

## **CHAPTER-IV**

### **DATA ANALYSIS AND INTERPRETATION**

#### **4.1 Introduction:**

The present chapter focuses mainly on the analysis and interpretation of the data that was collected for the study. Data analysis is the process of inspecting, cleansing, transforming and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making

#### **4.2 Analysis of the Data:**

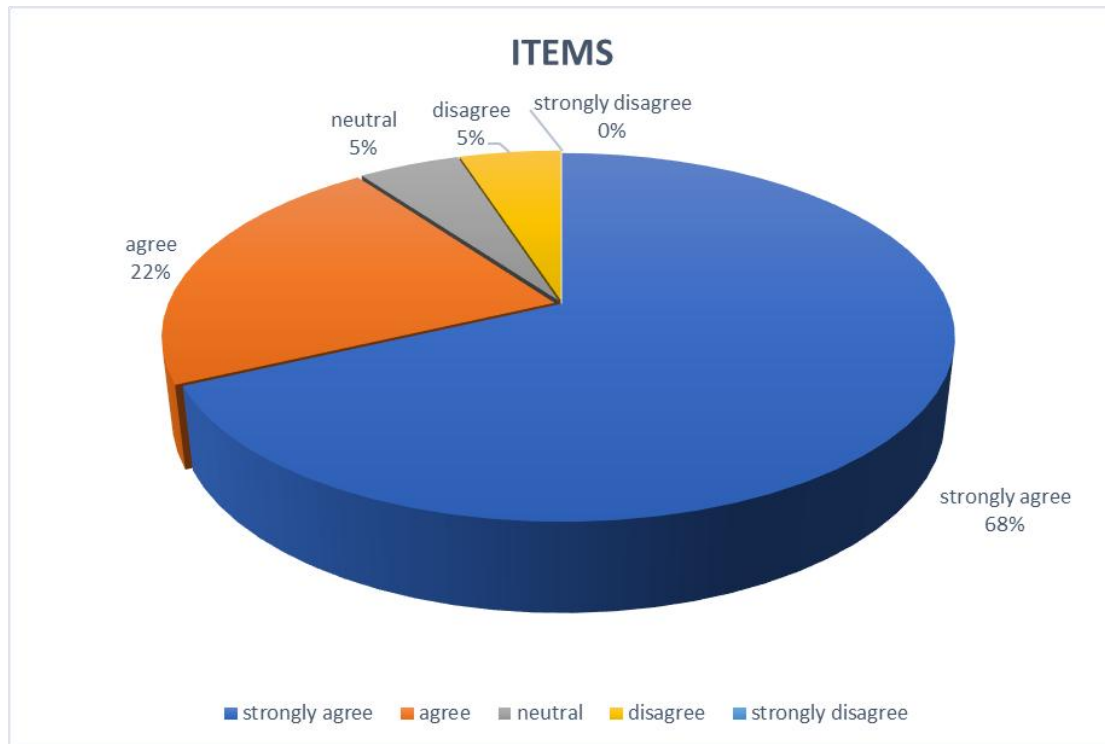
Data is a collected form of facts for extracting factual information from the set of raw data. Analysis of data is a structured and systematic procedure of categorizing, arranging, ordering, and summarizing the data to discover facts and for getting answers related to the research purpose. The basic purpose of data analysis is to reduce data into a simple and interpretative form so that inferences may be drawn from it **(Kothari, 2004)**. Analysis and interpretation of data are helpful in knowing the relationship between the variables and drawing appropriate conclusions. Data analysis is the process of breaking the data into smaller parts to extract useful information for forecasting the outcomes. Careful analysis with the help of appropriate statistical techniques leads to better prediction and accurate assessment. Therefore, data analysis is an important step that involves a whole composite procedure for assessing data utilizing appropriate descriptive and inferential statistics.

#### **4.3 Objective-wise Analysis, Interpretation and Discussion of Result:**

To facilitate and bring clarity, the entire analysis is presented and the results based on it are discussed under the following sections-

**4.3.1 OBJECTIVE -1: To investigate teachers' awareness and understanding of Artificial Intelligence (AI) in education.**

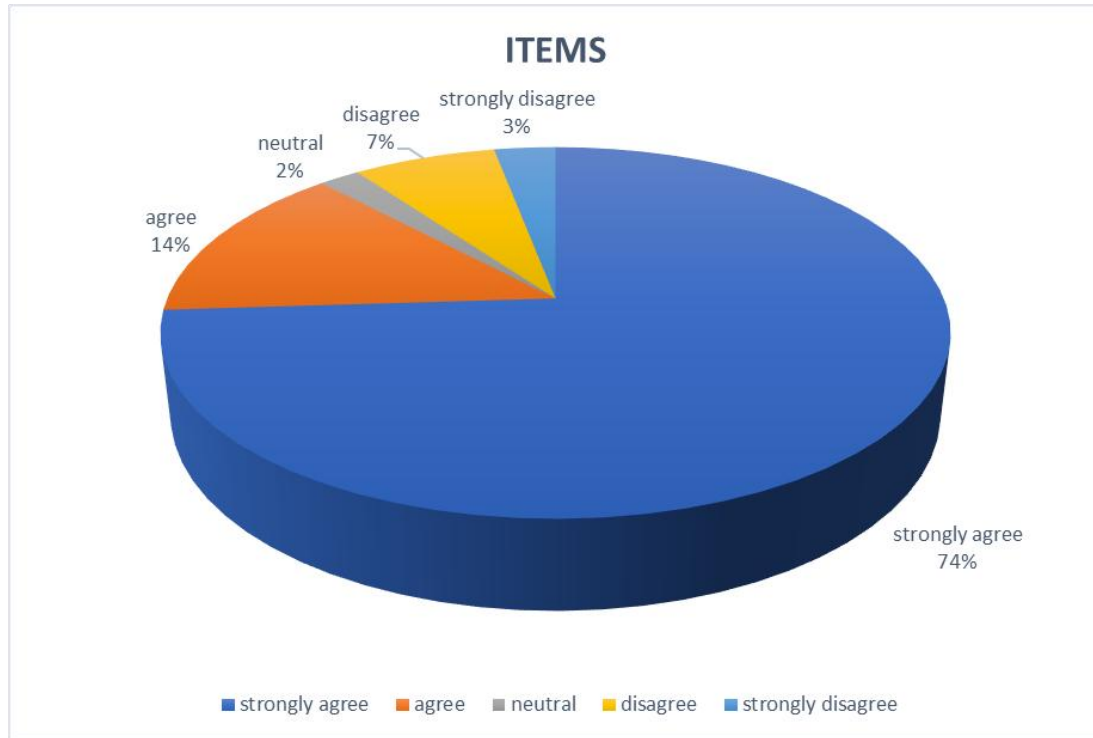
**Item No. (i) I am aware of how AI is currently used in educational settings.**



**Figure No. 4.3.1(i) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.1(i)	I am aware of how AI is currently used in educational settings.	68%	22%	5%	5%	0%

