



The teaching of Thirukkural based on HOTS among the students of Tamil primary schools in the state of Perak



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ABSTRACT

This research is a study which is conducted under the Sultan Idris Education University's University Research Grant. The purpose of this study is to measure the mastery of Higher Order Thinking Skills (HOTS) among the teacher of Tamil Primary Schools in the state of Perak and the mastery of questioning technique based on Bloom's Taxonomy using HOTS in the teaching of Thirukkural. The approach of quantitative was employed to obtain the data of the research. 80 teachers were chosen as samples from four different schools in Perak to elicit information pertaining to the mastery of HOTS among educators. Through the grading which was conducted by referring to SPSS, the results of the research revealed that the mastery of HOTS among teachers in this category is average and weak from the eight criteria which were studied. This show the efforts that are taken by the Malaysian Ministry of Education provide less impact on the teachers in understanding and mastering HOTS. Meanwhile, a quantitative method was used to understand the mastery questioning techniques of teachers for the HOTS questions. The teaching and learning method of Thirukkural for Year 5 was observed in two schools to elicit data for the mentioned purpose. Interviews were also conducted with two Year 5 Tamil teachers who were observed. The overall findings reveal that 51.3% are able to list out HOTS questions. This is a good scenario in integrating HOTS in students. In conclusion, through this research, it can be said that the teaching and learning of Thirukkural in the classroom can foster the higher order thinking among the students of Tamil Primary Schools excellently. However, it is very much dependant on the questioning techniques of teachers which encourage them towards it. The research findings will benefit educators and agencies involved in implementing the teaching and learning of Thirukkural effectively in fostering HOTS among students.

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1. Introduction

The variety and quality of classical Tamil literature has been portrayed as the largest classical tradition in the literature world (Sanford, 1998). The classical Tamil Language produced contains literary works which emphasizes humanity and life together. On the other hand, thinking skills is not something that is alien to teachers and school administrators. They have been exposed to the concepts and the implementation of thinking skills during the teaching training and school leadership. Teachers have been

trained with thinking skills during the critical and creative thinking was introduced and implanted in schools since 1994.

In line with the current education development, there is a need to stress Higher Order Thinking Skills (HOTS). Teachers' role is very significant to integrate HOTS among students. Therefore, teachers should elevate their skills to implement HOTS continuously and diligently to produce students who are able to think in higher order (KPM, 2014).

The implementation of HOTS has undergone a few transformations which were initiated with the integration of Thinking Skills during the early period of Primary School Integrated Curriculum (KBSR) and Secondary School Integrated Curriculum (KBSM) (Othman and Kassim, 2017). The philosophy is continued with the implementation of Critical and Creative Thinking (KBKK) in the year of 1994. However, HOTS was recognised and stressed after the research of Rajendran in the year of 1994 which

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involved HOTS with the focus towards Malay Language and English Language.

On 6th September 2013, Malaysian education system went through improvisation when the Education Minister launched the Malaysia Education Improvisation Plan (PPPM 2013-2025). It stresses 11 shifts which is stated in PPPM and highlights few matters to elevate the international education quality. Initial report of Malaysia education improvisation plan, 2013-2015, shows that HOTS should be the main initiative of few departments in the Malaysia Ministry of Education (KPM, 2014).

HOTS can be integrated in all the subjects taught in schools. Thirukkural is one of the components in Tamil Language subject and it can integrate teaching and learning of HOTS. Thirukkural highlights moral values, pure values and humanity for the harmonious life of humankind. Values, morals and philosophy cross all religions and cultures of the world making it the speciality of Thirukkural. With the understanding of Thirukkural's speciality, Malaysian Education Ministry made it compulsory for Tamil school students to learn Thirukkural through the syllabus of Tamil Language studies. Students of Tamil Primary Schools learn 30 couplets of Thirukkural in their primary school days. The technique of teaching and learning is very crucial in enjoying and applying the teaching of Thirukkural.

