

## Creativity and Innovation of Primary School Islamic Education Teachers Based on Gender Differences

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### Abstract

The change in education of the 21st century requires educators to make a paradigm shift in diversifying creative and innovative approaches. This study was conducted to descriptively identify the driving factors of creativity and innovation ability based on gender among Islamic Education teachers (IET) in primary schools. In addition, this study also determines whether there is a gender difference based on the elements of creativity and innovation through statistical analysis of inference. Quantitative approach through survey method was used in this study. The instrument for this study has been tested for validity and reliability (Cronbach's Alpha). The respondents were a total of 304 Islamic Education Primary School teachers in the state of Melaka. Data analysis carried out using Statistical Package for Social Sciences (SPSS) Version 25.0 is descriptively analysed and inferential. The findings of this study show that there is no significant difference between male and female teachers in creativity and innovation as both aspects are relevant in the current situation to measure the competency of teachers to cope with changes in the country's education system. In conclusion, in today's Malaysian educational context, pedagogical changes in the classroom should require teachers to be more creative and innovative through the involvement of all parties including the roles of administrators and school staff without having gender factors as a barrier of becoming Islamic Education Teachers (IET) who possess superior creativity and innovation.

**Keywords:** Creativity, Innovation, Islamic Education Teachers (IET), Gender

### Introduction

Education in Malaysia has gone through a process of development and modernity from syllabus to the form of Teaching and Learning (T&L) of students in the classroom. The change in education of the 21st century requires educators to undertake a paradigm shift (Ahmad et. al., 2019) in diversifying their creative and innovative approach so that students also have the skills in line with the aspirations under the Malaysian Education Development Plan also known as Pelan Pembangunan Pendidikan Malaysia (PPPM) 2013-2025, Ministry of Education

Malaysia (MOE) which aims to prepare students to face the challenges of the 21st century education era and able to interpret the use of Information and Communication Technology (ICT) in classroom learning. Teachers also need to prepare themselves with ICT skills in the teaching and facilitating process (Salsabila et al., 2018) so that the application of elements of creativity and innovation can be applied. Indirectly, education in Malaysia has changed little by little in terms of the approach of teaching in schools from the teacher-centered approach of 'chalk and talk' to pupil-centered (Hassan & Ibrahim, 2017). Pupils will be more involved in the learning process when the 21st century learning approach (Yahaya et al., 2019; Kamary & Hamzah, 2019; Raja & Ismail, 2018) is carried out in classroom activities either face-to-face or online. The 21<sup>st</sup> century learning focuses on creative, critical, communication and collaborative skills as well as values, which are some of the elements emphasized in 21st century education. However, the implementation of the 21<sup>st</sup> century learning and ICT in teaching and facilitation cannot be realized if teachers are still teaching using old approaches and methods without combining elements of creativity and innovation in teaching and facilitation.

According to Robinson (2005) the aspect of creativity is greatly emphasized in the 21st century in terms of global economy. He stressed that education needs to be flexible so that it can be adapted to one's creativity and passion for innovation. The education system is also moving in tandem with the modernity of the country demanding that the teacher's approach is also changed by demanding that educators diversify the interesting and up-to-date teaching methods in 21st century education through the application of elements of creativity and innovation in teaching and facilitating. Studies have been conducted by past researchers on creativity and innovation such as Ander (2021); Kerke et al (2020); Narayanan (2017), a local researcher. Various interpretations have been put forward on the concept of creativity and innovation. According to Cremin & Barnes (2018) stated that creativity and innovation are fundamental skills for the 21st century especially in developing one's talents and potential (Nakano & Wechsler, 2018) as well as being an indispensable attribute in all aspects of human life especially in today's education. Both are intertwined with each other and it is important to develop the quality of a teacher as well as to nurture the students' well-being in school (Ahmad et al., 2019; Amran et al., 2019) for the future of a developed and competitive country. In addition, through the Malaysia Education Blueprint Wave 3 (2021-2025) has emphasised the process towards excellence through increased operational integrity based on innovation culture, sharing of best practices and mastery of skills among teachers (Ministry of Education Malaysia, 2013) should be applied in the 21st century education, through the practice of creativity and innovation in teaching and facilitating all subjects in primary and secondary schools.

