IDENTIFICATION OF THE IMPLEMENTATION OF EXAMINATION ASSESSMENT USING INTELLIGENCE QUESTION GENERATION OF TEST PAPER

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Abstract

The creation of the intelligence question can be helpful for understanding the concept for better knowledge. It can help with the information more efficiently and quickly which can help to understand the effectiveness of the students.The aim of the research is to know the impact of intelligence question generation on the tests of students. Primary methods of the research has been chosen for increasing the preciseness of work and this also includes the quantitative analysis and the process of SPSS. The number of participants included in the survey was 213 helping to analyze their viewpoint on the examination assessment process. The students are also helpful as they are analyzed with the help of some questions that may judge their learning process. The learning process is more personalized with the help of intelligence question generation. The satisfaction of students is also important as this automated question-generation process may generate the wrong questions out of the syllabus due to some faulty process of the system.

This would be a time-saving process for them as they would not need too much time to do the process of automation. Planning lessons and feedback to the students also may be helpful for the students as it is done and analysed by the people in a great way. The most important factor behind the implication of this technology is the accuracy level. The development of accuracy decreases the biasedness in the process of examination. The intelligence system enhances the thinking capability of students and students can correlate their study material with the reality of the existing world. The best way to implement the intelligence question generation process is to develop the infrastructure of the school to support the fully digital system of examination. This process has increased the capability of the management team for conducting more exams.

Keywords: Examination Assessment process Of Examination, Intelligence Question, Generation, Complexity of Examination, Student Approval.

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Introduction

In modern times of technological development, the application of technology increases in all sectors of activity. The development of the modern examination process increases the learning opportunities of the students as well as this helps in the process of examination too. The modern intelligence system of examination will help to determine the result in comparatively less time. This research has analysed all the important advantages as well as effects of the modern system of examination.

The research is about the implementation of an intelligence system in the process of examination. This research has analysed all important correlated components related to this examination system. The development of technology enhances the processing system of education. According to the views of Danchikov et al. (2021), the examination process includes so many steps such as the development of the question paper, conduction of the exam, evaluation of copies and so on. The development of modern technology of examination helps to increase the performance and the capability of the teachers in respect of processing all the tasks of examination. Based on the views of Rakhinsky et al. (2022), the quality of examination must be developed to enhance the quality of task management. The implementation of this system helps the teacher to evaluate the copies of students and this system is interrelated with digital technology.
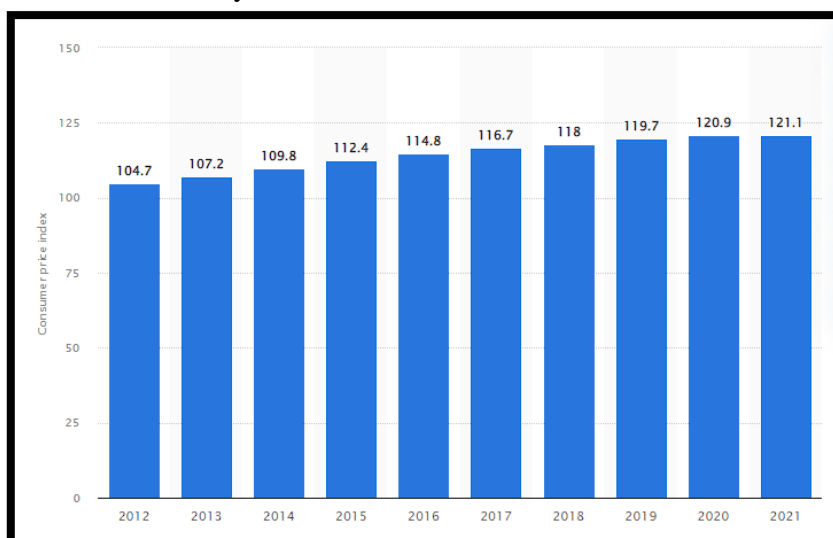

Figure 1: Customer price index for the expenditure on the educational products: (Source: Statista, 2023)

The above figure has represented that, the costing of the education in Malaysia has increased from the earlier times and it's still increasing from one year to next year. The customer price index represents the level of expenditure conducted by them in education. The CPI value was 104.7 in the year of 2012 and it increases to 121.1 in 2021 (Statista, 2023). This denotes the expenditure behind the education has increased and the implementation of modern technique of examination cause increases more expenditure of students behind the education. The government need to implement the projects for the actual development of intelligence question preparing system.

