# TEACHERS' SELF-EFFICACY IN IMPLEMENTING A CULTURE OF TEACHING AND LEARNING INNOVATION

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***Abstract***

*Self-efficacy refers to an individual's belief in their capability towards executing behaviours necessary for specific performance attainments. Meanwhile, leadership is the action of leading a group of people or workers to complete the objectives and missions stated by an organisation or institution. Alternatively, innovation is a novel method, idea, product, or practice perceived as the new norm by an individual or other units of adoption. The purpose of this research was to identify the level of self-efficacy among teachers in Vocational College of different gender and different graduation status towards the implementation of innovation in the teaching and learning process. Thus, the research method utilised comprised a survey via a quantitative approach, while the instrument employed was a questionnaire consisting of 16 items, including demographic items. Purposive sampling was incorporated and teachers from five Vocational Colleges were involved in the data collection processes accordingly. The findings were processed using SPSS software (Statistics Protocol for Social Sciences). Results of the analytical calculations were expressed in terms of frequencies, percentages, mean values, standard deviation, and correlation. As such, Vocational College teachers were found to possess a high self-efficacy level (M = 4.10, s.d = 0.48) towards innovation implementation in the teaching and learning process. Henceforth, the results of this study can provide useful information to teachers for encouraging extensive efforts towards the implementation of innovation in the teaching and learning process.*

***Keywords:*** *Culture of Teaching and Learning, Self-efficacy, Teaching and Learning Innovation*

*Sent: 1 February 2023* *Revised : 13 March 2023* *Published: 30 September 2023*

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# EFIKASI KENDIRI GURU DALAM MELAKSANAKAN PEMBUDAYAAN INOVASI PENGAJARAN DAN PEMBELAJARAN

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**Abstract**

Efikasi kendiri merujuk kepada kepercayaan individu terhadap keupayaan mereka ke arah melaksanakan tingkah laku yang diperlukan untuk mencapai prestasi tertentu. Kepimpinan adalah tindakan mengetuai sekumpulan orang atau pekerja untuk menyelesaikan objektif dan misi yang dinyatakan oleh sesebuah organisasi atau institusi. Sebagai alternatif, inovasi adalah kaedah, idea, produk atau amalan yang dianggap sebagai norma baru oleh individu atau unit pengguna yang lain. Tujuan kajian ini adalah mengenal pasti tahap efikasi kendiri guru-guru di Kolej Vokasional yang berbeza jantina dan status tahap pendidikan ke arah pelaksanaan inovasi dalam proses pengajaran dan pembelajaran. Oleh itu, kaedah penyelidikan yang digunakan adalah pendekatan kuantitatif, manakala instrumen yang digunakan adalah soal selidik yang terdiri daripada 16 item, termasuk item demografi. Persampelan bertujuan melibatkan lima buah Kolej Vokasional. Hasil analisis dinyatakan dari segi frekuensi, peratusan, nilai min, sisihan piawai, dan korelasi. Analisis menunjukkan dapatan efikasi kendiri guru berada pada tahap yang tinggi (M = 4.10, s.d = 0.48) ke arah pelaksanaan inovasi dalam proses pengajaran dan pembelajaran. Justeru, hasil kajian ini dapat memberikan maklumat yang berguna kepada guru-guru untuk menggalakkan usaha yang meluas ke arah pelaksanaan inovasi dalam proses pengajaran dan pembelajaran.

***Kata kunci:*** *Budaya Pengajaran dan Pembelajaran, Efikasi Kendiri, Inovasi Pengajaran dan Pembelajaran*

*Sent: 1 February 2023* *Revised : 13 March 2023* *Published: 30 September 2023*

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## 1.0 Introduction

The Educational Development Master Plan 2013-2025 specifically emphasises innovation in teaching and learning towards achieving national education system excellence. The application of innovation is heavily reliant upon the systemic effectiveness to produce creative and innovative human capital. Accordingly, the use of innovation in teaching and learning processes is able to produce students exhibiting excellence and competitiveness at a higher level. Thus, teacher needs to plan and apply innovation in implementing efficient teaching and learning processes as its cultivation will further strengthen the processes in the classroom. Furthermore, cultivating innovation in teaching and learning can aid the efforts of fortifying the quality of teaching imparted in the bid to improve student academic performance or achievements. In turn, this will enhance the education system excellence and attain the education quality standards that always prioritise the elements of teaching and learning innovation.