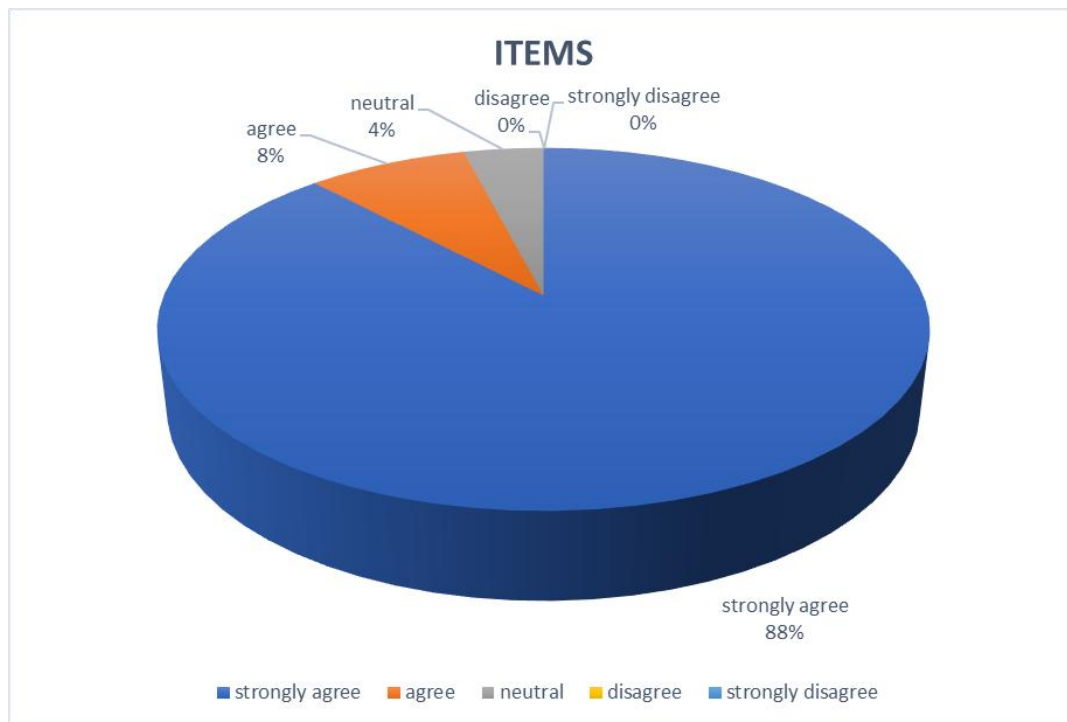
**Item No. (ii) I believe AI is a rapidly growing field that will impact education.**



**Figure No. 4.3.1(ii) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
<b>4.3.1(ii)</b>	I believe AI is a rapidly growing field that will impact education.					
		74%	14%	2%	7%	3%

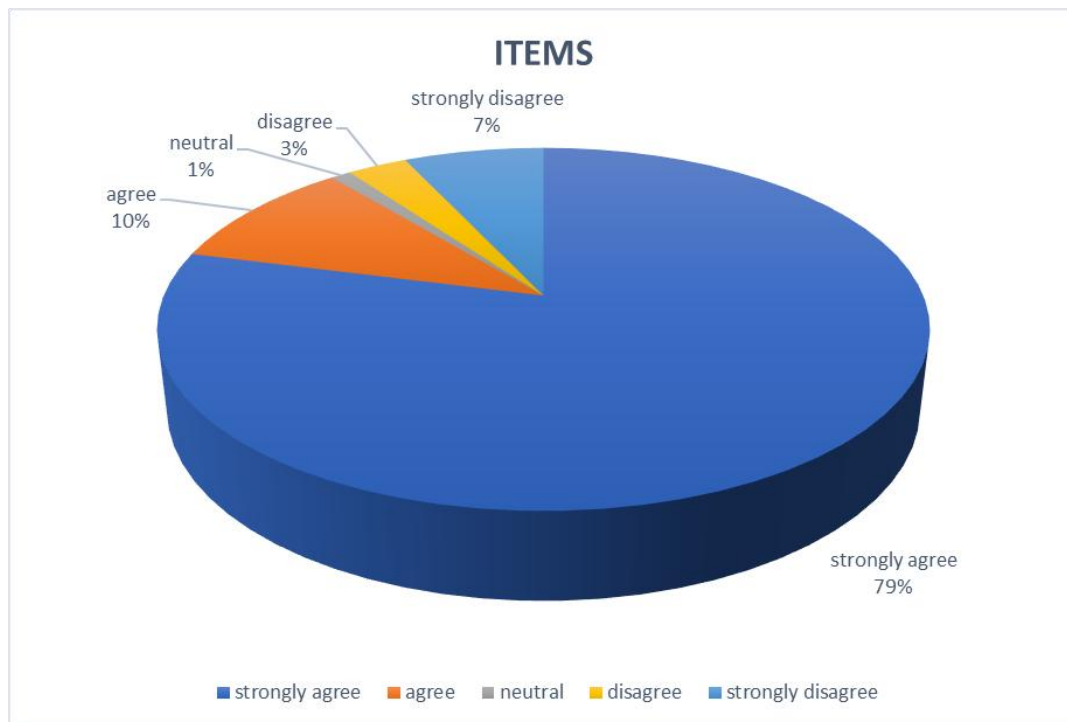
**Item No. (iii) I regularly read or hear about AI in the media or professional platforms.**



**Figure No. 4.3.1(iii) (% of responses by teachers)**

Figure No.	Item	Response %				
<b>4.3.1(iii)</b>	I regularly read or hear about AI in the media or professional platforms.	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
		88%	8%	4%	0%	0%

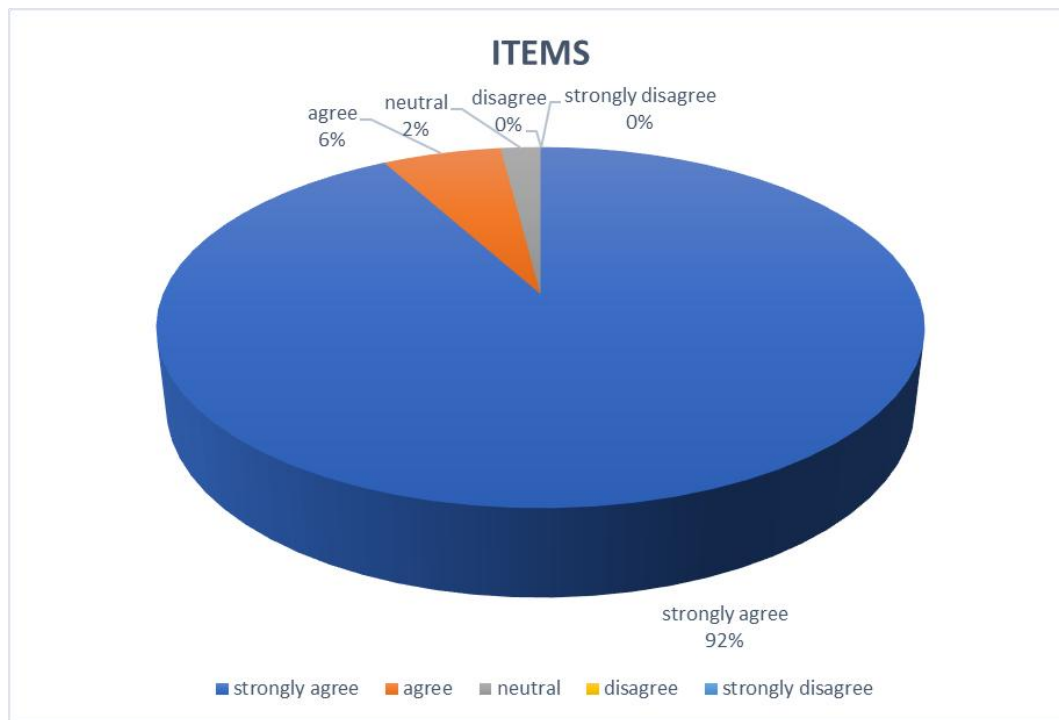
**Item No. (iv) AI-based platforms can improve student engagement and performance.**