In the context of this discussion, the researchers focused on Islamic Education subjects only as it is one of the core subjects in the school. Islamic Education Teachers (IET) today in implementing the Islamic Education should take into account the changing times that are more challenging to the younger generation today. IET should practice 21st century pedagogy with more critical, creative, innovative, communicative, and decision-making capabilities so that students can understand, recite and practice in everyday life based on the content of the Islamic Education curriculum. Therefore, studies related to creativity and innovation in the field of Islamic Education are still new in Malaysia and have not been fully explored.

In this regard, this study will focus on the creative and innovative aspects of the Islamic Education Teachers (IET) of primary schools serving the state of Melaka. Sample selection

among IET helps researchers to obtain scientific and empirical information on study issues, namely, creativity and innovation of primary school IET in implementing 21st century teaching and learning in Islamic Education.

### **Research Question**

The need for creativity and innovation towards educators today is to respond to the call in the third wave of 2021-2025, PPPM 2013-2025 which emphasizes the creativity and innovation of T&L in the classroom. Therefore, based on the issue of this study, the study question refers to;

- i. What are the driving factors for primary school IET creativity based on gender?
- ii. What are the factors of primary school IET innovation capabilities based on gender?
- iii. Is there a difference in primary school IET creativity between the genders?
- iv. Is there a difference in primary school IET innovation between the genders?

### **Research Objective**

The study is carried out to determine whether there are gender differences among primary school IET's creativity and innovation. In particular, the objectives of the study are to:

- i. Identify the driving factors of primary school IET creativity based on gender.
- ii. Identify primary school IET innovation capability factors based on gender.
- iii. Determine whether there is a difference among primary school IET in creativity based on gender.
- iv. Determine whether there is a difference among primary school IET in innovation based on gender.

### **Research Hypothesis**

The hypothetical statement is nol. There are two study hypotheses formed to answer the question of study iii and iv.

Ho1 : There is no difference in primary school IET creativity based on gender.

Ho2 : There is no difference in primary school IET innovation based on gender.

### **Literature Reviews**

There have been several previous studies that touched on the creative and innovation aspects of teachers in Teaching and Facilitation (T&Lc). The two are related to each other to complement the competence of a 21st century educator. Therefore, the studies in five years (2018 to 2023) presented refer to the main purpose of the study which is the difference in creativity and innovation of Islamic Education Teachers (IET) of Primary Schools based on gender. This is because, the differences between male teachers and female teachers create a gap to practice the practice of creativity and innovation of T&Lc Islamic Education specifically. The literature highlights of this study will discuss two main themes, namely creativity and innovation of teachers as well as gender differences in teacher creativity.

#### **i. Creativity and Teacher Innovation**

The application of the aspect of creativity in teaching as well as the production of innovations in teaching and learning is able to transform itself from traditional thinking and teaching methods to the present. Therefore, there are several studies that show that teachers should have a high motivation in implementing innovation and applying creativity in T&L (Andrés et

al., 2022; Kerke et al., 2020; Majid & Ismail, 2017) because teachers are significant individuals in charting changes into the education system to make better in the future. Moreover, in recent years the application of elements of creativity and innovation in the education system has attracted the interest of researchers. Encouragement of teamwork or collaboration (Johari et al., 2021) administrators' encouragement (Kurniawan & Hasanah, 2021) as well as the adoption of educational technology applications play an important role in improving creativity practices and innovative culture among teachers. Renzuili et al. (2022) aspects of imagination are also associated in the formation of creativity and innovation in teachers. This is because, the imagination that the researchers mean is whether the teacher can predict something that the students can achieve at the end of learning through the element of creativity and innovation applied in T&L.