In case Thirukkural is taught with the approach of using the aspect of HOTS in the teaching and learning process, it will yield a positive effect. Students will be able to think maturely by apprehending the definitions of Thirukkural's couplets. This situation can only be achieved if the couplets of Thirukkural are taught by integrating HOTS in the teaching and learning process. Therefore it is better to conduct studies on teaching of Thirukkural and HOTS to see the standardisation in producing students who are successful.

Then, Salleh (2005) found that teachers often provides questions that are very much focused to questions which are low ordered which is at the level of knowledge and comprehension. The finding is in line with the thought of Abu et al. (2002) which is, the low order questions are popularly used by teachers and very limited questions on higher order are given to students. Low order questions are focussed in recalling facts literally from what is seen, heard or read compared to higher order questions which require students to apply, analyse, synthesize and evaluate what has been learnt. Therefore, there is a need of teaching and learning with KBKK as advised by the Curriculum Development Centre.

However, the implementation of HOTS in education these days faces various issues. According to Gurusamy and Thambu (2018), many teachers do not stress thinking skills to students in their teaching. Teachers put in more effort to achieve the teaching objective and to complete the syllabus of teaching. According to Puteh et al. (2016), there are few reasons why thinking skills are not stresses by certain teachers because they believe that students

should master the concepts and facts of certain subjects before encouraging them to think.

It is found that the major problem faced by teacher in implementing HOTS is un-readiness (Rosnani and Suhailah, 2003). Teachers are least prepared in terms of knowledge, pedagogical skills and the attitude to teach HOTS (Sharamini, 2018). According to Ball and Garton (2005), many teachers do not know how to integrate HOTS to their students while many are least prepared as well.

In that circumstance, it is seen to the teaching and learning of Tamil Language subject in schools. The teaching of Thirukkural component is less exposed to the HOTS aspect in teaching and learning. Teachers question continuously and don't prioritize to HOTS. Therefore, students memorize Thirukkural and rewrite it again during examination. This leads to emphasise of HOTS in teaching and learning of Thirukkural least practised in school. Does this weakness exist due to incompetence of teachers in mastering the content of HOTS in teaching and learning that are art based? Or did the students fail to master the skills of HOTS in learning Thirukkural?

At the same time, are the teachers less aware of the questioning technique that stimulates students to master HOTS? Overall, do the teachers master the skills of evaluation and questioning based on the evaluation level that has been suggested in Blooms' taxonomy in teaching and learning of Thirukkural? Therefore, the research is crucial to obtain clear information or data as an answer to the above questions.

In case if the students can understand the implied meaning that is tried to be conveyed, in the piece of Thirukkural through the aspect of HOTS thinking, it can help to produce an individual who is high in morale and good sense as well high maturity in thinking. However, looking at the current situation, the effectiveness of teaching and learning of Thirukkural is questionable because students don't depict maturity in their thinking. This is seen clearly, when students do not provide constructive response when the discussion of Thirukkural is conducted in the classroom.

The teaching of Thirukkural in a holistic manner is still less emphasised by teachers of Tamil Primary Schools. This is because; the teaching of Thirukkural is still traditional method. Many Tamil language teachers are still using the story telling approach in teaching Thirukkural as a whole. Besides that, a group of teachers also teach using the direct teaching approach. Teachers teach couplets of Thirukkural and the meaning in direct method using grammar and literature book of Curriculum Development Division as a reference. They rarely conduct in-depth discussion towards the couplets of Thirukkural. This causes teachers to not achieve their real teaching goals. Therefore, research plans to study the teaching of Thirukkural among the students of Perak state.

The research was conducted to achieve the objectives below:

- i To measure the mastery of HOTS among teachers of Tamil Primary Schools in Perak.
- ii To measure the mastery of questioning technique based on Blooms' taxonomy using HOTS in the teaching of Thirukkural.