**Figure No. 4.3.1(iv) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.1(iv)	AI-based platforms can improve student engagement and performance.					
		79%	10%	1%	3%	7%

**Item No. (v) AI will become a necessary tool in the future of education.**



**Figure No. 4.3.1(v) (% of responses by teachers)**

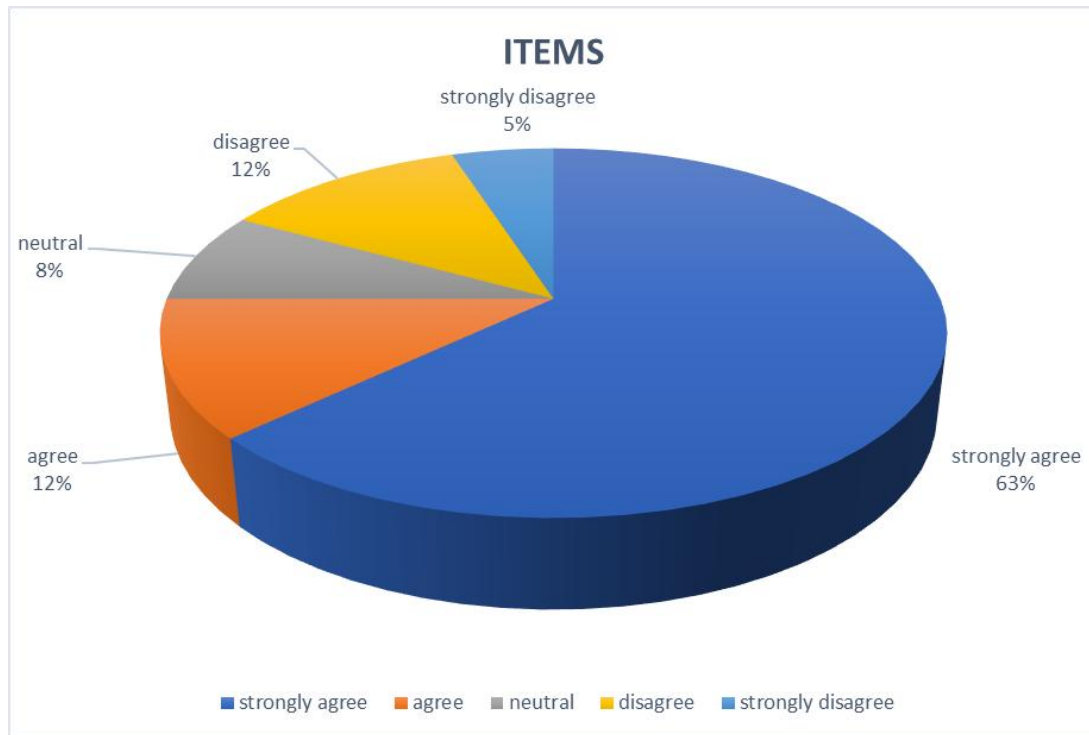
Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.1(v)	AI will become a necessary tool in the future of education.	92%	6%	2%	0%	0%

#### **Interpretation of Objective No.1:**

**"Investigating teachers' awareness and understanding of Artificial Intelligence (AI) in education"** reflects a proactive and future-oriented approach to educational innovation.

**4.3.2 OBJECTIVE -2: To examine teachers' attitudes towards integrating AI into their teaching practices.**

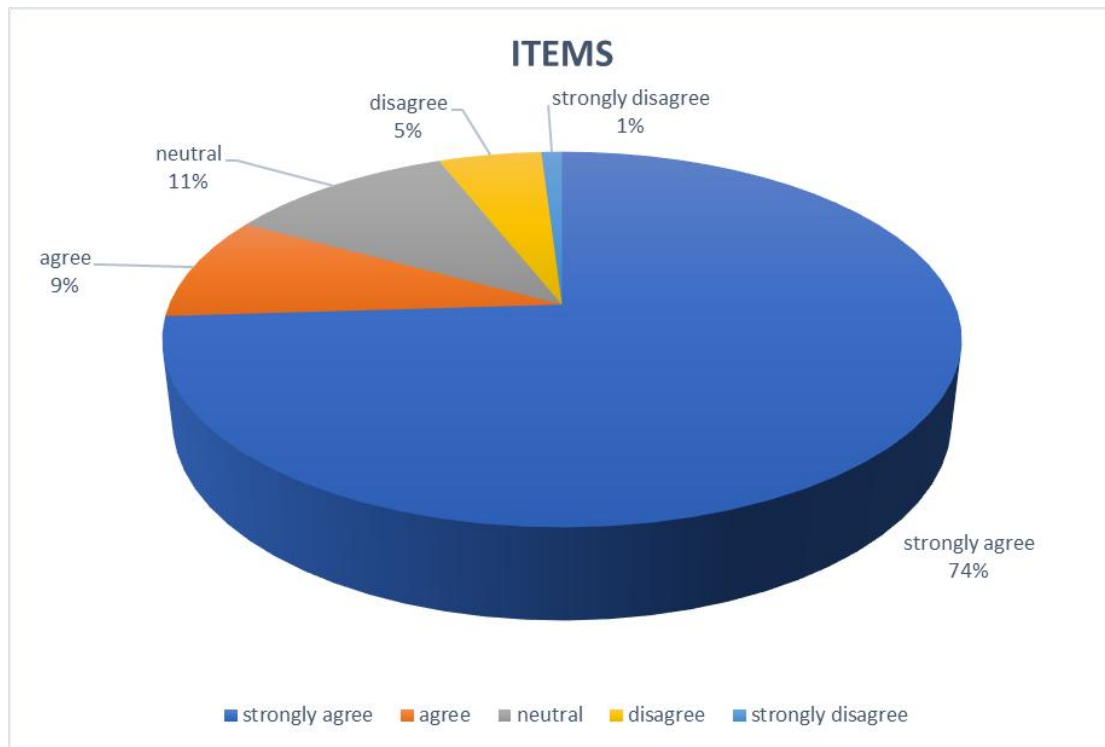
**Item No. (i) AI tools can enhance student learning outcomes**



**Figure No. 4.3.2(i) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.2(i)	AI tools can enhance student learning outcomes					
		63%	12%	8%	12%	5%