In addition, the emphasis of the 4Cs in 21st Century Learning refers to the creativity, communication, collaboration and critical components of most educators in implementing T&L today. The combination of creativity and innovation is often the main indicator in determining the implementation of 21st century T&L (Haryani et al., 2021; Ahmad et al., 2019; Raja & Ismail, 2018). The accurate implementation of the aspect of creativity and innovation also needs to understand the T&L system that is carried out first through efforts to identify real problems so that the best practices of T&L can be produced (Zhaffar, 2021). Therefore, teachers need to change attitudes and have a high level of creativity in order to act as a catalyst in the development of creative students (Sharma & Sharma, 2018) and innovative through teacher skills in the proper and effective use of Teaching Aids (BBM) (Tikok, 2018). Therefore, previous studies have proven that the needs and interests of today's teachers in applying the elements of creativity and innovation are continuously capable of producing creative and innovative students.

## **ii. Gender Differences Against Teacher's Creativity**

The level of creativity of teachers is often the focus of researchers in identifying differences in these demographic factors. For some researchers, gender differences in the mastery of a construct are due to a number of factors. For example in the context of this study, the level of creativity of the teacher is determined by factors such as knowledge, creative attitude, motivation (intrinsic and extrinsic) and environment. There are past studies that refer to gender differences on teacher creativity. Among them are (Zulkifli et al., 2022; Fadllan et al., 2022; Ponnusamy, 2019; Khodabandeh & Jamali, 2019). In addition, Sokicli, Qureshi & Khawaja (2021) stated that the gender aspect is the most significant predictor of creative behavior in her creativity studies on students at Private Higher Education Institutes (IPTS).

Moreover, there are studies from Khodabakhshzadeh et al (2018) aspects of creativity and the effectiveness of teacher teaching are determined by gender differences. This study also examined the relationship between creativity and the effectiveness of teaching teachers. In addition, Apak & Taat (2018) conducted a study on the relationship of creativity towards 21st century classroom management involving secondary school teachers. The study also examined differences in the nurturing of creativity and classroom management between male teachers and female teachers. There are several researchers who study the differences in the level of creativity between male teachers and female teachers in the context of PAK21 studies such as (Amatan & Gregory, 2020).

## Methodology

### i. Sampling

The survey method is one of the quantitative study designs used in this study. The purpose of this method is to obtain information on the factors that are the driving force of creativity and innovation among the Islamic Education Teachers (IET) of Primary Schools based on descriptive gender differences. The study also identified whether there were differences in the level of creativity and IET innovation based on gender. According to Creswell (2005) the design of a survey study is a procedure in quantitative and qualitative research to conduct a single survey of a sample or the entire population. A total of 320 teachers were randomly selected based on the teacher population of 1390. The determination of this sample is based on the Krejcie & Morgan table 1970. This study used stratified or stratified random sampling techniques for the selection of respondents by district. This sampling is used to ensure that subgroups in a selected population will be represented based on the same rate or a certain rate (Husin et al., 2021). This is due to the fact that the number of IETs between the three districts in Melaka is disproportionate i.e. the IET subpopulation of district A which is 393 people, the IET subpopulation of district B which is 275 people and the IET subpopulation of district C is 722 people. Thus, each subsample is selected based on the subpopulation size count of the number of IETs from their respective districts. The researcher has determined the number of subsample sizes based on the following calculations;

$$\text{Subsample size } (n_{ss}) = \frac{\text{Subpopulation size } (N_{sp}) \times \text{Sample size } (n)}{\text{Population size } (N)}$$

Therefore, the determination of the uniformly determined rate between the three districts above i.e. the subsample of each district group A, B and C with the sample size of the study  $n = 320$  is 91, 63 and 166. Next, the selection of a simple random sample through the draw is done on schools that are under PPD by determining the selected schools in district A which are 19 schools, district B which is 17 schools and district C i.e. 25 schools. The number of schools selected for each district represented the number of IET subsamples for district A (91 people), district B (63 people) and district C (166 people). The entire subsample of these three districts formed a sample of this study which represents the population of Islamic Education Teachers (IET) of Primary Schools in the state of Melaka. According to Chua (2022) every unit or subject in the population should be ensured to have an equal chance of being selected as a survey respondent.

