministry of Education Malaysia, 2015). It is also in line with a study conducted by Abdul Rahim Hamdan and Lai, (2015) that shows that teachers involved in developmental courses show effective teaching or effective teacher learning. This involvement is driven by various factors for the purpose of self-development (Ates & Alsul, 2012; Day, 2015; Jarvis, 2014) as well as the professional development (Aldridge & Hughes, 2012; Celebi, Ozdemir, & Elicin, 2014; Tikkanen, 2017). However, there are also circumstances in which learning and training are hindered by the obstacles inherent in both the institution and the self (Hovdhaugen & Opheim, 2018; Woonsun, 2014).

Based on this discussion, it can be concluded that in developing countries, human capital development is an important element to focus on. This development should start at the school level again through quality education. In order to ensure that quality education is provided, the quality of teachers is a priority. Quality teachers are those who improve their knowledge and skills in accordance with current changes. Therefore, ESO need to be involved in LLL. Therefore, a study was conducted to identify the factors that enable a person to engage in LLL.

## **Methodology**

This study was conducted based on past study readings that have shown that the factors listed prove to be influenced the involvement of education service officer (ESO) in LLL. Based on past studies, factors such as personal development (Aldridge & Hughes, 2012; Ates & Alsul, 2012; Celebi et al., 2014; Laal & Laal, 2012; Zhang, Parker, Koehler, & Eberhardt, 2015) and professional development (Celebi et al., 2014; Cetin & Cetin, 2017; Kim & Kim, 2015; Kramer & Tamm, 2017) are among the factors that influence one's involvement in LLL. In fact, the involvement of ESO's is also hindered by various obstacles (Hursen, 2014; Insteffjord & Munthe, 2017; Knipprath & De Rick, 2015; Manea, 2014; Woonsun, 2014). This suggests that these factors have been identified as factors that influence individuals' decisions to engage in LLL. Therefore the ontology of this study is positivism (Crotty, 2015). This is to get feedback from education service officials about their agreement on the

questionnaire used. Accordingly, a set of questionnaires was developed and adapted from Roger Boshier (Boshier, 1977). The 5-point scale questionnaire was distributed to education service officials and this indicated that respondents were not influenced by the researchers. This suggests that the epistemology of this study is objectivism (Crotty, 1998, 2015). Therefore, this study was conducted quantitatively.

### Population and sample

This study was conducted in Selangor, one of the 13 states in Malaysia. In fact, according to data released by the Education Planning and Research Division (EPRD) (2018), the number of teachers in Selangor is the highest in Malaysia at 61,987 people which is 14.71% of total teachers in Malaysia. Given that this state consists of 10 districts, the sample involved in this study represents the diversity of ESOs. The number of ESOs involved as survey respondents is at least 382 for the population size of 61,987 (Education Planning and Research, 2018) according to the Krejcie and Morgan (1970) sampling method. However, the sample involved was 400, so that the findings of the study could represent the whole population using the appropriate statistical tool (Slevitch, 2011).

The sampling method involved in sample selection is the random sampling method. This method enable all individuals in the population have the same opportunity to be chosen (Sekaran & Bougie, 2016).

### Validity and reliability

The validity test of the questionnaire was conducted to ensure that the questionnaire developed is measuring the stated constructs (Taber, 2013) using the techniques of a group expert (Fraenkel, Wallen, & Hyun, 2012). A total of 2 linguists who has 15 years of experience working with instruments translated the questionnaire into the national language of Malaysia namely Bahasa Melayu with back to back translation procedure (Brislin, 1986). The instrument consisting of 46 items was further examined by a group of 3 content experts using a 4-point scale (R. Lynn, 1986). The results of the expert evaluation showed that construct validity item (i-CVI) were equal to 1 for 25 items of encouragement factor. While 8 items with an i-CVI value of 0.67 were modified in terms of language fit. While item validity instrument (s-CVI) for this questionnaire was excellent because it exceeded the acceptance level above 0.80 which is s-CVI = 0.92 (Polit & Beck, 2006). Whereas the i-CVI and s-CVI for the all barrier factor item are 1. This item has been distributed to 250 education service personnel to increase observation power (Hair, Black, Babin, & Anderson, 2014). Only 23 items out of 33 items in the encouragement factor were retained and 8 of the 13 items in the barrier factor were retained after the exploratory factor analysis (EFA) was conducted.