Here, the real task championed by a teacher is to provide education and impart knowledge to students, as well as being responsible for building a balanced and harmonious individual in terms of their physical, spiritual, emotional, and intellectual in line with the National Education Philosophy (Ismail *et al*., 2015). However, it is not an easy task for an educator or teacher to carry out their essential duties if they do not have the confidence and trust in their own abilities. In particular, the authority and confidence in their self's ability to coordinate and carry out the behaviours required to meet specific goals or objectives and desired, especially in teaching and learning, are known as self-efficacy (Nawawi *et al*., 2016). An analysis carried out in Tennessee, by Jeff *et al*. (2015) has found that educators equipped with a high level of self-efficacy are able to give good commitment and cooperation to leadership management. They are also capable of improving student academic achievement up to 50 per cent compared to peers with a low level of effectiveness.

Innovation is the adaptation and improvement of existing thoughts and ideas that can provide unique added values and be used, utilised, and cultivated as a product or a form of service that is commercialisable (Haron et al. 2016). Innovations made to teaching and learning, meanwhile, denote a creative transformation in which new and innovative methods or ways are employed by teachers to achieve their teaching goals (Buntat, 2012). To this end, direct and indirect education both have been incorporated for a long time in Malaysia, involving education and training inside and outside the classroom alike. Regardless, rapid development of the information technology world also renders it necessary for the classroom curriculum to be given a new breath and imparted with innovation to produce products or students who are active, creative, able to think outside the box, dynamic, and highly motivated. This is attributable to traditional teaching and learning methods utilising chalk and blackboard, or better known as the chalk and talk method, that will easily bore students and fail to attract their attention due to their exposure to the use of latest and advanced information technology

### 1.1 Self-efficacy

Self-efficacy theory explains the level of individual confidence in their ability to perform specific tasks. The theory thus incorporates the concept of reciprocal determinism, which is the cycle of interaction between cognitive, environmental, and behavioural; it allows said individuals to adapt the environment in producing the necessary behaviours based on previous knowledge owned.

Bandura (1997) has stated that individuals with high self-efficacy are expected to work diligently despite being in distressing situations as opposed to those who are less confident in their own abilities. The expanded theory encompasses one's expectations of their ability to control individual activities, such as those involving their thoughts, feelings,

and behaviours. In particular, Schunk (1991) has discussed the manner in which self-efficacy plays an important role during academic learning. Therefore, the implementation and improvement of activities throughout the teaching and learning process are indirectly capable of increasing their motivation to learn and master the varying skills being taught.

Self-efficacy models typically recommend expectations of self-designated goals and self-efficacy to contribute to achievement. Moreover, efficiency can be a mediating factor for producing something, whereas self-efficacy is a reliable forecaster that increases the motivation of students' capabilities in carrying out activities. Due to the importance of achievement efficiency, this theory is heavily applied in areas such as education, human resource management, organisational behaviour, sports, health, and so on.

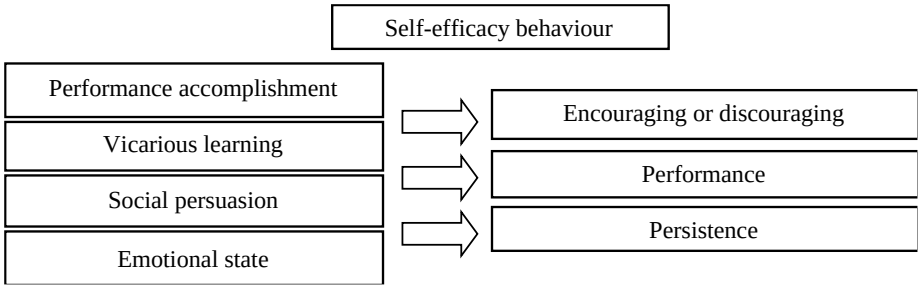


**Figure 1:** Self-efficacy model

The diagram above explains that self-efficiency behaviour is influenced by performance accomplishments, vicarious learning, social persuasion, and emotional state. Therefore, factors affecting self-efficacy pose an impact on direct response or avoiding subjects, whereby said impact is also seen in the achievements and diligence in the implementation and outcome of the support given on a subject.