**Item No. (ii) Integrating AI can help personalize instruction for students.**

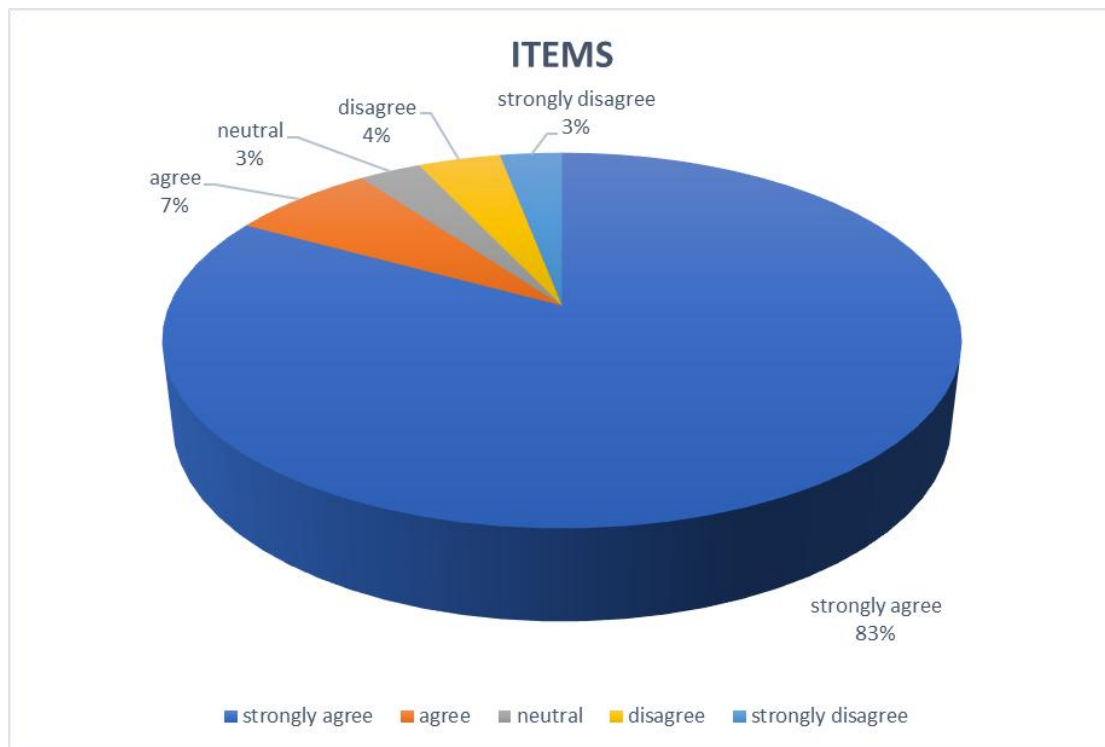


**Figure No. 4.3.2(ii) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
<b>4.3.2(ii)</b>	Integrating AI can help personalize instruction for students	74%	9%	11%	5%	1%



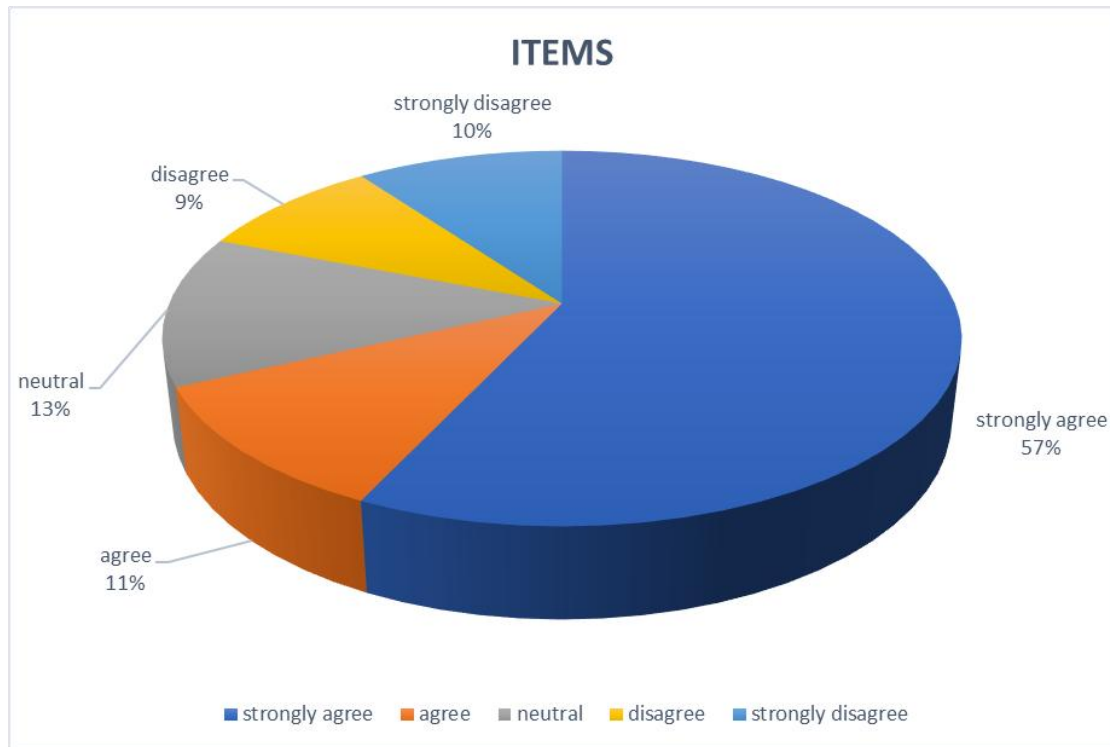
**Item No. (iii) AI can support differentiated learning based on individual student needs.**



**Figure No. 4.3.2(iii) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.2(iii)	AI can support differentiated learning based on individual student needs.					
		83%	7%	3%	4%	3%

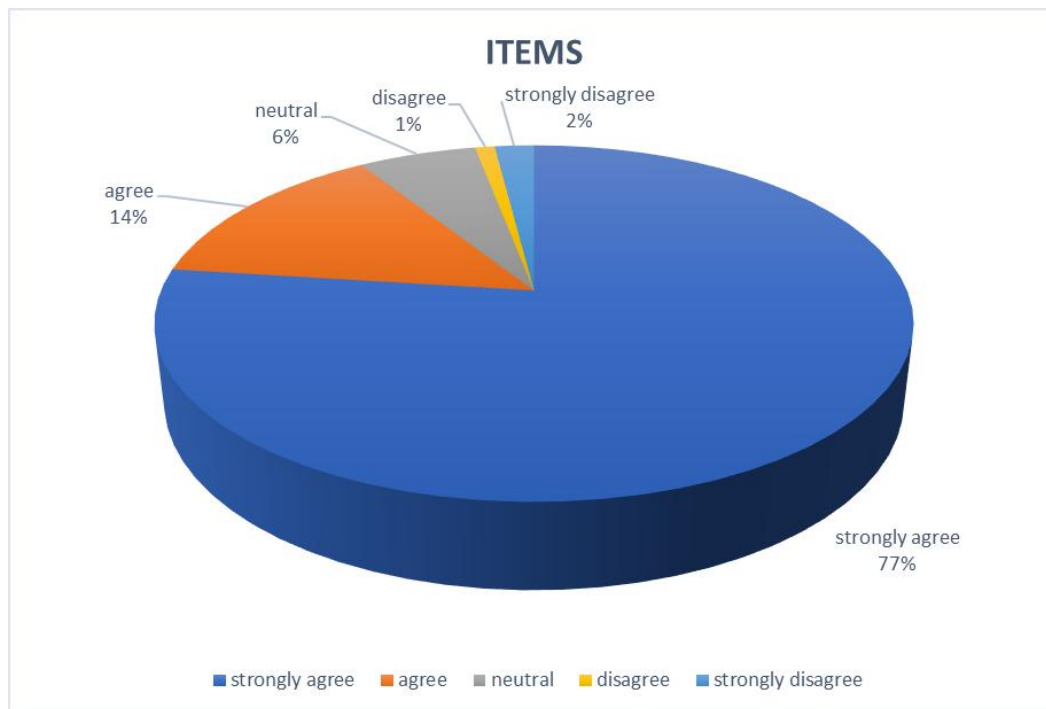
**Item No. (iv) AI can reduce my workload by automating tasks like grading or feedback.**



**Figure No. 4.3.2(i) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.2(i)	AI can reduce my workload by automating tasks like grading or feedback.					
		57%	11%	13%	9%	10%