### ii. Data collection

Studies involving a large and large population, the use of questionnaire methods is more appropriate and practical. This is because, it is easier to get cooperation (Jones, 1996 in Zulkifli, Hamzah & Razak, 2020) and time saved and suitable for use in survey studies. Thus, a set of questionnaires was distributed to 320 IET Primary School students in the state of Melaka. This questionnaire was adapted from several researchers namely Samsudin et al (2013); Bajuri et al (2013); Amin et al (2020) for the construct of creativity and innovation using the Likert scale at the consent level of 1 = strongly disagree so level 5 = strongly agree. The researchers have implemented a process of expert validity consisting of four people who are experts in the field of creativity and innovation as well as an excellent lecturer and teacher of Islamic Education subjects as well as an expert in the field of language. While the reliability

of this study questionnaire was also tested with the overall reliability value (Cronbach's Alpha) for the creativity construct referring to 36 items i.e.  $\alpha = 0.961$  showed very good. While the overall reliability value of the innovation construct refers to 30 items is  $\alpha = 0.986$  is very good. According to Bond & Fox (2007) in Amin et. al (2020), there are three levels of interpretation of reliability values that are above 0.8 (received strong), between 0.6 to 0.8 (less accepted) and less than 0.6 (not accepted).

### iii. Data Analysis

For the data analysis process, this study used Statistical Package for Social Sciences (SPSS) Version 25.0 for descriptive and inferential analysis. The driving factors of creativity and innovation will be identified based on frequency and percentage data. Meanwhile, to determine the difference in creativity and innovation factors based on the gender of the researchers using inference analysis at a significant level of 0.05. This study refers to the interperformance of mean values by Moidunny (2009) as below

Table 1

*Interpretation of Mean Value by Moidunny (2009)*

Min Score	Level / Interperformance
1.0 to 1.8	Very low
1.9 to 2.6	Low
2.7 to 3.4	Simple
3.5 to 4.2	High
4.3 to 5.0	Very high

### Findings and Discussions

A total of 320 questionnaires were distributed to the Primary School Islamic Education Teachers in the state of Melaka representing their respective district subpopulations. However, only 304 questionnaires were returned for analysis. Based on Table 2, it was found that this study showed the involvement of 304 respondents of primary school IET in Melaka. The respondents among female teachers were 171 (56.3%) while the male teachers involved were 133 (43.7%).

Table 2

*Study Respondents Based on Teacher's Gender*

Gender	<i>n</i>	%
Men	133	43.7
Female	171	56.3
Total	304	100.0

**SK1 : What are the driving factors for primary school IET creativity based on gender.**

**SK2 : What are the factors of primary school IET innovation capacity based on gender.**

Referring to Table 3 below, there are five driving factors of creativity that make up the construct in the questionnaire distributed to the survey respondents. Such creativity factors are knowledge, creative attitude, intrinsic motivation, extrinsic motivation and environment. Based on the mean interpretation table in table 1, the results showed that all factors were at a high level of between 3.5 to 4.2 for male and female teachers. However, descriptively it can

be seen that male teachers possess a level of knowledge ( $M = 4.23$ ,  $SD = 0.51$ ), creative attitude ( $M = 4.14$ ,  $SD = 0.50$ ), intrinsic motivation ( $M = 3.96$ ,  $SD = 0.53$ ) and extrinsic motivation ( $M = 3.89$ ,  $SD = 0.47$ ) are higher than female teachers. The level of female teachers against the driving factors of such creativity is knowledge ( $M = 4.13$ ,  $SD = 0.49$ ), creative attitude ( $M = 4.05$ ,  $SD = 0.42$ ), intrinsic motivation ( $M = 3.92$ ,  $SD = 0.43$ ) and extrinsic motivation ( $M = 3.80$ ,  $SD = 0.41$ ). Meanwhile, environmental factors indicate that the level of female teachers ( $M = 4.10$ ,  $SD = 0.44$ ) is higher than that of male teachers ( $M = 4.03$ ,  $SD = 0.56$ ). These findings point to the objective and the first study question which is to identify the driving factors of creativity based on gender. In addition, the knowledge factor is the main factor driving the creativity of male IET and female IET in Melaka to think about creative ideas and wider things. In addition, other factors such as creative attitude, intrinsic motivation, extrinsic motivation and environment are important in shaping the elements of creativity in the Islamic Education Teacher (IET).