In the original concept presented by Bandura (1997), self-efficacy is expressed as a benchmark in determining the behaviour to be performed by an individual. Personnel or individuals will work hard to achieve action and how long the action will last if faced with obstacles and negative experiences. Besides, Bandura (1997) has underlined the assumption that one's ability to succeed in a particular challenge will influence their actions and determination to carry out the challenge experienced. Here, an individual is able to control their behaviour by making assessments in advance and projecting about potential effects and impact despite yet having to experience a situation (Ibrahim *et al*., 2016). For example, a student has to study hard to achieve excellence in their exams; if they fail to do so, they will experience failure.

Regardless, self-efficacy is a personal assessment of one's abilities; in turn, it will influence their behaviour. According to Cocca *et al*. (2018), self-efficacy is a determining factor for performance success, whereby a low level is likely to prevent them from attempting a task despite knowing that its execution will bring the desired results. Thus, the expectation of self-efficacy is considered a cognitive determinant of an individual's attempt to perform a task.

## 1.2 Innovation

Innovation not only occurs in the field of technology and development, but it is also applicable in the field of education. Innovation in the latter field is often adapted during teaching and learning activities through the production of tools or teaching aids (Razali *et al*., 2010). In

general, teaching tools or aids aim to make it easier for students in understanding a concept easily and effectively through teaching and learning. According to Sumartini (2016), teaching and learning activities have now undergone a transformation in which educators no longer use the chalk and talk method. Instead, sophisticated teaching aids such as LCD projectors, media, and so on are implemented. Therefore, educators need to master computer skills and wield multimedia software such as PowerPoint, Flash, Movie Maker, and more. This statement is supported by the findings of Rudyanto (2018), whereby a positive and significant relationship is perceived between academic achievement and involvement in the field of creativity and innovation. The results further show that active student involvement in such culture will encourage them towards achieving good academic performance; they will be more motivated and enjoy seeing the results of their exploration through the innovation and creativity ideas implemented and cultivated.

However, teaching and learning innovation is not only used as a tool or teaching aid; it is also intended to be commercialised (Ismail *et al*., 2016). Competition typically encourage participation, which will then generate new ideas or products into a community for their global application. At the very least, such participation will build good and positive relationships among students and open a space for them to explore better ideas in the future. Nor (2016) has indicated that offering incentives to winners of an innovation competition is an element capable of encouraging continuous participation and involvement in the future. This will further develop the culture of innovation, especially among the younger generation, thus depicting its suitability for implementation for every age group and layer of society, whether in the field of Science, Technology, or Engineering, and Vocational.

Alternatively, Omar (2019) has found that transformation in the organisational leadership is important in promoting a culture of innovation and creativity. Here, individuals and organisations will be more excited to build such culture if the leadership is seen to understand and appreciate their doings. Besides, the study has highlighted higher individual motivation in mobilising innovative ideas if they are given attention and valued by the leadership. Similarly, leadership attitudes and tendencies in organising innovation ideas will help in creating a comfortable work environment, thus spurring behaviours centred on creativity and innovation in the organisation. Said notion is also supported by the findings of Aini (2019), whereby succeeding in an invention and innovation competition renders cooperation between the industry and educational institutions highly critical. Cultivating creativity and innovation is typically comprehensive in nature, whereby all spaces and angles across different aspects of life have used the term. Therefore, Malaysians must keep abreast with the global scenario: innovation and creativity will generate more challenging economic, social, cultural, and environmental of educational organisations. Cultivating said facet in an organised and consistent manner can supplement the national efforts into becoming a developed and visionary country.

Section headings (Heading 1 style) should be left justified, bold, with the first letter capitalised and numbered consecutively, starting with the Introduction. Sub-section headings (Heading 2 style) should also be in the same style as the headings, numbered 1.1, 1.2, etc, and left justified, with second and subsequent lines indented. All headings should have a minimum of three text lines after them before a page or column break. Ensure the text area is not blank except for the last page. Other sub-heading level should be unbold and in the same style as in 1.1.1.

## 2.0 Methodology

The study methodology refers to the design process used to obtain findings of high validity (Jantan, 2017) during research. It also denotes the main method employed in obtaining the results for a study.

### 2.2 Research Design

The study design implemented was the survey method by utilising questionnaires developed based on past studies; the content was thus incorporated through a quantitative approach. Survey methods, in particular, help surveyors to gather information about the study variables (Lebar, 2018). It typically aims to help researchers in making public statements about a population of study, which is also one of the non-experimental research methods available currently. This method was employed in this study in view of its appropriateness in evaluating various fields, especially in social sciences such as education and so on.