This research was conducted using mixed method. Therefore, the data was collected in various sources for the purpose of triangulation (Robert and Sari, 2003). Integration class (Thirukkural teaching class) will be conducted with the approval of teacher. The aspect of HOTS mastery, mastery of questioning techniques as well as evaluation method is observed in the chosen class. Interview with the teacher as well as a check is done on the students activities related to teaching of Thirukkural for the previous classes to strengthen the finding of the study. The data was analysed by researching the interview transcript, observation protocol and writing of journal.

Next, the qualitative instrument used by the researcher in this research is questionnaire. The researcher conducted this research with 80 teachers from different Tamil schools in the state of Perak and they were given questionnaires to be answered.

The questionnaire was done to understand the respondent's profile, HOTS mastery level among the teachers of Tamil Primary Schools in the state of Perak. Besides that, the evaluation Form of Teaching and Learning of Tamil Primary Schools will be assessed in three criteria, which are the daily teaching lesson plan, development of teaching as well as attitude and personality. Researcher also conducted observation of teaching and learning in two schools, one urban school and one rural school in Perak. During the observation, the researched also recoded the teaching and learning of respondent. Researcher focussed on the mastery of questioning technique based on Blooms' taxonomy using HOTS in the teaching of Thirukkural.

The location of the research is around the state of Perak. For the purpose of teaching and learning observation, an urban Tamil Primary Schools school was chosen in the District of Batang Padang. On the hand, the school in rural area was chosen from the District of Kerian. For the purpose of data collection, four schools from four different districts were chosen. Two were from rural area which was from the district of Kerian and Manjung. While two schools from the urban area were from the District of Batang Padang and Kinta Utara.

2. Research findings

2.1. The mastery of HOTS among the teachers of Tamil primary schools in the state of Perak: The need of teachers in implementing HOTS

2.1.1. Teaching lesson plan

This section discusses on the research findings which are related to teaching's planning and preparation. There are six items, which are learning

objectives that is compatible with the thinking skills of students, HOTS in the preparation of teaching and learning objectives, teaching and learning activities, which are compatible to generate HOTS. Thinking instrument in the planning of teaching and learning, different learning resource, which is creative and different learning resource, which is innovative, and respondents following the related Likert scales to teaching planning and preparation can answer it. Based on the grading produced by the researchers from the outcome of the research for this is section is as Table 1.

There are 6 items numbered 1, 2, 3, 4, 5 and 6 from the questionnaire which is used to identify the level of teaching planning and preparation. Based on the Table 1, teaching planning and preparation which shows in the excellent level is 8.8% which is equivalent to 7 respondents. There are 21 respondents, and 26.2 % is in the good level and 10% which is equivalent to 8 respondents are in average level. 55% respondents which are 44 respondents are in the weak category. On the other hand, it is found that there are no respondents in the very weak category.

2.1.2. Subject's objective delivery method

This section discusses the outcome of the research findings related to the subject's objective delivery method. Overall there are 7 items which are self-learning access that is student centred, Discovery inquiry learning which is student centred, project-based approach activity which is student centred, Problem based learning which is student centred, generate situations to create curiosity, create problems, provide questions based on the conducted activities which were answered by respondents following the Likert scales related to the delivery of syllabus objective. Based on the grading produced by the researchers from the outcome of the research for this is section is as Table 2.

There were seven items numbered 7, 8, 9, 10, 11, 12 and 13 from the questionnaire were used to identify the syllabus objective delivery method. Based on Table 3, the syllabus objective delivery method shows only 5 %, which is equivalent to four respondents at the excellent level. 13 respondents, 16.25% is at the good level and 65 % which is 52 respondents are at the average level. 10 % which is 8 respondents are at the weak level and 3.75% which is 3 respondents are at the very weak level.

2.1.3. Usage of educational resources

This section discusses the research findings which are related to the usage of educational resources in the teaching and learning of Thirukkural. There are 10 question items related to usage of educational resources were answered by respondents using the Likert scale. The items are Circle Map, Flowchart, Multi-flow maps, Foam Map, Double Foam Map, Mapping, Titi Map, Mind Map and

correct educational resource, effective and compatible with the cognitive level.