Aim

The aim of the research is to analyse the effect of implementing the intelligence

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system of question generation on the education system and the students.

Research hypothesis

Hypothesis 1: There is a strong relationship between the process of examination and examination assessment

Hypothesis 2: There is strong correlation between intelligence question generation and examination assessment of the students.

Hypothesis 3: There is a strong correlation between complexity of examination and examination assessment of the students.

Hypothesis 4: There is a strong relation between student approval and examination assessment of the students.

Research Objectives

The objectives of the research are to analyse the impact of the process of examination and examination assessment and to investigate the relationship between the intelligence question generation and examination assessment of the students. Further the research also aims to discuss the interconnection between complexity of examination and examination assessment of the students and enables to discuss how student approval has shown impact on the examination assessment of the students.

Research questions

The research delves into the assessment of what is the relationship between the intelligence question generation and examination assessment of the students? and What is the interconnection between complexity of examination and examination assessment of the students?

Materials and methods

This chapter has been prepared based on the collected data through the process of a primary survey. The participants belonging to country named China has been targeted for the evaluation of their educational system by having focus on examination system. The use of 18 questions has been adopted to have overall analysis of the relationship. The researcher has conducted the primary survey to analyse all the important factors behind the utilisation of the intelligence system of question generation. According to the views of Conradson et al. (2022), the primary method of research helps the researcher to know all the details of the research topic from the respondents. This increases the preciseness of the research work as this is interrelated with the fresh data. Quantitative analysis also uses in this research to know about the effect of different factors of the research. Based on the views of Miller et al. (2021), Quantitative analysis includes the numerical process and statistical analysis for the calculation of the analysis. This research is based on the use of an intelligence system for generating the question paper. The researcher has collected the data from 213 responses by sharing the link with the respondents. The process of SPSS has been used for understanding the correlated factors in the research.

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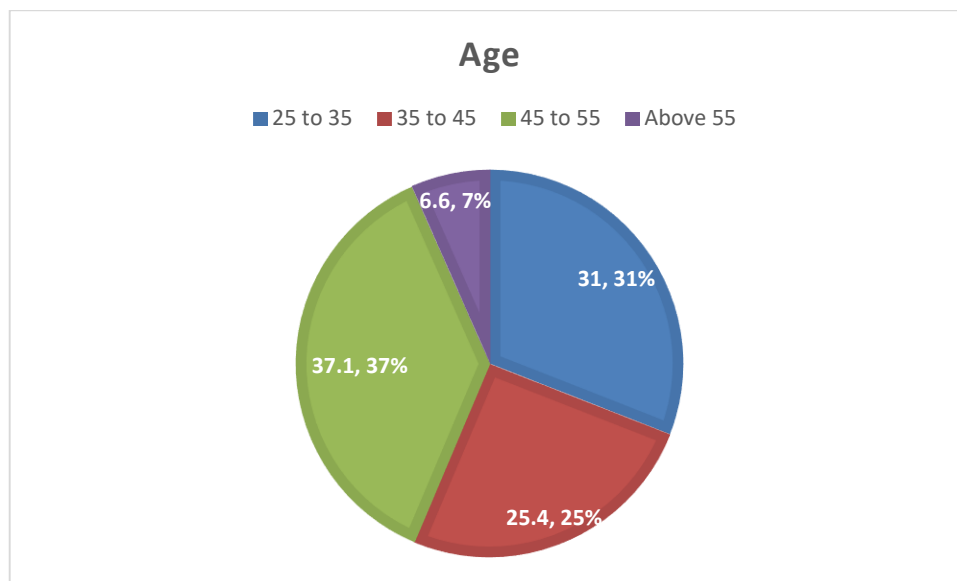
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Results

Demographic analysis

Table 1: Age analysis

The 37.1% of respondents belong from the age between 45 to 55 and 31% belong from 25 to 35, 25.4% of respondents are between the age of 35 to 45. The learning progress of the students and the development of their system of learning also can be known with the help of the process. Asking questions with the help of different processes like Bloom's taxonomy, which is helpful for analysing the process, thinking and perception of the knowledge of the students may help the students to do their own assessment.