The communalities value of the encouragement factor was high between 0.535-0.825, 4 factors with eigenvalues greater than 1 were found. This factor explained 71.96% of the total variance with 53.2% being ICT skills, 7.99% pedagogical skills, 5.76% problem solving skills and 5% onself. The Kaiser-Meyer-Olkin (KMO) value of the impulse factor was 0.94 and the Barlett test was also significant [ $\chi^2 = 4793.18$ ,  $p < .05$ ]. The communalities value of the barrier factor was also high between 0.5119-0.783 and 2 factors with eigenvalues greater than 1 were found. This factor explained 66.7%

of the total variance with 52.12% is institutional barriers and 14.65% is individual barriers. Whereas the KMO for the barrier factor was 0.82 and the Barlett test was also significant [ $\chi^2 = 969.69$ ,  $p < .05$ ].

A pilot study was conducted on 40 ESO to determine the reliability. The overall Alpha Cronbach value of this questionnaire was excellent (Taber, 2017) or very good (Pallant, 2016; Vierra, A., Pollock, 1992) with a value of  $\alpha = 0.933$ . Mean items ranged from 2.9 to 4.525 and standard deviations ranged from 0.505 to 1.165.

## **Conclusion**

### **Finding**

To measure factors that encourage ESO's to engage in LLL, twenty-three (23) items were evaluated and the findings divided the twenty-three (23) items into four (4) components namely ICT skills, problem solving skills, pedagogy skills and oneself. Based on the findings of this study, it can be concluded that the four components of the motivational factor are high. This explains that ICT skills, problem solving skills, pedagogical skill and oneself drive ESO's to participate in LLL.

This finding is similar to some other studies that have examined the factors of involvement in LLL. Among them, studies showed that one of the factors influencing engagement in LLL is skills enhancement (Aldridge & Hughes, 2012; Clain, 2016; Kaur & Beri, 2016). This explains that ESO's are engaged in LLL to enhance their skills. In fact, the demand for these skills also suggests that factors that contribute to LLL are based on Self-determination Theory that aims to improve one's competence through improving skills (Deci & Ryan, 2000; Ryan & Deci, 2002).

This is because engagement is driven by demands for ICT skills, problem solving skills and pedagogical skills. This shows that ESO's are motivated to engage in learning and training to improve their professional practice. The same finding was also stated by Abdul Rahim Hamdan and Lai (2015) who highlighted professional improvement through involvement in learning and training. The findings of this study are also in line with the intention of the Ministry of Education Malaysia for ESOs to constantly improve their professional practice through LLL as stated in the Malaysian Education Development Plan (Ministry of Education Malaysia, 2013) and Teacher Development Professional Development Master Plan (Ministry of Education Malaysia, 2016).

Aside from the skill factor, the factors that drive the involvement of ESO's are also due to oneself. This factor is similar to the studies by Ates and Alsal (2012); Laal and Laal (2012) and Laal, Laal, and Aliramaei (2014). This also explains that engagement in learning or training is an internal impulse that individuals feel for themselves. This finding is in line with the theory of self-determination by R. M. Ryan and Deci (2002) who described self-motivation as being motivated to engage in something.

The results showed that the education service officers mean rating on education service employee engagement was between 4.122 and 4.19. These overall mean values indicate that the encouragement factors of ESO's involvement in LLL are high and that the highest level is derived from problem solving skills components (Mean =

4.19), followed by pedagogical skills (Mean = 4.17), oneself (Mean = 4.123) and ICT skills (Mean = 4.122).

Based on these four components, problem solving skills are a key factor driving educational service ESO's involvement in LLL. Problem solving skills include organizational problems and problem solving related to the technology environment. Feedback from educational service officials indicates that problems exist in the organization due to low student identity, which makes it difficult to resolve. In addition, ESO's were found to be less motivated to engage in LLL due to ICT skills than any other skill factor. Feedback from education service officials indicates that ESO's do not want to be involved in LLL due to ICT skills whereas these are the currently much needed skills to enhance learning and facilitation.

In addition, the findings show that factors that hinder the involvement of ESO's in LLL are at a moderate level. To measure factors that prevent ESO's from participation in LLL, eight (8) items were evaluated and the findings divided the eight (8) items into two (2) components, namely institutional (structural) and individual barriers. The findings shown that both constructs are at a moderate level. This explains that the institution and the individual itself prevent ESO's from engaging in LLL.