Table 1: Descriptive analysis for teaching planning and preparation

Grade	Level	Number	Percentage (%)
3.98 - 4.0	Very good/Excellent	7	8.8
3.50 - 3.97	Good	21	26.2
3.10 - 3.49	Average	8	10
2.57 - 3.09	Weak	44	55
2.56 and below	Very weak/poor	-	-
Total		80	100

Table 2: Descriptive Analysis for syllabus objective delivery method

Grade	Level	Number	Percentage (%)
3.74 - 4.0	Excellent	4	5
3.36 - 3.73	Good	13	16.25
2.97 - 3.35	Average	52	65
2.59 - 2.96	Weak	8	10
2.58 and below	Very weak/poor	3	3.75
Total		80	100

Table 3: Descriptive of the use of educational resources

Grade	Level	Number	Percentage (%)
3.87 - 4.00	Excellent	2	2.5
3.40 - 3.86	Good	20	25
2.93 - 3.39	Average	46	57.5
2.46 - 2.92	Weak	11	13.75
2.45 and below	Very Weak/Poor	1	1.25
Total		80	100

Item numbered 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23 from the questionnaire were used to identify the usage level of educational resources of Thirukkural teaching and learning. Based on the Table 3, the usage level of educational resources at the excellent level is only 2.5% which is 2 respondents. There are 20 respondents, 25 % is at the good level and 47.5% which is 46 respondents are at the average level. 13.75, which are 11 respondents, are at the weak level and one respondent, which is 1.25%, is at the very weak level in the usage of educational resources. Most of the respondents belong to the average category.

2.1.4. Evaluation to improve the effectiveness of teaching and learning

This section is to discuss the research findings, which is related to an evaluation to improve the effectiveness in Thirukkural teaching and learning. There are two items, which are in number 24 and 25, which is an evaluation that is suitable with the cognitive ability of student and evaluation instrument based on HOTS, which is answered by respondents using the Likert scaled related to evaluation to improve the effectiveness of teaching and learning. Table 4 shows minimum and evaluation standard deviation to improve effectiveness of Thirukkural teaching and learning among the teachers of Tamil Primary Schools in Perak state.

Based on the Table 4 evaluation to improve the effectiveness of teaching and learning which is at the excellent level is 7.5% only and that's equivalent to 6 respondents. There are 22 respondents, 27.5% is at the good level and 61.25%, which is 49 respondents, and they are at the average level. 2.5% which is 2 respondents are the weak level. 1 respondent or

1.25% is at the very weak level in evaluation to improve the effectiveness of teaching and learning.

Table 4: Descriptive analysis for the evaluation to improve the effectiveness of teaching and learning

Grade	Level	Number	Percentage (%)
3.87 - 4.00	Excellent	6	7.5
3.49 - 3.86	Good	22	27.5
2.95 - 3.48	Average	49	61.25
2.50 - 2.94	Weak	2	2.5
2.49 below	Very Weak/Poor	1	1.25
Total		80	100

2.1.5. Questioning technique

This section is to discuss the technique of questioning in teaching and learning of Thirukkural among the research respondents. There are nine items numbered 26, 27, 28, 29, 30, 31, 32, 33 and 34 were answered by respondents using the Likert scale related to the technique of questioning. The items are questions which stimulate students towards higher order thinking, the questions were based on Blooms' taxonomy, questions based on Anderson's Taxonomy, questioning techniques which trigger thinking skill of students, think clearly of students questions to ensure the meaning to be delivered, think by questioning students who ask and propose questions to students and think by asking to follow up questions for students to think in depth.

Based on Table 5, questioning technique at excellent level is 8.75% only, which are seven respondents. There are 18 respondents, 22.5% at the good level and 47.5% which is 38 respondents is at the average level. 21.225% which is 17 respondents is at the weak level. In this section, there are no respondents in the very weak category.