Table 3  
*Driving Factors of Gender-Based Creativity*

Factors	Gender	<i>n</i>	<i>M</i>	<i>SD</i>
Knowledge	Men	133	4.23	0.51
	Female	171	4.13	0.49
Creative Attitudes	Men	133	4.14	0.50
	Female	171	4.05	0.42
Intrinsic Motivation	Men	133	3.96	0.53
	Female	171	3.92	0.43
Extrinsic Motivation	Men	133	3.89	0.47
	Female	171	3.80	0.41
Environment	Men	133	4.03	0.56
	Female	171	4.10	0.44

*n* = number, *M* = mean, *SD* = standard deviation

In addition, Table 4 shows the findings descriptively on the four factors of the innovation capacity of the Islamic Education Teacher (IET) in the state of Melaka. The researchers found that all IET innovation capability factors based on the gender of male teachers and female teachers were at a high level of 3.5 to 4.2. As for the idea generation factor shows that the male teacher ( $M = 3.81$ ,  $SD = 0.54$ ) has the same level as the female teacher ( $M = 3.79$ ,  $SD = 0.47$ ). The idea development factor recorded a reading for the male teacher *which* is  $M = 3.95$ ,  $SD = 0.53$  more than the female teacher i.e.  $M = 3.86$ ,  $SD = 0.53$ . In addition, the idea implementation factor showed the findings of the male teacher  $M = 3.90$ ,  $SD = 0.56$  while the female teacher was  $M = 3.83$ ,  $SD = 0.51$ . Finally, the development factor of the idea shows that the male teacher recorded the value  $M = 4.03$ ,  $SD = 0.50$  and the female teacher was  $M = 3.96$ ,  $SD = 0.50$ .

Table 4

*Gender-Based Innovation Capability Factors*

Factors	Gender	<i>n</i>	<i>M</i>	<i>SD</i>
Idea Generation	Men	133	3.81	0.54
	Female	171	3.79	0.47
Idea Development	Men	133	3.95	0.53
	Female	171	3.86	0.53
Implementation of Ideas	Men	133	3.90	0.56
	Female	171	3.83	0.51
Development of ideas	Men	133	4.03	0.50
	Female	171	3.96	0.50

*n* = number, *M* = mean, *SD* = standard deviation

**SK3 : Is there a difference in primary school IET creativity between the genders?****SK4 : Is there a difference in primary school IET innovation between the genders?**

The determination of normality should be tested first before conducting a statistical analysis of inference. This is because the normality test is a pre-requisite that needs to be observed (Hair et al., 2018) so that the data obtained is scattered normally. Therefore in this study, researchers tested the normal distribution by determining skewness and kurtosis. The results of the normality test showed that for the construct of creativity were Skewness values of 0.229 and Kurtosis -0.017. As for the innovation construct, the skewness value is -0.149 and kurtosis 0.935. According to Soseso (2019) the values of skewness and kurtosis are in the range of +/- 3.00. While according to Chua (2022), the normal data skewness value is 0, but the value in the +/- 2 range still shows normal tabbed data. Therefore, the data for this study are appropriate to answer the question of studies 3 and 4.

In addition, based on Table 5, the accuracy of the Levene's test to determine the equality of the variance shows that the significant value is 0.03 ( $p < 0.05$ ). This proves that the data is not homogeneous. So the researcher refers to the reading of the *t*-value in the second line of 'Equal variances not assumed'. Next, it was found that the *t*-value of the Islamic Education Teacher's (IET) creativity comparison between male and female teachers is  $t=1.141$  and a significant level of  $p=0.255$ . This significant level is greater than 0.05 ( $p > 0.05$ ). Thus, the null hypothesis ( $H_{01}$ ) failed to be rejected. Thus, there is no significant difference in creativity of primary school Islamic Education Teachers (IET) between male teachers and female teachers ( $t(259)=1.141, p=0.255$ ).