**Item No. (v) Using AI can make the classroom more interactive and engaging.**



**Figure No. 4.3.2(v) (% of responses by teachers)**

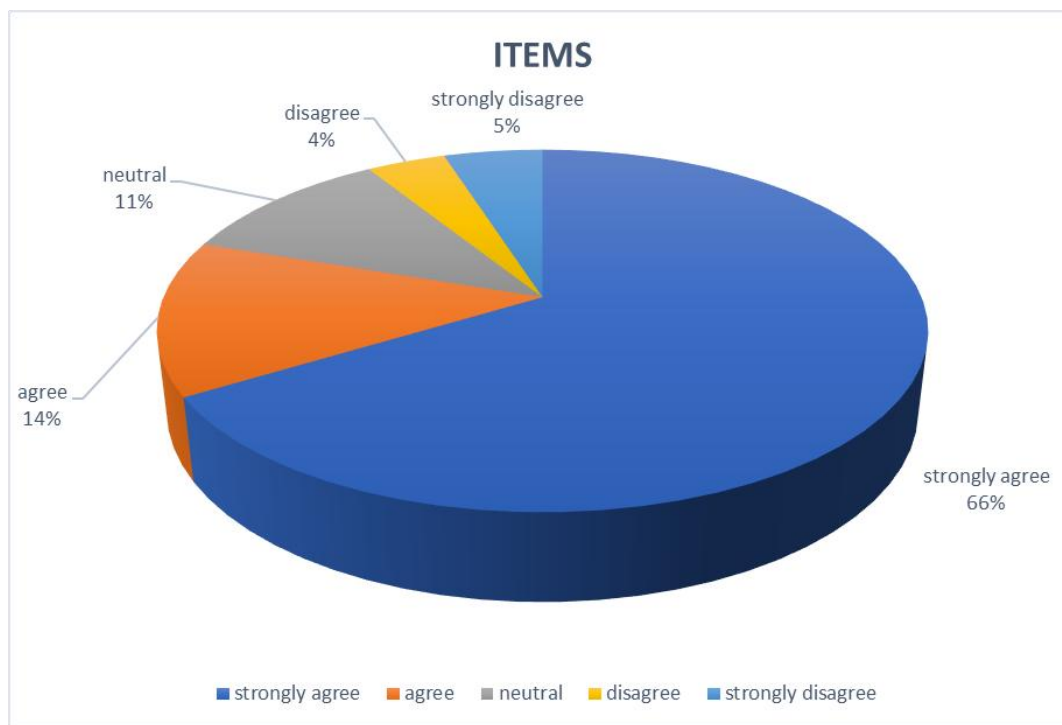
Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.2(v)	Using AI can make the classroom more interactive and engaging.					
		77%	14%	6%	1%	2%

### **Interpretation of Objective No.2:**

**"Examining teachers' attitudes towards integrating Artificial Intelligence (AI) into their teaching practices"** highlights a forward-thinking and impactful area of educational inquiry.

**4.3.3 OBJECTIVE -3: To assess teachers' knowledge of AI concepts and applications in education.**

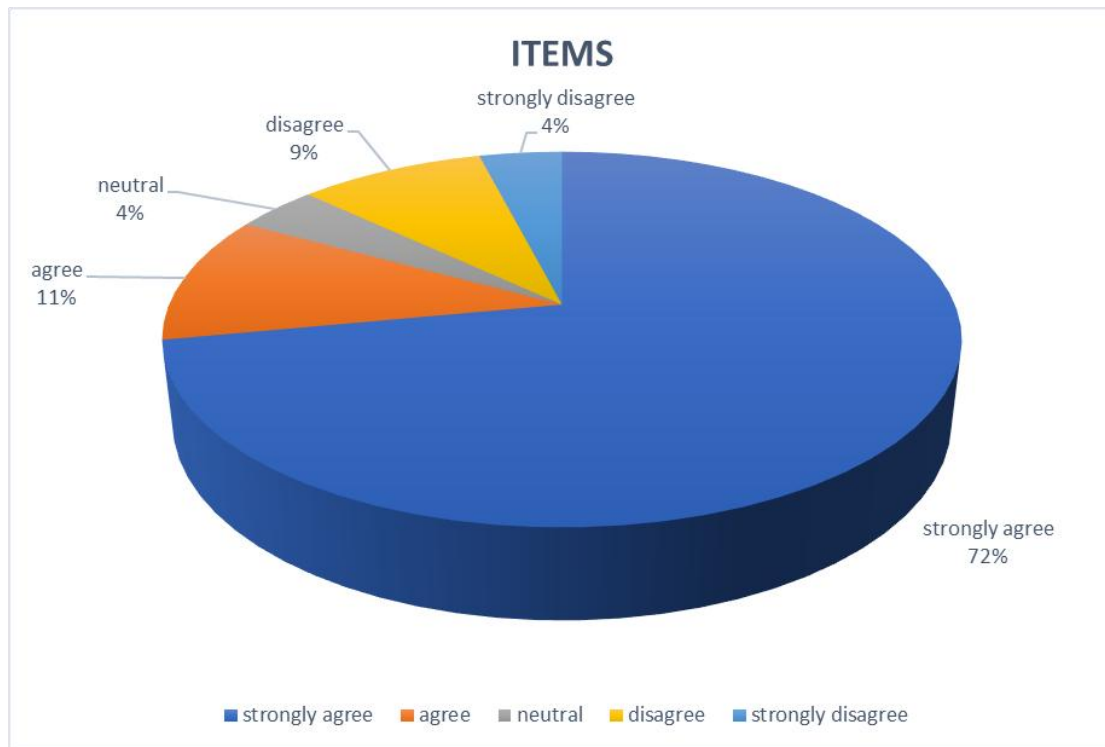
**Item No. (i) I feel confident exploring new AI-based technologies related to education.**



**Figure No. 4.3.3(i) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.3(i)	I feel confident exploring new AI-based technologies related to education.					
		67%	14%	11%	4%	5%

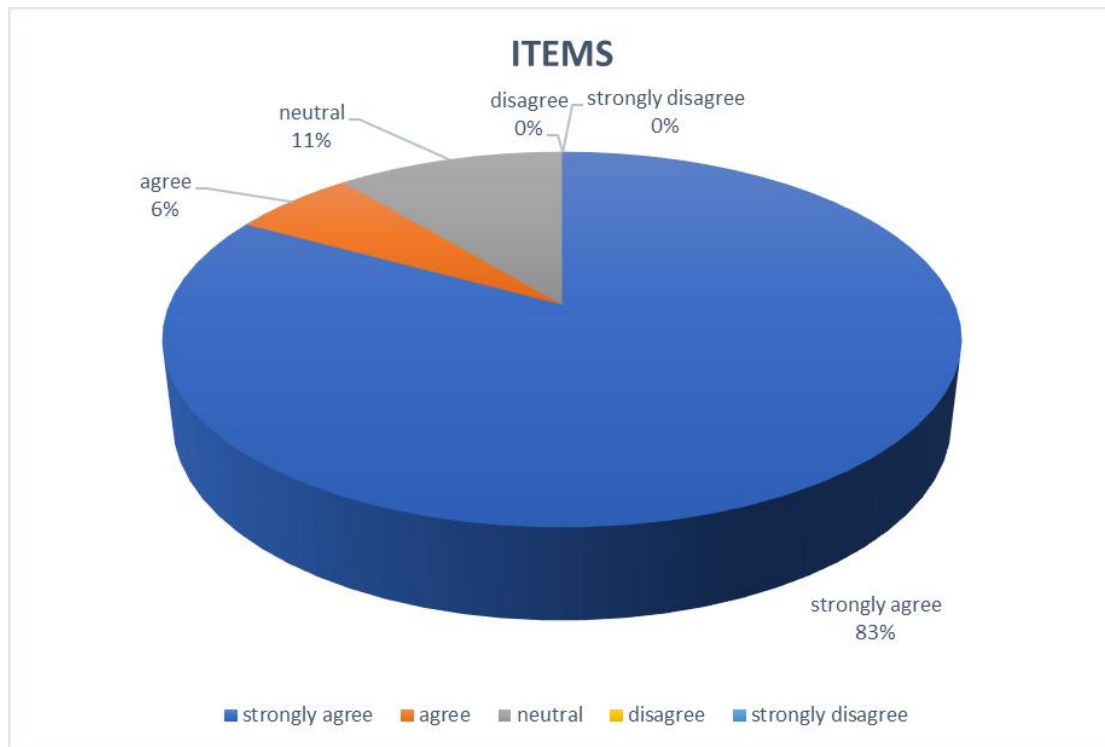
**Item No. (ii) I can identify reliable sources for learning more about AI in education.**