2.1.6. Mastery of teaching content

This section is to discuss the mastery of teaching and learning content of Thirukkural. There are four items, which are the content of teacher, is teaching related to the current issues and environment, teacher's teaching is across the curriculum, the teaching content of teachers is obtained from various

resources and my teaching content is HOTS oriented which respondents using the Likert scale related to mastery of teaching content answer.

Table 5: Descriptive analysis for questioning technique

Grade	Level	Number	Percentage (%)
3.87 - 4.00	Excellent	7	8.75
3.40 - 3.86	Good	18	22.5
2.99 - 3.39	Average	38	47.5
2.50 - 2.98	Weak	17	21.25
2.49 below	Very weak/Poor	-	-
Total		80	100

Based on the Table 6, the content mastery level is an excellent level of 12.5% only, which is equivalent to respondents. There are 12 respondents, 15% is at the good level and 13.75 % which is 11 respondents is at the average level. 58.75%, which is 47 respondents, are in the weak category. In this section as well, it is found that there are no respondents in the very weak category.

Table 6: Descriptive analysis for the mastery of teaching content

Grade	Level	Number	Percentage (%)
3.89 - 4.00	Excellent	10	12.5
3.50 - 3.88	Good	12	15
3.02 - 3.49	Average	11	13.75
2.48 - 3.01	Weak	47	58.75
2.47 below	Very weak/poor	-	-
Total		80	100

2.1.7. Classroom management

This section is to discuss the classroom management in the implementation of teaching and learning of Thirukkural. There are five items numbered 39, 40, 41, 42 and 43, which were answered by respondents using the Likert scale related to classroom management. The items are classroom space that supports the thinking process of students, space and the arrangement of the classroom that is suitable with HOTS activity, visually designed materials and texts to elevate HOTS, students products which are HOTS characterized are exhibited and made as a reference as well as providing Information Technology facilities.

Based on the Table 7, the classroom management is at the excellent level only at 5% which is 4 respondents. There are 10 respondents, 12.5% at the good level and 66.25%, which are 53 respondents on an average level. 13.75% which are 11 respondents are the weak level and 2 respondents or 2.5 % is at the very weak level in classroom management.

2.1.8. Daily teaching practise of teachers

This section is to discuss the daily teaching practise of teachers. There are 12 items numbered 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54 and 55 were answered by respondents using Likert scale related to the practice of teaching. The items are chosen from various fields of learning and project, playing with games, riddles, construction materials, singing, listening or dancing following the music, working in

a given team based on the ability, circling, underlining and/markings item on the work pad, take part in memorising maths, colouring, cutting and pasting shapes that were prepared, take part in teaching activity which is teacher centred, sit and listen to a long period till they are nervous and anxious, receive enumeration as an incentive for taking part in classroom activities where these are students who refused to get involved in activities, activities that were chosen by students and teachers support and conduct the activity that integrates various subjects.

Table 7: Descriptive analysis of classroom management

Grade	Level	Number	Percentage (%)
3.86 - 4.00	Excellent	4	5
3.41 - 3.85	Good	10	12.5
2.94 - 3.40	Average	53	66.25
2.49 - 2.93	Weak	11	13.75
2.50 and below	Very Weak/Poor	2	2.5
Total		80	100

Based on the Table 8, the daily teaching of teachers is at the good level with 25% only, which is equivalent to 20 respondents. There are 41 respondents, 51.25 % at the average level and 15% which are 12 respondents at the weak level. Seven respondents, which are 8.75 %, are at the very weak level in daily teaching of teachers.

Table 8: Descriptive analysis of daily teaching practice of teachers

Grade	Level	Number	Percentage (%)
3.57 - 4.00	Excellent	-	-
3.09 - 3.56	Good	20	25
2.60 - 3.08	Average	41	51.25
2.12 - 2.59	Weak	12	15
2.11 below	Very Weak/Poor	7	8.75
Total		80	100

2.2. Mastery of questioning technique based on Blooms' taxonomy using the HOTS skills in the teaching of Thirukkural

This section is the division from the third questions of the research, which is the mastery of questioning technique based on Bloom's Taxonomy using HOTS in the teaching of Thirukkural. There is four class handled by a teacher-to-teacher 8 couplets of Thirukkural for Year 5 students. This is equivalent to 2 Thirukkural couplets in each class. Therefore, in this research eight classes were supervised by researchers to collect information regarding the technique of questioning of teachers in these classrooms. 4 classes were from urban and 4 classes were from rural areas were supervised by the researchers. The classroom supervision results were based on the questioning technique as per Table 9.