The results showed that the overall barrier factors had a mean score of 3.34 and all constructs under this factor were in the simplest interpretation. The constructs with the highest score were the individual barriers (Mean=3.6), followed by institutional barrier with mean score 3.075. This finding shows that the barrier for ESO involvement in LLL is at a moderate level. It was found that ESO barriers to engaging in LLL were more than factor. These constraints include workload (OECD, 2017) due to time constraints and failure to manage assignments are hindrance for ESOs to engage in LLL (Woonsun, 2014). Both of these are barriers at the individual level which plays a role in motivating the ESOs. Given that these barriers are a factor that causes low motivation among ESOs, this has led to them being unmotivated to engage in LLL. In fact, ESOs are also hindered from participating in LLL due to lack of appropriate learning materials and appropriate trainings (Norfadzilah Abdul Razak, Noor Azlina Mohamed Yunus, Nini Hartini Asnawi, & Nor Lela Ahmad, 2014).

However, it is undeniable that the role of institutions also influences ESO involvement. The ESO argues that their previous negative learning experiences have made them reconsider continuing their studies and that this is an obstacle for them to engage in LLL, as it did in Belgium and Ireland (Arnason & Valgeirsdottir, 2015; Knipprath & De Rick, 2015). In fact, ESOs are also hampered from engaging in LLL as they feel that institutions do not provide sufficient guidance and information if they wish to engage in LLL (Norfadzilah Abdul Razak et al., 2014). Moreover inadequate information is also a barrier to ESO involvement in LLL (Desjardins, 2015; Kilpi-Jakonen, Vono de Vilhena, & Blossfeld, 2015).

## **Implications**

Accordingly, the findings of this study might help school administrators, the District Education Office and the State Education Department empower the education and training of ESO's as a way to enhance their skills and keep them relevant. This is in

line with the statement made by the Director General of Education Malaysia in his speech (Ministry of Education Malaysia, 2016). In addition, the findings highlight the role of institutions and training providers to play a more proactive role in furthering the involvement of ESO's in LLL. It indirectly achieves global goals for institutions to improve their role in Malaysia that has not been achieved since the resolution of the Lifelong Learning Year 1996 (Gass, 1996).

Some implications and suggestions are highlighted through the findings of this study. These implications and recommendations are expected to enhance the involvement of ESO's in LLL and avoid barriers to engagement. In addition, these implications and recommendations can also contribute to policy makers especially the ministries, Teacher Education Division (BPG), Aminuddin Baki Institute (IAB), Scholarship and Financing Division (BBP), State Education Department (JPN), Office of Education Education and training units at the school level in connection with this study. In this regard, the implications and suggestions of this study are to develop ESO's throughout the service.

### **Limitations**

Formal and informal involvement in LLL in this study was limited to 12 months before the study was conducted and the age of ESO's. Earlier studies showed that a survey conducted on one's involvement in LLL was 4 months before the study was conducted. However, according to Goglio and Meroni (2014) the 12-month period is more inclusive and tends to provide higher proportions because the likelihood of finding individuals who have participated in LLL in the previous 12 months. Thus throughout the survey each respondent measured their involvement in formal and informal learning for the 12 months before the study was conducted.

The age at issue was the age of the respondents involved as a sample of the study. Engaged in LLL consists of those who have exhausted their compulsory learning. Engagements according to Goglio and Meroni (2014) are those aged 25 to 64 who are involved in LLL. This is because, 25 years old is the boundary because it is the end of formal higher education. Meanwhile, the 64-year-old is the last of the European labor force. According to the OECD (2017), ages 25 to 64 are categorized into young adults and older adults who are productive age. However, for the purpose of this study the age of engagement is between 25 and 60 years. This is because according to the Services Circular Number 11 of 2011 (Public Service Department, 2011) the maximum retirement age for civil servants in Malaysia is 60 years.