**Figure No. 4.3.3(ii) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
<b>4.3.3(ii)</b>	I can identify reliable sources for learning more about AI in education.					
		72%	11%	4%	9%	4%

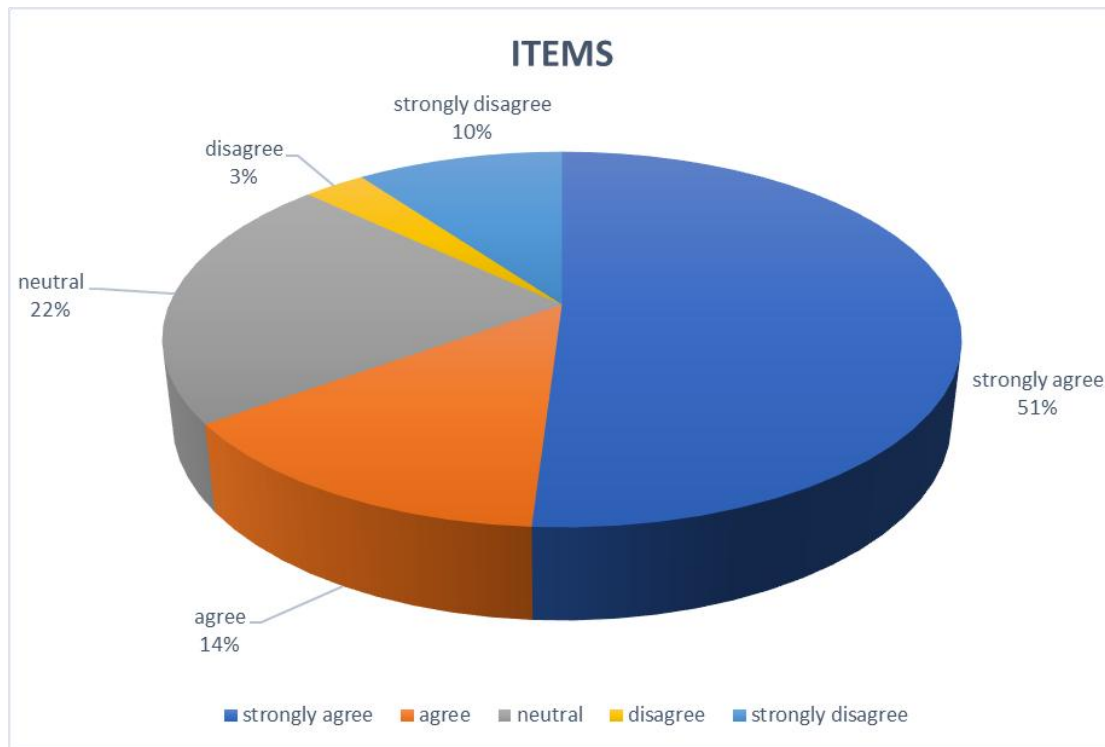
**Item No. (iii) I can evaluate the advantages and limitations of AI in the classroom.**



**Figure No. 4.3.3(iii) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.3(iii)	I can evaluate the advantages and limitations of AI in the classroom.					
		83%	6%	11%	0%	0%

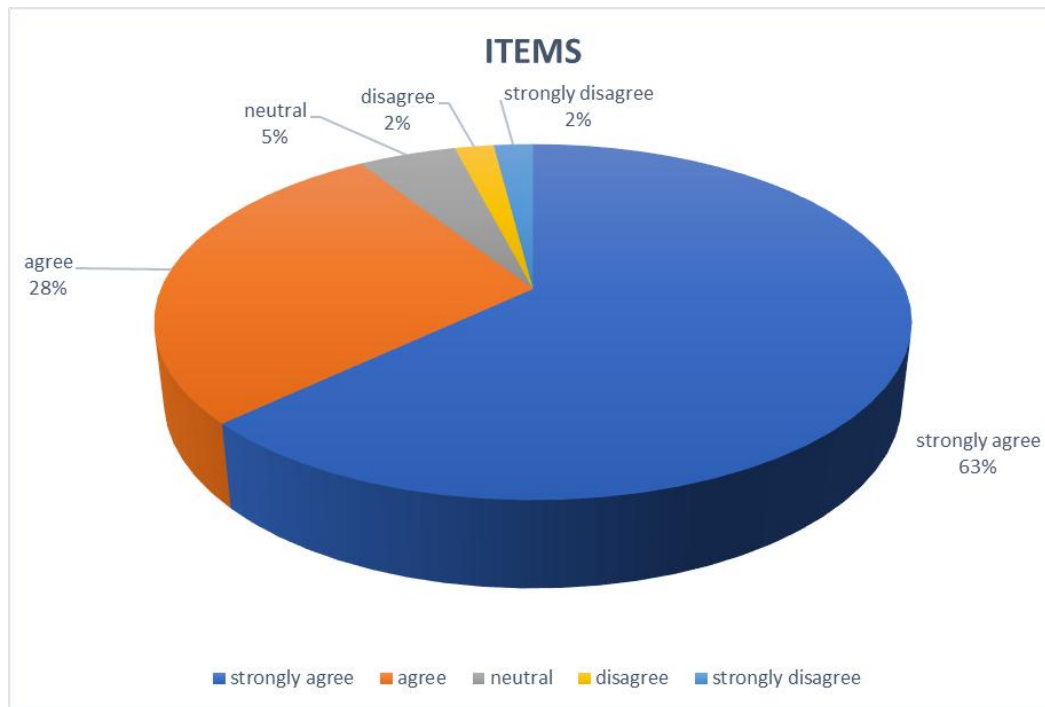
**Item No. (iv) I am aware of AI's role in assessing student progress and analytics.**



**Figure No. 4.3.3(iv) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
<b>4.3.3(iv)</b>	I am aware of AI's role in assessing student progress and analytics.					
		51%	14%	22%	3%	10%

**Item No. (v) I know how to integrate at least one AI tool into my teaching practice.**



**Figure No. 4.3.3(v) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.3(v)	I know how to integrate at least one AI tool into my teaching practice.					
		63%	28%	5%	2%	2%