Based on the Table 9, it is found that Year 5 Tamil Language teacher in urban has asked 162 questions in implementing teaching and learning of Thirukkural in 4 classes of teachers. For Class 1 there were 23 questions proposed by teachers. In that, nine questions out of 34 questions (26.47%) were knowledge-based questions, on the other hand,

seven questions were understanding questions (20.59%). For an application, analysis, synthesis, and evaluation, urban school teachers asked four

questions (11.67%), six questions (17.65%), 2 questions (5.88%) and six questions (17.65%) each.

Table 9: Number of questions based on Blooms' taxonomy

Table 9: Number of questions based on Bloom's taxonomy															
	Lower Order Thinking Skills (LOTS)					Higher Order Thinking Skills (HOTS)							J.S		
	Knowledge		Understanding		Total	Application		Analysis		Synthesis		Evaluation		Tota	
Urban School	No.	%	No.	%	(LOTS)	No.	%	No.	%	No	%	No.	%	(HOTS)	
Class 1	9	26.47	7	20.59	16	4	11.76	6	17.65	2	5.88	6	17.65	18	34
Class 2	9	26.47	8	23.53	17	5	14.71	7	20.59	3	8.82	2	5.88	17	34
Class 3	7	15.91	10	22.72	17	11	25	7	15.91	4	9.09	5	11.36	27	44
Class 4	8	16	12	24	20	10	20	10	20	4	8	6	12	30	50
Rural School															
Class 1	7	25.93	8	29.63	15	3	11.11	6	22.22	2	7.41	1	3.7	12	27
Class 2	7	18.92	12	32.43	19	6	16.22	5	13.51	5	13.51	2	5.41	18	37
Class 3	9	30	10	33.33	19	7	23.33	3	10	0	0	1	3.33	11	30
Class 4	8	15.38	21	40.38	29	11	21.15	5	9.62	4	7.69	5	9.62	25	52
Number of questions	64		88		152	57		47		24		28		156	308

In the Year 2 teaching and learning, urban school teacher has asked 24 questions which are 9 knowledge questions (26.47%), 8 understanding questions (23.53%), 5 application questions (14.71%), 7 analysis questions (20.59%), 3 synthesis questions (8.82%) and 2 evaluation questions (5.88%).

There were 44 questions asked by Year 3 urban school teachers in the teaching and learning which are 7 knowledge questions (15.91%), 10 understanding questions (22.72%), 11 application questions 25%, 7 analysis questions 15.91%, 4 synthesis questions (9.09%) and 5 evaluation questions (11.36%)

In teaching and learning of Year 4 urban school teacher has asked 50 questions which are 8 questions (16%) knowledge-based, 12(24%) understanding based, 10 questions (20%) application based, 10 questions (20%) analysis based, 4 questions (8%) synthesis based and another 6 questions (12%) evaluation based.

Next, 146 questions from 4 classes were questioned by teachers who teach Thirukkural in rural schools. In the teaching and learning of Year 1, a rural school teacher has asked seven knowledge questions (25.93%), 8 understanding questions (29.63%), 3 application questions (11.11%), 6 analysis questions 22.22%, 2 synthesis questions (7.4%) and one evaluation question (3.7%). The total number of questions asked by Year 1 rural school teacher was 27 questions.

In the teaching and learning of Year 2 rural school, the number of questions asked by the teacher to students in teaching Thirukkural was 37. From the 37 questions, 7 questions (18.92) based on knowledge, 12 questions (32.34%) understood, 6 questions (16.22%) were application, 5 questions (13.51%) were analysis and synthesis each and 2 questions (5.41%) were evaluation.