Table 2: Gender analysis
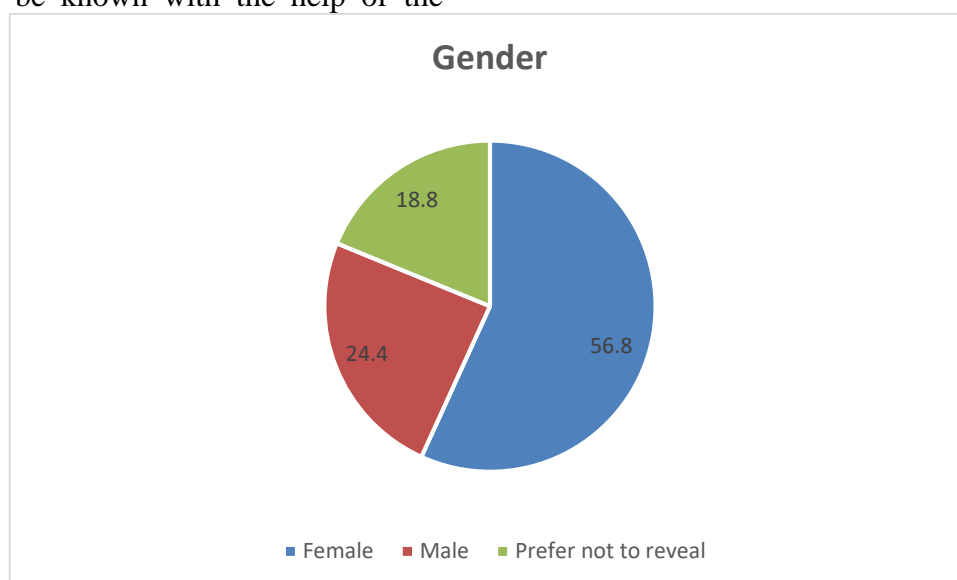
Male among the respondents are 56.8% and female are 24.4%. The intelligence system will enhance the thinking capability of students and students can correlate their study material with the reality of the existing world. This is very necessary for the developmental thinking ability and decision-making process among the students.
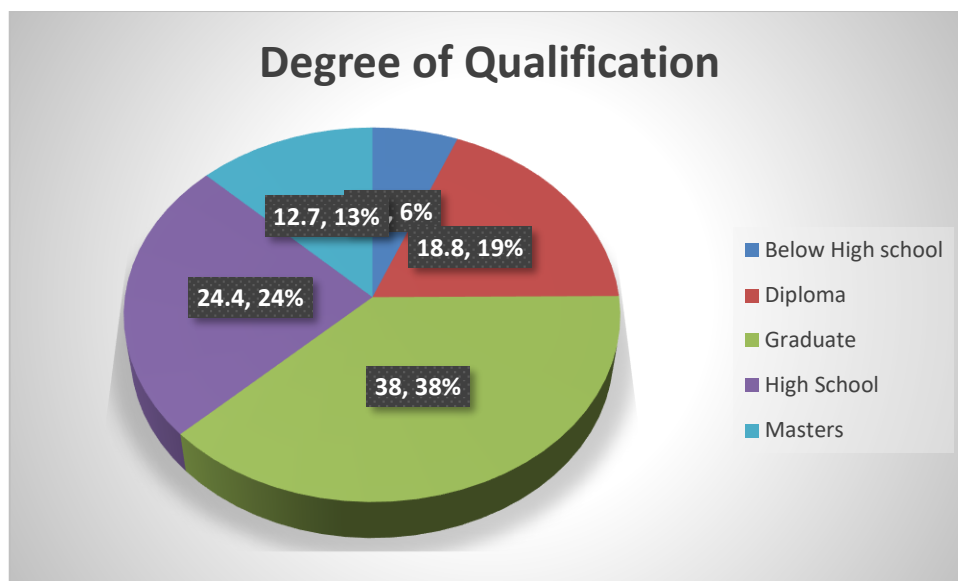
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Table 3: Status analysis

Educational qualification of respondents has described in the above table and there are 6.1 % below high school, 18.8% has completed diploma, 38% of respondents are graduated, 24.4% of respondents are completed high school study and only 12.7% has completed masters. Based on the views of Singh et al. (2019), the development of modern techniques of examination saves time behind the developmental question paper, security of the exam and so on. This enhances the possibility of fairness in the process of evaluation. In recent times intelligence systems are being implicated in different sectors to increase the preciseness of the activity.