Table 5

*Differences in Creativity of Primary School Islamic Education Teachers By Gender*

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	DF	Sig. (2-tailed)	Mean Difference	Std. Error Difference		
								Lower	Upper
Equal variances assumed	5.044	.025	1.164	302	.245	.04982	.04279	-.03439	.13403
Equal variances not assumed			1.141	259.159	.255	.04982	.04365	-.03613	.13577

In addition, based on Table 6 the determination of the Levene's test to determine the equality of variance shows the significant value is 0.72 ( $p > 0.05$ ). This proves that the data is homogeneous. So the researcher refers to the reading of the t-value in the first line of 'Equal variances assumed'. Next, it was found that the *t-value* of the Islamic Education Teacher (IET) innovation comparison between male and female teachers is  $t=1.265$  and a significant level of  $p=0.207$ . This significant level is greater than 0.05 ( $p > 0.05$ ). Thus, the null hypothesis ( $H_{01}$ ) failed to be rejected. Thus, there is no significant difference in the innovation of primary school Islamic Education Teachers (IET) between male teachers and female teachers ( $t(302)=1.265, p=0.207$ ).

Table 6

*Innovation Differences of Primary School Islamic Education Teachers by Gender*

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	DF	Sig. (2-tailed)	Mean Difference	Std. Error Difference		
								Lower	Upper
Equal variances assumed	.134	.715	1.265	302	.207	.06482	.05124	-.03601	.16566
Equal variances not assumed			1.268	286.310	.206	.06482	.05112	-.03580	.16544

### Discussion

Based on the findings and analysis of previous data, it was found that the level of creativity of male teachers is higher than that of female teachers. This is because, creativity factors such

as knowledge, creative attitude, intrinsic motivation and extrinsic motivation indicate the mean value of male teachers more than the mean value of female teachers but environmental factors indicate the opposite that female teachers are more than male teachers. Based on these findings, it was found that knowledge factors are the main driver of male teachers' creativity. This is in conjunction with a study conducted by Zulkifli et al (2022) which stated that knowledge is the main factor in creativity. The study in Arabic by Majid & Ismail (2017) also explained that teachers need to have a good knowledge of teaching creativity in order to practice in the classroom. In addition, environmental factors indicate that female teachers are higher than male teachers. The environmental aspect plays an important role in the formation of a teacher's behavior in generating creativity and innovation T&L. In the study of Andrés et al (2022) explained that environmental factors also play an important role in influencing teachers' creativity. This is also supported by the results of the Sokići, Qureshi & Khawaja (2021) study which found that support for creative behavior stems from environmental factors.

Even so, all the creativity factors do not indicate the mean value that is so far between male teachers and female teachers and each factor is still at a high level. As with knowledge and environmental factors, creative attitudes and motivations also contribute towards the creativity of the Islamic Education Teacher (IET). This is due to the fact that a teacher needs to raise his own creativity to a higher level so that the creative attitude is also better. This coincides with the study of Zulkifli et al (2022); Ponnusamy (2019) showing that when teaching and creative skills are at a high level, creativity can be produced better. In addition, the motivational factors that are intrinsic and extrinsic also play an important role in the creativity of a teacher. Rerke et al (2020) states the level of creativity of teachers depends on their motivation. In the study Majid & Ismail (2017) it was shown that Arabic teachers master creativity in the aspect of motivation and environment over creativity in creative thinking.