There were 30 questions asked by Year 5 rural school teacher in teaching and learning. From the number, nine questions (30%) were knowledge questions, 10 questions (33.33%) were understanding questions, seven questions (23.33%) were application questions, 3 questions (10%) were synthesis questions and one question (3.33%) was

evaluation question. In teaching and learning of Year 3 of a rural school, there was no synthesis question raised.

In teaching and learning of Year 4, a rural school teacher has raised 52 questions in the process of teaching and learning. From the total number of questions, eight questions (15.38%) were knowledge stream questions, 21 questions were understanding (40.38%), 11 application questions (21%), 5 analysis questions and evaluation (9.6%) each and 4 synthesis questions (7.6%)

Overall, both teachers from the school have raised 308 questions in their teaching and learning Thirukkural class. This is equivalent to 64 knowledge questions, 88 understanding questions, 57 application questions, 47 analysis questions, 24 synthesis questions, and 28 evaluation questions. This shows most of the questions raised by the teachers were from the knowledge and understanding category.

2.3. Differences between urban school and rural school with the mastery of questioning skills based on Blooms' taxonomy during the implementation of HOTS in the teaching of Thirukkural

This section is the division of research question 4, which are the differences between urban and rural school in the mastery of questioning technique based on Blooms' taxonomy during the implementation of HOTS in the teaching of Thirukkural. Therefore, the researcher has collected data from two schools, which are eight teaching and learning sessions to identify the mastery of questioning technique level. The results of the respondent's achievement in this section are as per Table 10.

Even though both schools have taught the same Thirukkural but the number of questions raised by teachers for each category was found to be different. It is seen that urban school teacher raised 33 knowledge questions (20.37%) in Thirukkural class. While rural school teacher raised 31 knowledge questions (21.23%) in teaching and learning of Thirukkural. This shows that both schools use

knowledge questions which are similar in terms of number to conduct their teaching and learning.

Table 10: Differences between urban school and a rural school in the mastery of questioning technique based on Blooms' taxonomy

Elements of LOTS and HOTS	Urban School		Rural School	
	Number	%	Number	%
Knowledge	33	20.37	31	21.23
Understanding	37	22.84	51	34.93
Application	30	18.52	27	18.49
Analysis	30	18.52	19	13.01
Synthesis	13	8.02	9	6.16
Evaluation	19	11.72	9	6.16
Total	162	100	146	100

There were 37 understanding questions (22.84%) were raised by an urban school teacher. While 51 understanding questions (34.93%) were raised by a rural school teacher. Thus, it is found that rural school teacher raises more understanding questions compared to urban school.

Next, an urban school teacher has raised 30 application questions (18.52%) in the teaching and learning of Thirukkural. While a rural school teacher has raised 27 application questions (18.49%) in Thirukkural class. Therefore it is concluded that urban school uses more application questions relative to rural schools.

Through this research, it is seen that urban school teacher in Thirukkural class raised 30 analysis questions (18.52%). Meanwhile, a rural school teacher in Thirukkural class raised 19 analysis questions (13.01%). The differences were 11 analysis questions. This shows the urban school uses more analysis questions compared to rural schools.

Rural school teacher raised more synthesis questions, which are 13 questions (8.02%), compared to an urban school teacher, which are nine questions (6.16%). At the same time, it is found that urban school teacher has raised more synthesis questions, which are 19 questions (11.72%), compared to a rural school teacher, which are nine questions (6.16%)

Overall, an urban school teacher has raised 162 questions in teaching and learning. Meanwhile, a rural school teacher has raised 146 questions in the Thirukkural class. Besides that, most of the questions raised by both schools are Low Order Thinking skills which are urban schools with 70 questions and rural schools with 82 questions. Next, the HOTS questions raised by the urban school teacher were 92 questions. While the number of HOTS questions raised by the rural school teacher were 64 questions. Examples of questions raised by both school teachers are as [Table 11](#).