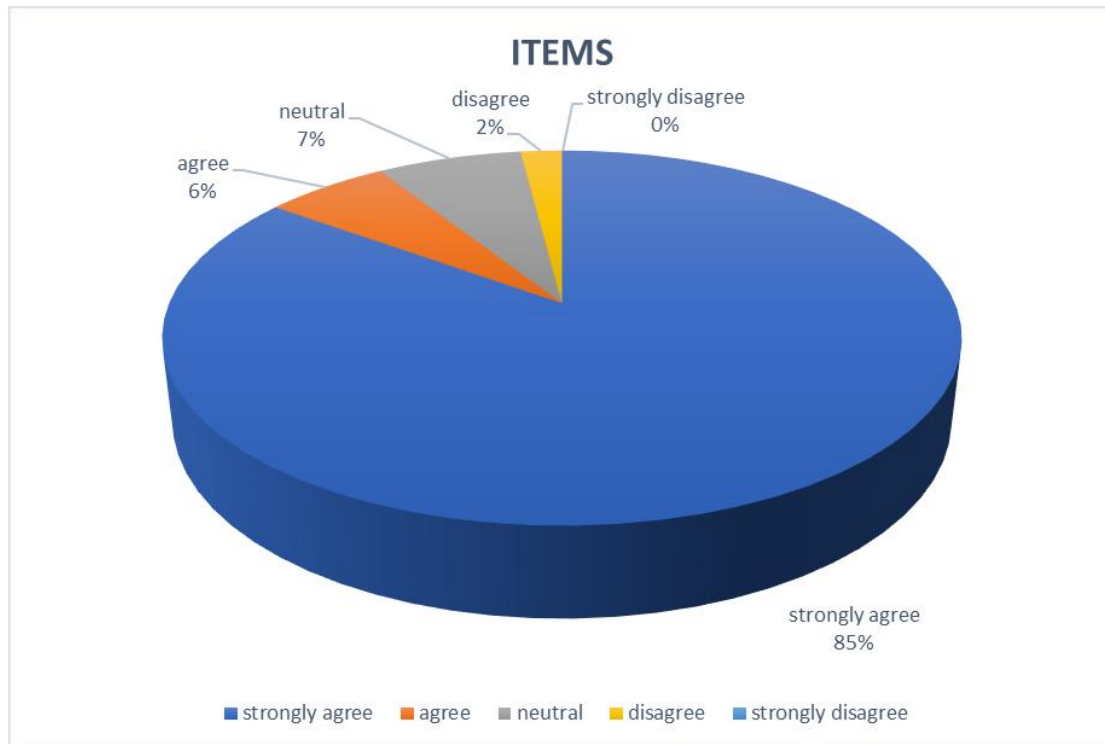
### **Interpretation of Objective No.3:**

**Assessing teachers' knowledge of AI concepts and applications in education** is a crucial step that acknowledges the evolving role of educators in a technology-driven world.



**4.3.4 OBJECTIVE -4: To determine teachers' familiarity with AI tools and platforms.**

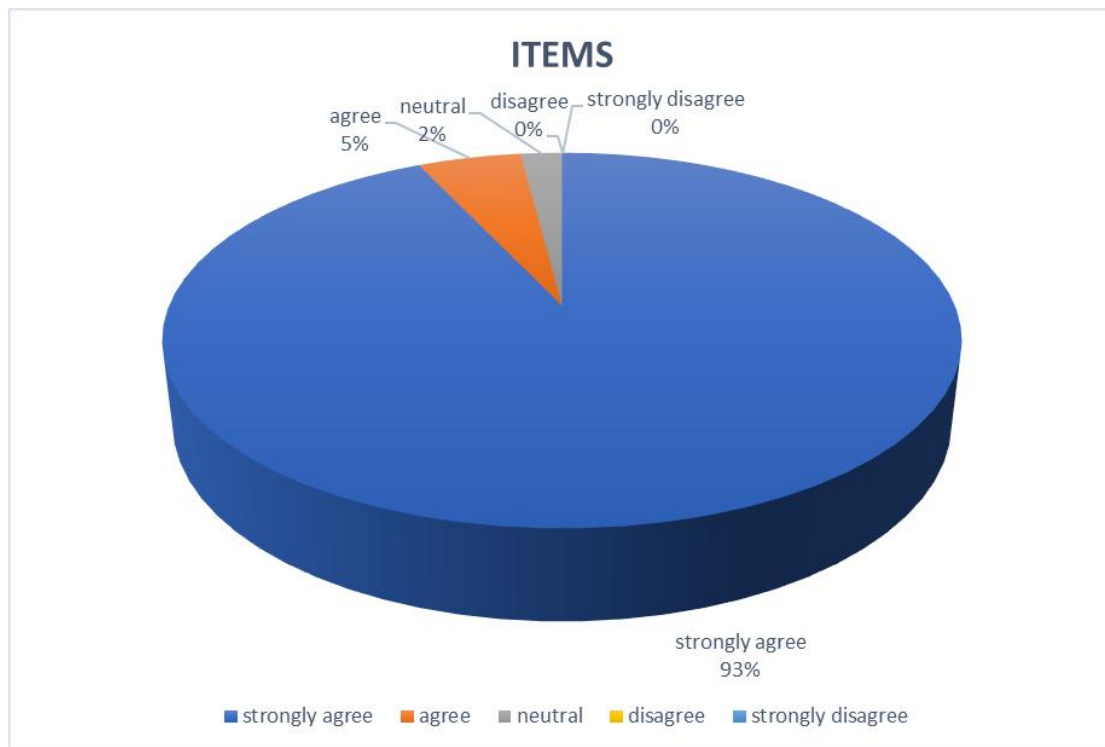
**Item No. (i) I am aware of the availability of AI tools used in education.**



**Figure No. 4.3.4(i) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.4(i)	I know how to integrate at least one AI tool into my teaching practice.	85%	6%	7%	2%	0%

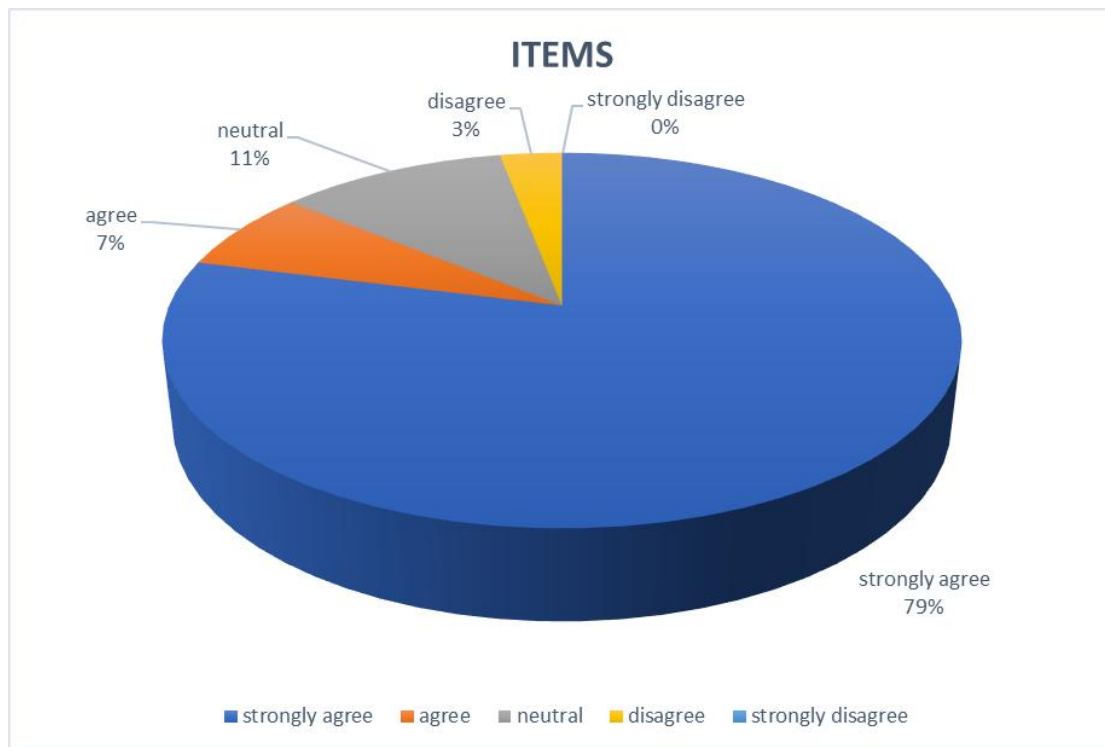
**Item No. (ii) I can name at least one AI-based educational tool or platform.**