### 2.2 Research Procedure

The research process was initiated by an analysis of the research problem through preliminary studies previously conducted. This was followed by the research questions, research objectives, and research hypotheses, while determination of the research scope allowed a confirmation that the study was to be conducted in parallel. Literature review and research concepts were thus developed through reading of journals, books, and past studies. The literature review specifically acts as a guideline in the construction of research instruments (Jantan, 2017), data analysis, and the ensuing discussion. Once the sample was identified, a questionnaire or instrument was distributed to the respondents for conducting the actual study, namely the representatives at each Vocational College selected as the study location. After questionnaire distribution, data collection was carried out following completion of questionnaire by respondents is done, following which the data obtained were analysed. Meanwhile, descriptive statistical tests by using mean scores and standard deviation were also conducted to distinguish the level of teacher self-efficacy of different gender and different graduation status. Next, the results, recommendations, and discussions of the study were presented accordingly.

### 2.3 Research Instrument

A type of questionnaire was adapted in the study, namely the Teacher Efficacy Scale (TES) questionnaire (Moran & Woolfolk, 2001). TES questionnaire comprises 14 items based on three self-efficacy dimensions to measure the level of teacher self-efficacy, which are performance accomplishment, emotional state, and social persuasions. All items are answered according to the Likert scale ranging from 1 to 5 as shown in Table 1 in which the respondents are required to mark the appropriate rating for each item.

**Table 1:** Likert scale

| Likert Scale | Indicator |
|---|---|
| 1 | Strongly disagree |
| 2 | Disagree |
| 3 | Neither agree nor disagree |
| 4 | Agree |
| 5 | Strongly Agree |

After an analysis of the data obtained via tests conducted, the data was further interpreted to answer the research questions pertaining to the level of Vocational College teacher self-efficacy based on different gender and different graduation status in implementing a culture of teaching and learning innovation. Meanwhile, identifying the level of Vocational College teacher self-efficacy was also done by implementing descriptive analysis (i.e. frequency, percentage, mean score value, and standard deviation). Here, the mean score value obtained is divided into three levels based on the mean range to aid the interpretation of the level of self-efficacy perceived, which is shown in Table 2 below.

**Table 2:** Self-Efficacy Level of Vocational College Teachers in Implementing Cultivation of Teaching and Learning Innovation (Nawawi, Mohd & Ismail, 2016**)**

| Mean Score Value | Level of Self Efficacy |
|---|---|
| 1.00 to 2.50 | Low |
| 2.51 to 3.50 | Medium |
| 3.51 to 5.00 | High |

## 3.0 Result and Discussion

Major statistics utilised in this study to present information concerning collective respondent judgments included the measures of central tendency, namely mean score and standard deviation. This was achieved via SPSS, following which the research questions were analysed using the mean score.

**Table 3:** Demographic characteristics of respondents

| Demographic | Frequencies | Percentage (%) |
|---|---|---|
| Gender | | |
| Male | 49 | 53 |
| Female | 43 | 47 |
| Graduation Status | | |
| Program Pensiswazahan Guru | 75 | 81.5 |
| Not Program Pensiswazahan Guru | 17 | 18.5 |

Table 3 above shows the number of male and female teachers serving in Vocational Colleges. In particular, male teachers have a high-frequency value of 49 and equivalent to 53.00%, while their female counterparts amounted to 43 people and 47.00%.

Furthermore, graduation status could be divided into two: Program Pensiswazahan Guru (PPG), and Not Program Pensiswazahan Guru (NPPG), whereby analysis revealed that the PPG teachers yielded the highest frequency value of 75 people (81.50%), while the lowest percentage and frequency of 18.50% and 17 people, respectively, were seen in the NPPG teachers. The research questions were analysed using mean score and standard deviation. Any item that gets 3.51 and above mean response was classified at high level.

**Table 4:** Level of self-efficacy based on performance accomplishment items

| Dimension | Item Number | Task | Mean | Standard Deviation |
|---|---|---|---|---|
| Performance Accomplishment | 1 | I cultivate innovation during the classroom teaching and learning process. | 3.99 | 0.65 |
| | 2 | Management leadership plans innovation I cultivate innovation outside the classroom during the teaching and learning process. | 4.06 | 0.68 |
| | 3 | Teaching and learning using innovative materials helps me to teach well. | 4.10 | 0.69 |
| | 4 | Teaching and learning using innovative materials can improve my teaching skills. | 4.15 | 0.53 |
| | 5 | I provide the teaching and learning innovation materials that I will use. | 3.96 | 0.58 |
| | 6 | I have participated in the competition for innovation held | 3.83 | 0.86 |

Table 4 was the summary of results of descriptive analysis constituting the mean, standard deviation, on; self-efficacy (performance accomplishment items). It could be deduced that all items had mean scores above 3.80, thus indicating a high level for the element of performance success in the teacher's self-efficacy model in implementing the culture of teaching and learning innovation.