Apart from the creativity of teachers, elements of teacher innovation were also identified in this study based on the gender differences of male teachers and female teachers. Islamic Education Teachers (IET) should be involved in the process of producing T&L innovation as this aspect is the focus in the 3rd Wave of PPPM 2021-2025. Based on the findings, the study clearly shows that the mean value of all factors of innovation ability between male teachers and female teachers is at a high level. In the Johari study, Wahat & Zaremohzzabieh (2021) describes teamwork or collaboration as important to encourage innovation in education. Indirectly there are several aspects that can be given attention in increasing the level of innovation of teachers to a higher level. Among them, applying elements of innovation in the activities of PAK21 Haryani et al (2021) and overcoming problems in classroom good practice through innovation (Zhaffar et al., 2021; Rerke et al., 2020).

Next, based on the findings of the study, there was no significant difference in the creativity of male teachers with female teachers. This coincides with the results of Zulkifli, Hamzah & Razak (2022); Fadlan et al (2022); Amatan & Gregory (2020) showed no significant differences. However, there are also past studies that show that there are significant differences in teacher creativity between boys and girls such as (Khodabakhshzadeh et al., 2018; Khodabandeh & Jamali, 2019). Gender is one of the demographic factors that can determine the difference in a teacher's level of creativity. Finally, for the findings of the innovation level of Islamic Education Teachers showed no significant differences between male teachers and female teachers. Gender factors do not determine the difference in the

level of innovation of teachers sufficiently significantly. However, Ismail et al (2021) study in his study involving teachers' perceptions of the administration of male and female head teachers showed that female administrators have more innovative work behaviors than male administrators. This is because, the role of administrators is also important in helping to increase the level of creativity and innovation of teachers through a number of actions (Kurniawan & Hasanah, 2021) including being a role model to teachers in schools.

### **Conclusion**

Overall, this study examined differences in the level of creativity and innovation of the Primary School Islamic Education Teachers in the state of Melaka based on gender. The results showed that there were no significant differences between male and female teachers in creativity and innovation. For the descriptive findings, it showed that the level of creativity and innovation of male teachers was higher than that of female teachers based on mean values. Researchers suggest that future studies can focus on the need for teachers to increase the level of creativity and innovation as well as conduct qualitative studies in exploring the aspects of creativity and innovation of teachers today. These two aspects are relevant in the current situation to measure the competency of teachers to cope with changes in the country's education system. Therefore, in today's Malaysian educational context, T&L needs to be more creative and innovative through the involvement of all parties including the roles of administrators and school staff without making gender factors a barrier in becoming Islamic Education Teachers (IET) who are highly creative and innovative.

### **References**

- Amatan, M. A., & Gregory, C. (2020). Perbezaan Faktor Demografi dalam Efikasi Kendiri Guru dan Amalan Pengajaran dan Pembelajaran Abad ke 21. *Journal of Advanced Research in Social and Behavioural Sciences* 18 (1), 17-36.
- Ander, A., Zydziunaite, & Vilma. (2021). Being an Innovative and Creative Teacher: Passion-Driven Professional Duty. *Creativity Studies* 14 (1), 125-144.
- Andres T. A., Aguayo, G. A., Acuna, C. C., & Torres, R. L. (2022). Creativity, Pedagogical, And Educational Innovation: Analysis Of The Perception Of A Group Of Chilean Teachers. *Educacao e Pesquisa* 48, 1-20.
- Apak, J., & Taat, M. S. (2018). Hubungan Tingkah Laku Pemupukan Kreativiti Guru dengan Pengurusan Bilik Darjah Abad Ke-21. *Malaysian Journal of Social Sciences and Humanities (MJSSH)* 3 (3), 64-79.
- Chua, Y. P. (2022). *Asas Statistik Penyelidikan (Buku 2) Edisi Keempat*. Kuala Lumpur : McGraw Hill Education Sdn Bhd.
- Cremin, T., & Barnes, J. (2018). Creativity and Creative teaching and Learning. In: Cremin, T. and Burnett, C. eds. *Learning to Teach in the Primary School (4th edition)*. Routledge.
- Creswell, J. W. (2005). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Upper Saddle River, New Jersey.
- Husin, N. F., Judi, H. M., & Hanawi, S. A. (2021). Pembelajaran pengaturcaraan bermakna melalui integrasi teknologi : tahap pelaksanaan dan penggunaan. *Asia-Pacific Journal of Information Technology and Multimedia* 10 (2), 77-94.
- Ismail, A., Ahmad, N. S., & Aman, R. C. (2021). Gender of transformational school principals and teachers' innovative behavior. *International Journal of Evaluation and Research in Education (IJERE)* 10 (3), 747~752.