**Figure No. 4.3.4(ii) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
<b>4.3.4(ii)</b>	I know how to integrate at least one AI tool into my teaching practice.					
		93%	5%	2%	0%	0%

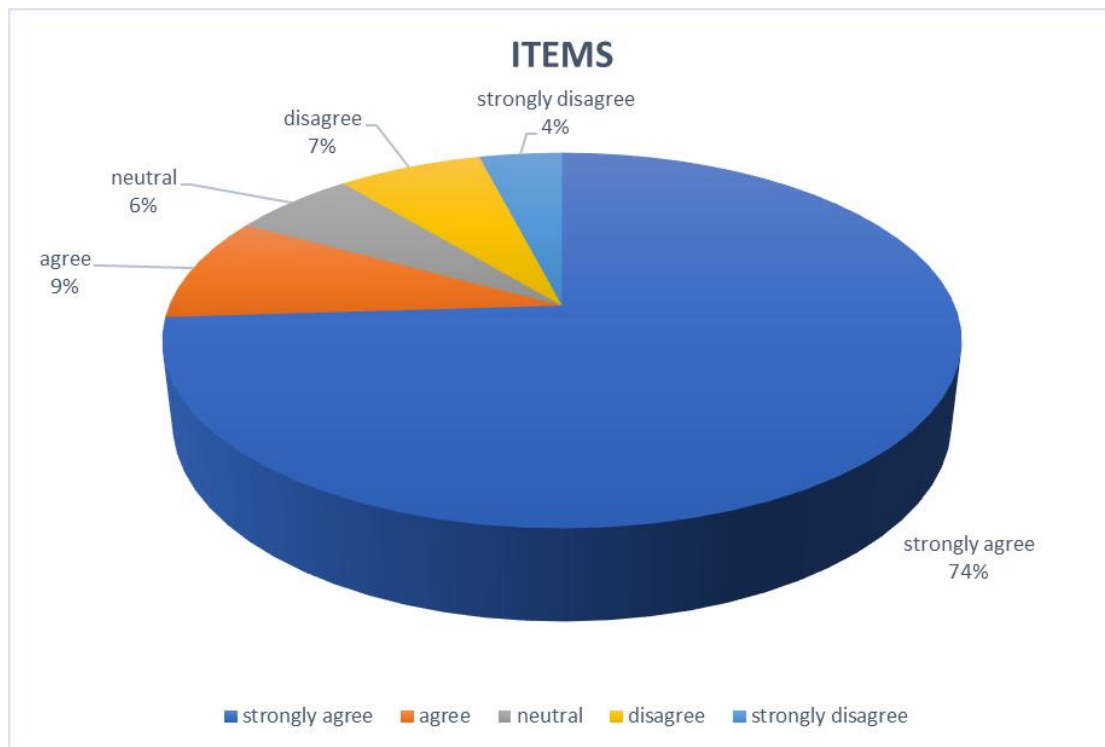
**Item No. (iii) I have seen or experienced AI tools being used in classrooms.**



**Figure No. 4.3.4(iii) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
<b>4.3.4(iii)</b>	I have seen or experienced AI tools being used in classrooms.					
		79%	7%	11%	3%	0%

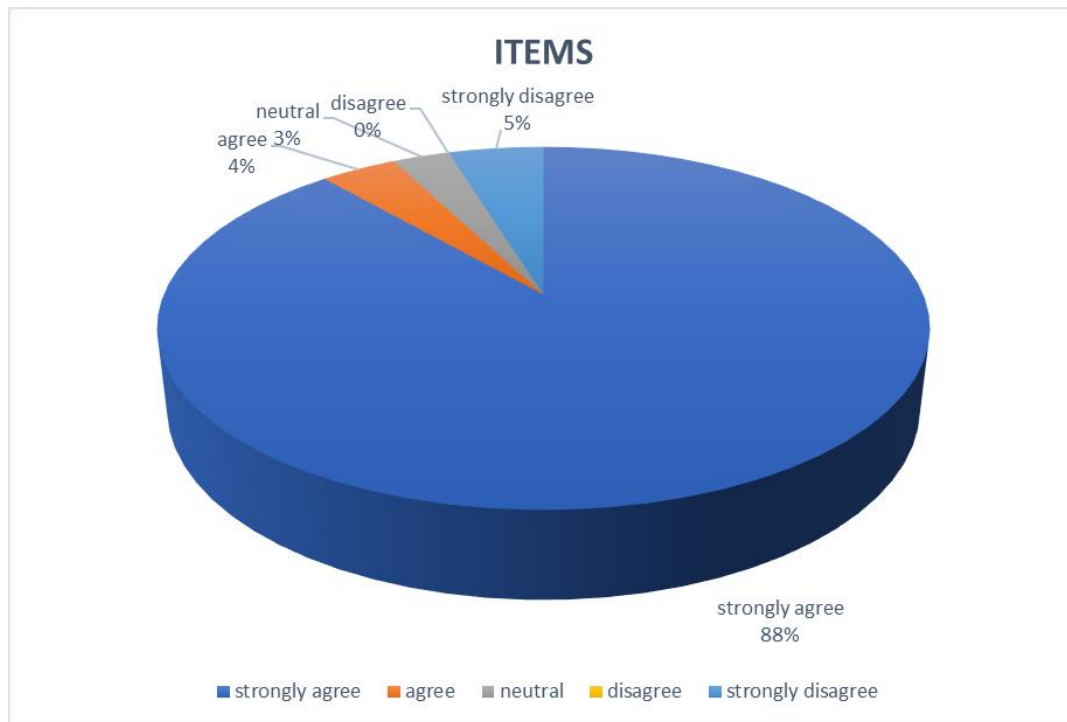
**Item No. (iv) I feel confident exploring and experimenting with new AI tools.**



**Figure No. 4.3.4(iv) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.4(iv)	I feel confident exploring and experimenting with new AI tools.					
		74%	9%	6%	7%	4%

**Item No. (v) I believe being familiar with AI tools is important for modern teaching**



**Figure No. 4.3.4(v) (% of responses by teachers)**

Figure No.	Item	Response %				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
4.3.4(v)	I believe being familiar with AI tools is important for modern teaching					
		93%	4%	3%	0%	0%

#### **Interpretation of Objective No.4:**

**Determining teachers' familiarity with AI tools and platforms** plays a vital role in understanding how prepared educators is to navigate and implement emerging technologies in education.