**Table 5:** Level of self-efficacy based on emotional state items

| Dimension | Item Number | Task | Mean | Standard Deviation |
|---|---|---|---|---|
| Emotional State | 1 | I am in a position to control the innovative materials used during my teaching and learning well. | 4.03 | 0.64 |
| | 2 | I am able to adapt the culture of innovation to every level of individuality among students. | 4.04 | 0.57 |
| | 3 | Teaching and learning using innovative materials can improve students' general skills (communication skills, cooperation, etc.) | 4.25 | 0.51 |
| | 4 | I tend to culture the innovation of existing materials rather than the culture of the innovation of information technology-assisted materials. | 4.05 | 0.65 |

Table 5 was the summary of results of descriptive analysis constituting the mean, standard deviation, on; self-efficacy (emotional state items). It could be deduced that all items had mean scores above 3.80, reflected a high level self-efficacy in themselves according to the teacher self-efficacy model.

**Table 6**: Level of self-efficacy based on social persuasion items

| Dimension | Item Number | Task | Mean | Standard Deviation |
|---|---|---|---|---|
| Social Persuasion | 1 | I take into account the needs of my students in the provision of teaching and learning innovation materials. | 4.18 | 0.55 |
| | 2 | I will work with other teachers to develop a culture of innovation in vocational colleges. | 4.19 | 0.56 |
| | 3 | I will work with management leadership to develop a culture of innovation in vocational colleges. | 4.19 | 0.52 |
| | 4 | I'm helping colleagues who are involved in innovation competitions. | 4.19 | 0.58 |

Table 6 was the summary of results of descriptive analysis constituting the mean, standard deviation, on; self-efficacy (social persuasion items). It could be deduced that all items had mean scores above 3.80, revealed that teachers possessed a high level of said dimension in implementing the culture of innovation in their teaching and learning. Based on the overall mean score values for the three elements assessed, they indicated a high level of self-efficacy among teachers in implementing the culture of innovation.

**Table 7:** Level of self-efficacy based on gender

| Demographic | Mean Score | Standard Deviation | Level of Self-efficacy |
|---|---|---|---|
| Gender | | | |
| Male | 4.09 | 0.50 | High |
| Female | 4.09 | 0.47 | High |

Regardless, gender-based outcomes for the level of self-efficacy was similar for both genders at a mean score of 4.09 in Table 7. This level of self-efficacy for both male and female teachers in Vocational Colleges was undoubtedly at a high level in implementing a culture of teaching and learning innovation.

**Table 8:** Level of self-efficacy based on graduation status

| Demographic | Mean Score | Standard Deviation | Level of Self-efficacy |
|---|---|---|---|
| Graduation Status | | | |
| Program Pensiswazahan Guru | 4.13 | 0.46 | High |
| Not Program Pensiswazahan Guru | 3.92 | 0.57 | High |

Based on graduation status, however, PPG teachers depicted a higher level of self-efficacy than NPPG teachers with a mean score of 4.13 versus 3.92, respectively shown in Table 8. Therefore, one might conclude that the level of self-efficacy shown by PPG teachers was higher than NPPG teachers in implementing the culture of teaching and learning innovation. However, there is no significant difference on level of self-efficacy between PPG teachers and NPPG teachers.

## 4.0 Conclusion

Overall, teachers in Vocational Colleges revealed a high level of self-efficacy in cultivating innovation for their respective teaching and learning processes. Every teacher possessed all three elements of self-efficacy underlined, specifically performance accomplishment, emotional state, and social persuasion, which were observed at a high rate in implementing such culture.

Henceforth, it is suggested that future studies reflect positive impacts and implications on the development of management, teaching, and even educational institutions. For example, future researchers can evaluate other leadership practices suitable for use in the leadership of Vocational Colleges, as well as by using other models. In addition, the study population should be extended to other Vocational Colleges present in Malaysia to ensure data analysis of higher accuracy and clarity. Besides, analysis of the study findings can be done by linking various variables deemed appropriate for obtaining diverse data, which will be useful to improve the quality of education.