Table 11: Examples of questions posted by the teachers

Elements of LOTS and HOTS	Urban School	Rural School
Knowledge	- What is the meaning of that Thirukkural? - Complete the Thirukkural moppak kuzhaiyum aniccam; mukamthirinthu - Why did father use Thirukkural in the letter written to his child?	- What are the three forms of benefit in this Text? -What is the meaning of the Thirukkural, 'bin valiyathu'?
Understanding	- Why did the concept "Thank You" stressed in this story?	- What is the meaning of of'epporul yaryarvak'?
Application	- How to express love as said in this Thirukkural? - Complete this i-think map with truth/honesty values of a child to their parents - How do we express love for humankind and animals?	- Write a situation about truthfulness. - What is the suitable Thirukkural for that situation?
Analysis	- What do you understand from the Thirukkural? - Is fair for people to consume alcohol in public places? Explain?	- Who can predict the meaning of this Thirukkural? - What will happen if you don't "invite" love to the house and only invite wealth?
Synthesis	- Act out the situation if someone ignores the respect words? - What is the difference between respect and loyalty? Explain	- Are you afraid to commit something evil? Why? - Explain the situation, which expresses love in the school canteen.
Evaluation	- * An individual who acts without discussion * An individual who acts out with valid proof Who will be respected by the community? Explain	- When you are in a furious situation, your relatives visit your home. What is your action? Explain What is the difference between a student who has love and a student who does not have love? Explain

3. Conclusion

Learning of Thirukkural in school is to shape students to obtain moral values, stimulate students to obtain moral feelings and train students to possess moral values as well as to show good behavior. Learning of Thirukkural not only provides knowledge, in fact, it helps them to develop an

attitude towards the understanding of moral values, humanity and provides motivation to students.

Based on the research findings, the shaping of students who can think creatively and critically based on HOTS and Thirukkural in primary schools is at the average level. The implication of this research can be observed from the aspect of Thirukkural teaching in producing students who can think creatively and critically. A teaching method

that least emphasizes attention to the integration and involvement of students, learning which is exam-oriented, less interest among the students are the main factors of this problem. To ensure the welfare of the nation, the culture of practicing Thirukkural must be nurtured since young.

This research will provide implication to teachers especially Tamil school teachers to ensure the effectiveness of teaching Thirukkural in a primary school classroom. This research will provide ideas and understanding towards the application of HOTS in classroom activities. Teachers can share their thoughts and information about HOTS in this research. This will assist other teachers to elevate their mastery level of HOTS and mastery level of questioning technique.

The search finding has provided a general exposure towards the integration, understanding of HOTS especially in Tamil schools in the teaching of Thirukkural. The research findings can awaken the school administrators and Tamil Language teachers in taking up further actions to integrate HOTS in an optimum manner in their teaching and learning of Thirukkural specifically and Tamil Language in general.

Based on the discussion done in this research, it can be concluded that Thirukkural can give positive effect in HOTS if it is implemented in Tamil Language teaching and learning. The education system must prepare students in all aspects of life especially students who are morale and humane. Therefore education must be seen as a process in developing physical aspect, emotion, intellectual and spiritual to produce good individuals.

From the discussion of Thirukkural teaching in HOTS at the state of Perak based on the mastery level of HOTS, questioning technique and student's response, it can be concluded that rural school teachers and students have mastered HOTS. Meanwhile, urban school teachers and students lack in mastering HOTS. However, urban school teachers and rural school student lack in mastery of HOTS in the teaching and learning of Thirukkural. Therefore, various suggestions has been given and discussed to master HOTS, improve questioning technique and increase student's method of response. Besides that, researcher has also further explain about the discussion and suggestion to master HOTS in the

teaching and learning process of Tamil Language in Tamil Primary Schools of Perak state.

Compliance with ethical standards

Conflict of interest

The authors declare that they have no conflict of interest.

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