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## References

- Abdul Rahim Hamdan, & Lai, C. L. (2015). The relationship between teachers' factors and effective teaching. *Asian Social Science*, *11*(12), 274–280. <https://doi.org/10.5539/ass.v11n12p274>
- Aldridge, F., & Hughes, D. (2012). *2012 NIACE Adult participation in learning survey*. Leicester.
- Arnason, H., & Valgeirsdottir, H. (2015). Why do people with little formal education not participate in lifelong learning activities? *Online Journal on Pedagogy and Education*, 1–16.
- Ates, H., & Alsal, K. (2012). The importance of lifelong learning has been increasing. *Procedia - Social and Behavioral Sciences*, *46*, 4092–4096. <https://doi.org/10.1016/j.sbspro.2012.06.205>
- Boshier, R. (1977). Motivational orientations re-visited: Life-space motives and the Education Participation Scale. *Adult Education*, *27*(2), 89–115. <https://doi.org/10.1177/074171367702700202>
- Bostrom, A.-K., & Schmidt-Hertha, B. (2017). Intergenerational relationships and lifelong learning. *Journal of Intergenerational Relationships*, *15*(1), 1–3. <https://doi.org/10.1080/15350770.2017.1260408>
- Brislin, R. W. (1986). The wording and translation of research instruments. *Field Methods in Cross-Cultural Research*, 137–164. <https://doi.org/10.1037/0022-3514.90.4.644>
- Celebi, N., Ozdemir, H., & Elicin, O. (2014). Studying level of awareness of teachers in terms of their lifelong learning skills. *Procedia - Social and Behavioral Sciences*, *116*, 2030–2038. <https://doi.org/10.1016/j.sbspro.2014.01.515>
- Cetin, S., & Cetin, F. (2017). Lifelong learning tendencies of prospective teachers. *Journal of Education and Practice*, *8*(12), 1–8. Retrieved from <http://ezproxy.lib.uconn.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1140623&site=ehost-live>
- Clain, A. (2016). Challenges in evaluating the EU's lifelong learning policies. *International Journal of Lifelong Education*, *35*(1), 18–35. <https://doi.org/10.1080/02601370.2015.1125395>
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Sage Publications. <https://doi.org/10.1017/CBO9781107415324.004>
- Crotty, M. (2015). *The foundations of social research : Meaning and perspective in the research process*. London: Sage Publications.
- Day, K. (2015). *11 ways Finland's education system shows us that "Less is more."*

Retrieved from <http://fillingmymap.com/2015/04/15/11-ways-finlands-education-system-shows-us-that-less-is-more/>

Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268.

Desjardins, R. (2015). Participation in adult education opportunities: Evidence from PIAAC and policy trends in selected countries, (August).

Economic Planning Unit. (2015). *Eleventh Malaysia Plan 2016-2020*. Kuala Lumpur: Percetakan Nasional Malaysia Berhad (PNMB).

Field, J. (2001). Lifelong education. *International Journal of Lifelong Education*, 20(1–2), 3–15. <https://doi.org/10.1080/09638280010008291>

Forum Ekonomi Dunia. (2017). *The global human capital report 2017: Preparing people for the future of work*. [https://doi.org/ISBN 978-1-944835-10-1](https://doi.org/ISBN%20978-1-944835-10-1)

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (Eighth). New York: McGraw-Hill.

Gass, J. R. (1996). The goals, architecture and means of lifelong learning (pp. 1–36). Luxembourg: European Communities.

Hair, J. F., Black, J. /Willia. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (Seventh Ed). Harlow: Pearson Education Limited.

Hovdhaugen, E., & Opheim, V. (2018). Participation in adult education and training in countries with high and low participation rates: demand and barriers. *International Journal of Lifelong Education*, 37(5), 560–577. <https://doi.org/10.1080/02601370.2018.1554717>

Hursen, C. (2014). Are the Teachers Lifelong Learners? *Procedia - Social and Behavioral Sciences*, 116, 5036–5040. <https://doi.org/10.1016/j.sbspro.2014.01.1069>

Instefjord, E. J., & Munthe, E. (2017). Educating digitally competent teachers: A study of integration of professional digital competence in teacher education. *Teaching and Teacher Education*, 67, 37–45. <https://doi.org/10.1016/j.tate.2017.05.016>

Jarvis, P. (2014). From adult education to lifelong learning and beyond. *Comparative Education*, 50(1), 45–57. <https://doi.org/10.1080/03050068.2013.871832>

Kaur, J., & Beri, A. (2016). Coping as a life skill for lifelong learning. *Man in India*, 96(5), 1366–1376.

Kilpi-Jakonen, E., Vono de Vilhena, D., & Blossfeld, H. P. (2015). Adult learning and social inequalities: Processes of equalisation or cumulative disadvantage? *International Review of Education*, 61(4), 529–546. <https://doi.org/10.1007/s11159-015-9498-5>

Kim, T. Y., & Kim, Y. K. (2015). Elderly Korean learners' participation in English learning through lifelong education: Focusing on motivation and demotivation. *Educational Gerontology, 41*(2), 120–135.  
<https://doi.org/10.1080/03601277.2014.929345>

Knipprath, H., & De Rick, K. (2015). How social and human capital predict participation in lifelong learning: A longitudinal data analysis. *Adult Education Quarterly: A Journal of Research and Theory, 65*(1), 50–66. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=cookie,ip,url,uid,shib&db=eric&AN=EJ1047987&site=eds-live%5Cnhttp://dx.doi.org/10.1177/0741713614561855>