Descriptive analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EO1	213	2	5	3.56	1.060
EO2	213	1	5	3.55	1.371
EO3	213	1	5	3.68	1.263
POE1	213	1	5	3.87	1.324
POE2	213	1	5	3.75	1.299
POE3	213	1	5	3.87	1.220
IQG1	213	1	5	3.94	1.140
IQG2	213	1	5	3.94	1.140
IQG3	213	1	5	3.88	1.219
COE1	213	1	5	3.95	1.190
COE2	213	1	5	3.81	1.291
COE3	213	1	5	4.07	1.081
SA1	213	1	5	3.69	1.360
SA2	213	1	5	4.01	1.112
SA3	213	1	5	2.85	1.500
Valid N (listwise)	213				

Table 4: Descriptive analysis

(Source: SPSS)

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According to the views of Kuchuk, Serdiuk & Zavhorodnia (2019), the intelligence system increases the possibility of developing the question paper from different aspects of the topic of the examination. This helps the teachers or guides to analyse the exam papers in a short period of time. Actually the modern system of examination ha conducted through digital technology. The students used to attend exams via online process. Based on the views of Shaturaev (2021), the modern technique of examination has increased the opportunity for students and teachers in terms of accessibility.

Hypothesis 1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.974[a]	.950	.949	.286

a. Predictors: (Constant), POE3, POE1, POE2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	321.245	3	107.082	1312.892	.000[b]
	Residual	17.046	209	.082		
	Total	338.291	212			

a. Dependent Variable: EO3

b. Predictors: (Constant), POE3, POE1, POE2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.180	.066		-2.732	.007
	POE1	.037	.034	.039	1.095	.275
	POE2	.431	.041	.443	10.534	.000
	POE3	.542	.036	.524	15.154	.000

a. Dependent Variable: EO3

Table 5: Hypothesis 1

(Source: SPSS)

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The significance values of the hypothesis 1 is more than 0.07 it means the relation between the components are not strong. This can be analysed from this that, the intelligence question paper generation process enhances the successive actor of education and it promotes a biased process of evaluation. The implementation of the intelligence system for the development of question papers helps schools or organisations to examine in a repetitive manner. The maintenance of quality also enhances by this process.

Hypothesis 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.982[a]	.964	.963	.242

a. Predictors: (Constant), IQG3, IQG1, IQG2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	326.083	3	108.694	1860.764	.000[b]
	Residual	12.208	209	.058		
	Total	338.291	212			

a. Dependent Variable: EO3

b. Predictors: (Constant), IQG3, IQG1, IQG2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.136	.062		2.183	.030
	IQG1	1.925	.067	1.737	28.732	.000
	IQG2	-3.880	.157	-3.501	-24.728	.000
	IQG3	2.903	.099	2.800	29.261	.000

a. Dependent Variable: EO3

Table 6: Hypothesis 2

(Source: SPSS)

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The significance value of regression analysis is 0 this means there are close relationship between the factors of this hypothesis. The technology of developing the question paper through the use of an intelligence system helps the students to get the question related to the topic. This system of preparing question papers helps to save the time of teachers as well as the management systems of schools for conducting the exam. According to the views of Van Brummelen, Heng & Tabunshchyk (2021), the enhancement of the preciseness in the process of examination increases the confidence of students to get the actual marks based on their exam.