- Johari, A., Abdul Wahat, N. W., & Zaremohzzabieh, Z. (2021). Innovative Work Behavior among Teachers in Malaysia: The Effects of Teamwork, Principal Support, and Humor. *Asian Journal of University Education* 17 (2), 72-84.
- Kementerian Pendidikan Malaysia. (2013). *Pelan Pembangunan Pendidikan Malaysia 2013-2025 (Pendidikan Prasekolah hingga lepas Menengah)*. Putrajaya: KPM.
- Khodabandeh, F., & Jamali, M. (2019). Exploring the Relationship between Teachers' Creativity, Classroom Management, Age and Gender. *Journal of Foreign Language Teaching and Translation Studies* 4 (1), 67-88.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610.
- Kurniawan, H., & Hasanah, E. (2021). Peran Kepala Sekolah dalam Meningkatkan Inovasi dan Kreativitas Guru pada Masa Pandemi di SD Muhammadiyah Bantul Kota. *Jurnal Studi Guru dan Pembelajaran* 4 (1), 56-66.
- Majid, M. R. A., & Ismail, Z. (2017) Kreativiti Pengajaran Guru Bahasa Arab Di Malaysia. *Jurnal Kepimpinan Pendidikan* 4 (4), 27-39.
- Moidunny, K. (2009). *The Effectiveness of the National Professional Qualification for Educational Leaders (NPQEL)*. Unpublished Doctoral Dissertation, Bangi: UKM.
- Nakano, T. C., & Wechsler, S. M. (2018). Creativity and innovation: Skills for the 21st Century. *Estudos de Psicologia (Campinas)* 35(3), 237-246.
- Narayanan, S. (2017). A Study on the Relationship between Creativity and Innovation in Teaching and Learning Methods towards Students Academic Performance at Private Higher Education Institution, Malaysia. *International Journal of Academic Research in Business and Social Sciences* 7, 1-10.
- Ponnusamy, P. (2019). Creativity of Student-Teachers with Reference to their Gender and Locality. *Shanlax International Journal of Education* 8 (1), 48–53.
- Raja, I. R. A., & Ismail, D. (2018). Aplikasi 'Konsep 4c' Pembelajaran Abad Ke-21 Dalam Kalangan Guru Pelatih Pengajian Agama Institut Pendidikan Guru Kampus Dato' Razali Ismail. *Asian People Journal (APJ)*, 1(1), 45-65.
- Robinson, K. (2005). *How creativity, education and the arts shape a modern economy*. Education Commission of the States: Arts and Mind Series. <http://www.ecs.org/clearinghouse/60/51/6051.pdf>
- Salsabila, U. H., Fitrah, P. F., & Nursangadah, A. (2018). Eksistensi teknologi pendidikan dalam kemajuan pendidikan islam abad 21. *Jurnal Eduscience* 7 (2), 68-77.
- Sharma, E., & Sharma, S. (2018). Creativity nurturing behaviour scale for teachers. *International Journal of Educational Management* 32 (6), 1016-1028.
- Sokicli, K., Qureshi, F. H., & Khawaja, S. (2021). Gender Differences In Creativity Among students In Private Higher Education. *European Journal of Education Studies* 8 (11), 87-102.
- Tikok, J. (2018). Sikap Dan Jantina Guru Bahasa Melayu Sekolah Rendah Daerah Serian Terhadap Pemilihan Bahan Bantu Mengajar. *Jurnal Pendidikan Bahasa Melayu – JPBM* 8 (1), 13-21.
- Zulkifli, N., Hamzah, M. I., & Razak, K. A. (2020). Faktor Pendorong Kreativiti Dalam Kalangan Pelajar Politeknik. *Asian People Journal* (2), 77-85.