Kramer, A., & Tamm, M. (2017). Does learning trigger learning throughout adulthood? Evidence from training participation of the employed population. *Economics of Education Review, 62*, 82–90.  
<https://doi.org/10.1016/j.econedurev.2017.11.004>

Laal, M., & Laal, A. (2012). Lifelong learning; elements. *Procedia - Social and Behavioral Sciences, 47*, 1562–1566. <https://doi.org/10.1016/j.sbspro.2012.06.862>

Laal, M., Laal, A., & Aliramaei, A. (2014). Continuing education; lifelong learning. *Procedia - Social and Behavioral Sciences, 116*, 4052–4056.  
<https://doi.org/10.1016/j.sbspro.2014.01.889>

Manea, A. D. (2014). Lifelong learning programs—an effective means of supporting continuing education. *Procedia - Social and Behavioral Sciences, 142*, 454–458.  
<https://doi.org/10.1016/j.sbspro.2014.07.648>

Ministry of Education Malaysia. (2012). *National education policy*. (Bahagian Perancangan dan Pendidikan Dasar Pendidikan, Ed.), Ministry of Education Malaysia (Third). Putrajaya: Kementerian Pendidikan Malaysia.

Ministry of Education Malaysia.. (2013). *Pelan pembangunan pendidikan Malaysia 2013 - 2025. Education* (Vol. 27). Putrajaya: Kementerian Pendidikan Malaysia.  
<https://doi.org/10.1016/j.tate.2010.08.007>

Ministry of Education Malaysia.. (2015). 21st Century Learning: Practice and Implementation in Schools. *Buletin Anjakan*. Retrieved from [http://www.padu.edu.my/files/Anjakan\\_Bil\\_4\\_\(2015\)\\_Final.pdf](http://www.padu.edu.my/files/Anjakan_Bil_4_(2015)_Final.pdf)

Ministry of Education Malaysia.. (2016). Master plan for teacher professional development (PIPPK). *Ministry of Education Malaysia*, 1–53.

Ministry of Higher Education. (2007). *Strategic plan of higher education: Beyond 2020* (First). Putrajaya: Ministry of Higher Education, Malaysia

Ministry of Higher Education Malaysia.. (2011). *Blueprint on enculturation of lifelong learning Malaysia 2011-2020*. (Bahagian Perancangan dan Penyelidikan, Ed.). Putrajaya: Perpustakaan Negara Malaysia.

Norfadzilah Abdul Razak, Noor Azlina Mohamed Yunus, Nini Hartini Asnawi, & Nor Lela Ahmad. (2014). Understanding self motivated learning toward formal lifelong learning education. In *Edulearn14: 6th International Conference On Education And New Learning Technologies* (pp. 5304–5311). Barcelona.

Organisation for Economic Co-operation and Development. (2017). *Education at a glance 2017: OECD indicators*. OECD Publishing, Paris.  
<https://doi.org/http://dx.doi.org/10.1787/eag-2017-en>

Polit, D. F., & Beck, C. T. (2006). The content validity index : Are you sure you know what ' s being reported ? Critique and recommendations, 489–497.  
<https://doi.org/10.1002/nur>

R. Lynn, M. (1986). Determination and qualification of content validity. *Nursing Research*, 35(6), 382–386.

Rancangan Malaysia Ke-8, 2001-2005. (1993), 518. Retrieved from  
[https://books.google.es/books?id=G4lt5aeHi\\_oC](https://books.google.es/books?id=G4lt5aeHi_oC)

Ryan, R. M., & Deci, E. L. (2002). 1 : Overview of self-determination theory : An organismic dialectical perspective. In *Handbook of self-determination research* (p. 470). Rochester, NY: University of Rochester Press.

Taber, K. S. (2013). *Classroom-based research and evidence-based practice: An introduction* (Second Edi). Los Angeles, California : SAGE.

Tikkanen, T. (2017). Problem-solving skills, skills needs and participation in lifelong learning in technology-intensive work in the Nordic countries. *Journal of Contemporary Educational Studies*, 68(134), 110–128.

Woonsun, K. (2014). Korean secondary school teachers' perception and need toward lifelong learning. *Procedia - Social and Behavioral Sciences*, 116, 3506–3510.  
<https://doi.org/10.1016/j.sbspro.2014.01.793>

Zhang, M., Parker, J., Koehler, M. J., & Eberhardt, J. (2015). Understanding inservice science teachers' needs for professional development. *Journal of Science Teacher Education*, 26(5), 471–496. <https://doi.org/10.1007/s10972-015-9433-4>

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