Hypothesis 3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.982[a]	.964	.963	.242

a. Predictors: (Constant), COE3, COE2, COE1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	326.090	3	108.697	1861.921	.000[b]
	Residual	12.201	209	.058		
	Total	338.291	212			

a. Dependent Variable: EO3

b. Predictors: (Constant), COE3, COE2, COE1

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.129	.065		1.980	.049
	COE1	.462	.035	.435	13.280	.000
	COE2	.962	.025	.982	39.043	.000
	COE3	-.475	.048	-.406	-9.981	.000

a. Dependent Variable: EO3

Table 7: Hypothesis 3

(Source: SPSS)

The significance value of this regression analysis in this hypothesis is 0 and this represents the positive relationship between the factors. This analysis represents that, this increases the possibility of better marks as well as the teacher's need not to evaluate the copies as this type of examination is conducted through computerised technology.

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Hypothesis 4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.969[a]	.939	.938	.314

a. Predictors: (Constant), SA3, SA1, SA2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	317.686	3	105.895	1074.110	.000[b]
1	Residual	20.605	209	.099		
	Total	338.291	212			

a. Dependent Variable: EO3

b. Predictors: (Constant), SA3, SA1, SA2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.026	.107		.244	.808
1	SA1	.827	.033	.890	24.834	.000
	SA2	.099	.042	.087	2.379	.018
	SA3	.074	.016	.088	4.741	.000

a. Dependent Variable: EO3

Table 8: Hypothesis 4

(Source: SPSS)

In the hypothesis 4, the regression value is also 0 and it demarcates the positive sign of implication of intelligence helps the students to develop the habits of study. The significance value more than 0.05 is not represent the positive relationship. The development of accuracy decreases the biasedness in the process of examination. Based on the views of Muflihin & Madrah (2019), an intelligence system developing the question paper enhances the quality of questions and this increases the number of thinkable questions and increases the decision-making capability of students.

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Discussion

Helps in the improvement of learning

With The help of forming questions, about what they have learnt it is easy to know about the teachers and what the students have learned from the particular subject or class. If they are facing some issues and there is any needed improvement or if in some, they become wrong, then it would be improved with the help of intelligence question generation systems (Qizi, 2021).

This research has analysed several advantages of the intelligence system of question development for the examination. The most important factor behind the implication of this technology is the accuracy level. According to the views of Seikh (2020), the modern technology of examination increases accuracy in terms of providing marks to students. The accuracy of the examination process is also enhanced through the techniques of this system of generating question papers.

Making the learning process more personalized

All the students do have not the same capacity to catch all knowledge that is taught by teachers. It is impossible for the teacher to know the level of understanding the level of each and every student that they have learnt (G'ayratovich, 2022). If any particular point is not understood by the particular student, it may be known with the help of the assessment of the stadium and from the answers of the students by b generating questions with the help of intelligence question generation. In earlier times the examination system has taken so much time the conducting the examination.

Time-saving process for the teachers

The teachers can take help from this intelligence question generation system to take tests and the assessment of the students. It is a long process to make a question and to analyze all the answers for all numbers of students (Ali et al. 2019). With the help of this process, the teacher may easily answer the question with the help of an automation system and they also can analyze the total system of the process in a great way. The implementation of the modern intelligence system forte development of question papers of tests enhances the system of examination. This research has analysed several things related to the usability of the intelligence system for developing question papers for conducting the examination of the students.

This research has analysed that, in the era of development all sectors are using the intelligence system for increasing their production and performance. Thus, the implication of this technology has enhanced the processing capability of all tasks related to the process of examination and education. According to the views of Vollmer et al. (2020), the main motive of conducting an examination is to know the growth of the students in different subjects. In earlier times the examination was conducted once a year but now the strategy of examination has changed from the earlier times the frequency of examination has increased to enhance the capability of students of tackle in life. According to the views of Peltonen et al. (2020), repetitive examination increases the strength of the students as well as helps them to connect with the study more.

Conclusion

This research has described all the important things related to the utilisation of intelligence systems for conducting tests on students. This topic is really important to analyse the effect of this process of examination of the students. The satisfaction of students is also important as this automated question-generation process may generate the wrong questions out of the syllabus due to some faulty process of the system. The application of this system should be applied in different educational

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organisations for the development of the education system. This system has been used from earlier times for the online exams and this helps to check the papers as early as possible.

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