## 8.0 Acknowledgements

The authors would like to express appreciation to the Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia.

## References

Aini, N. A. M. (2019) *Inovasi Aplikasi Mudah Alih bercirikan Islam Menggunakan Augmentasi Realiti, Komputeran Awan dan Sensor*. Penerbit UKM.

Bandura, A. (1997). Self efficacy: The Exercise of Control. New York: Freeman.

Buntat, Y. Ahamad, L. (2012). Inovasi pengajaran dan embelajaran dalam kalangan guru-

guru teknikal di sekolah menengah teknik dari perspektif guru. *Journal of Technical, Vocational & Engineering Education*. 6 : 44-58.

Cocca, M., Cocca, A., Martinez, E. A., & Bulnes, M. G. R. (2018). Correlation

between self-efficacy perception and teaching performance: the case of Mexican Preschool and Primary School teachers. *Arab World English Journal*, 9(1), 56–70.

Haron, N. H., Hussin, S. Foo, H. S., Yusof, H. (2016). Pembudayaan kreativiti dan

inovasi dalam kalangan pelajar institusi pengajian tinggi. *Seminar Antarabangsa Susastera, Bahasa dan Budaya Nusantara.*

Ibrahim., H. B., Ismail, S. N. B., Kassim, M. A. B. M., Mohamad, S. B. (2016).

Iklim sekolah dan efikasi kendiri dalam kalangan guru bimbingan dan kaunseling sekolah menengah di Kelantan. International Seminar on Generating Knowledge Through Research, UUM-UMSIDA. 1033-1042.

Ismail, A., Yen, L.H., & Abdullah, A.G.K. (2015). Komuniti pembelajaran profesional

dan efikasi kendiri guru sekolah menengah di Pulau Pinang. Jurnal Kepimpinan Pendidikan, 2(1).

Ismail, W. M. W., Kassim, H. & Razak, M. A. (2016). Penerapan Kreativiti di Dalam

Pengajaran dan Pembelajaran ( PdP ) Mata Pelajaran Jawi : Kajian Rintis. The National Conference for Postgraduate Research, (ii), 512–518.

Jantan, N. B. (2017). Penerapan budaya kreatif dan inovatif di kalangan pelajar politeknik Merlimau melalui PERKAYA INOVASI.

Jeff, Q., Aaron, D., Greg, B. and James T. J. (2015). Comparison of Transformational Leadership Practices: Implications for School Districts and Principal Preparation Programs. Journal of Leadership Education.

Lebar, O. (2018). *Penyelidikan Kualitatif Pengenalan Kepada Teori dan Metode*. Perak, Tanjong Malim : PENERBIT UPSI.

Moran, T. M., & Woolfolk, H. A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education, 17,* 783-805.

Nawawi, A. B. M., Mohd, A. B., Ismail, D. S. N. B. (2016). Tahap efikasi kendiri guru dan hubungannya dengan pencapaian sekolah di sekolah-sekolah menengah dalam daerah Bachok. *International Seminar on Generating Knowledge Through Research*. 312-326.

Nor, M. M., Rahman, M. N. A., Nor, N. M., Talha, N. M., Razak, A. Z. A. (2016). Amalan kepimpinan pengajaran untuk penambahbaikan sekolah:retrospeksi guru besar sekolah berprestasi tinggi. Jurnal Kepimpinan Pendidikan. 3 (3): 44-53.

Omar, M. N., Ismail, S. N., Kasim, A. L. (2019). Hubungan kepimpinan teknologi pengetua dan efikasi kendiri guru. *Jurnal Kepimpinan Pendidikan*, 6 (4): 1-21.

Razali, A., Hanum, H., & Aizatul, A. W. (2010). Pembudayaan Kreativiti dan Inovasi Dalam Kalangan Pelajar Institusi Pengajian Tinggi, 1(March 2006), 1–11.

Rudyanto, H. E., HS. A. K., Pratiwi, D. (2018). Etnometika budaya jawa: inovasi pembelajaran matematika di sekolah dasar. *Jurnal Bidang Pendidikan Dasar*. 3 (2): 25-32.

Sumartini, T. S. (2016). Peningkatan kemampuan pemecahan masalah matematis siswa melalui pembelajaran berbasis masalah. *Jurnal Pendidikan Matematika STKIP Garut*. 5 (2): 148-158.