

# Welcome To

**The Malaysian English Language Teaching  
Association (MELTA)  
17th International Conference**

**Pinang Malaysia 2008**

# Presenter

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# Presentation Roadmap

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- 1. Research Title**
- 2. Research Problem**
- 3. Objectives**
- 4. Research questions**
- 5. Contributions**
- 6. Literature Review**
- 7. Research Design**
- 8. Data Collection & analysis**
- 9. Results & Conclusion**



# 1. Research Title

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Using Innovative Pedagogical  
Intervention to Teach a Foreign



Language: An  
Empirical Study

## 2. Problem Statement

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✓ The majority of foreign language classes are taught with little or no regard with The current field-tested instructional design intervention.



**If this notion persists to dominate our classrooms, it is sad to note that, the problem of learning Arabic language continues into the future.**

# 3. Research Objectives

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- ✓ To critically examine and evaluate the existing Arabic Language **products available in Malaysian markets.**
- ✓ To determine an Effective and Interactive Multimedia Arabic Language **Courseware as an alternative paradigm** to the traditional learning in Malaysian classrooms.
- ✓ To investigate and critically **evaluate the existing traditional method of teaching Arabic** as a foreign language in Malaysian environment.

# 4. Research Questions

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1. Do learners in *Bahasa Arab Interaktif Kurikulum* (BAIK) significantly increase their **Comprehension** skills compared to the traditional teaching method?
2. What is the level of **Satisfaction and Motivation** experienced by the learners in BAIK compared to the traditional method of learning in the classroom?
3. Does BAIK assist learners in their **Critical Thinking Skills** compared to the traditional method?
4. Are there any significant differences in **Learners' Final Grades** who taught the Arabic Language using BAIK compared to the traditional method of face to face methodology?

# 5. Research Contributions

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## ✓ **Methodological Contribution**

Guideline for the future researchers on the methodology of acquiring Arabic as a foreign language. Contribute for the development of a paradigm such as Constructivism. Paradigm shift

## ✓ **Empirical Contribution**

Empirical Evidence of the Effectiveness of BAIK. It can be prototyped.

## ✓ **Data Collection Contribution**

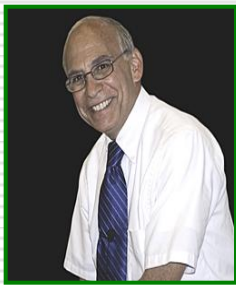
Interviews, observations, questionnaires, checklists and pre-post tests of this research are valuable guideline for the future researchers.



# 6. Literature Review

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- Mayer's Principles of Instructional Design 2003)
- Gagne's Nine Events of Instruction (1988)
- John Keller's ARCS Model (1998)
- Merrill's Component Display Theory (1983)
- Reigeluth's Elaboration Theory (1999)
- Constructivist ( Piaget-Bruner, Vygotsky)
- Behaviorist (Skinner)
- Montessori ( Dr. Maria Montessori)



# Mayer's Principles of Instruction (2003)

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**Multimedia Principle:** Words illustrated by pictures.

**Contiguity Principle:** Pictures are presented concurrently.

**Coherence Principle:** Redundant words, sounds and pictures are excluded.

**Modality Principle:** Words are supplemented with narration.

**Redundancy Principle:** Words are presented as a narration.

**Interactivity Principle:** If they are allowed to be engaged personally.

**Signaling Principles:** Narrated information is divided into small segments.

**Personalization Principle:** Information as a conversation.



# Gagne's Nine Events of Instruction (1988)

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- 1) Gaining attention (story, problem, do something wrong)
- 2) Informing learners of the objective (expectancy)
- 3) Stimulating recall of prior learning (retrieval)
- 4) Presenting the material (memory overload)
- 5) Providing learning guidance (semantic encoding)
- 6) Eliciting performance (practice)
- 7) Providing feedback (reinforcement)
- 8) Assessing performance (retrieval)
- 9) Enhancing retention and transfer (inform them with similar problem)



# John Keller's ARCS Model (1998)

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- 1. Attention:** Use surprises, pose challenging questions
- 2. Relevance:** Experience, Present Worth, Modeling, Choice
- 3. Confidence:** Grow the Learners, Learner Control, Feedback
- 4. Satisfaction:** Provide opportunities to use newly acquired knowledge

# Reigeluth's Elaboration Theory (1999)

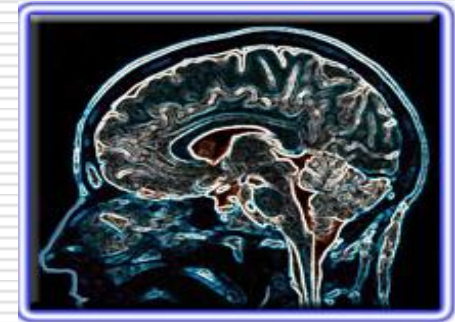
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- 1. Sequence:** Simple to complex procedure
- 2. Organize:** General to Detailed Sequencing, Simple to Complex
- 3. Summarization:** What learned, what to do next
- 4. Synthesize:** Integrates and interrelates the ideas taught.
- 5. Analogy :** Use of a familiar idea to define a new idea
- 6. Cognitive:** Uses pictures, diagrams, analogies
- 7. Learner Control:** Deals with the freedom of the learner



# Jean Piaget

❖ Learners have an internal **cognitive organization** and that's why they understand the world better.



❖ *We see objects not only with our eyes but also with our minds.*

❖ *One year old sees objects at their level of development*



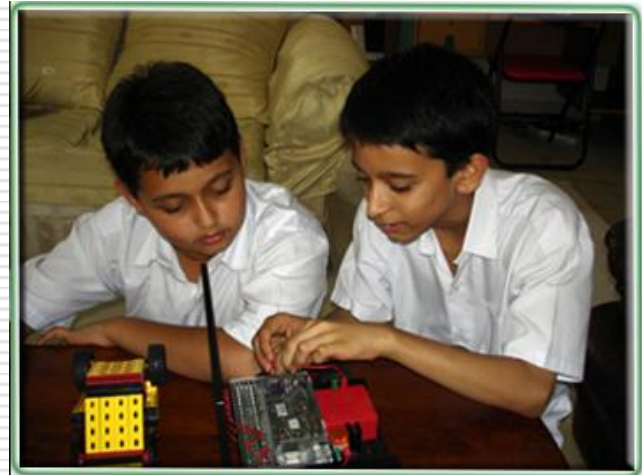
❖ *3-year-old sees the same object with a higher-level of Thinking.*



# Jerome Bruner

➤ The learner is active, constructive, collective, goal oriented, investigative and thoughtful.

➤ Education is **student-centered** and learners construct knowledge through their **own investigation**



➤ Learning in a constructivist environment is **discovery based** and meaningful





# Vygotsky

✓ Social interaction has the most fundamental position in the development of cognition

✓ This is the culture which mediates our mental actions.



✓ Signs, concepts, languages guide the behavior of a child. When a child is born the initial function of his/her speech is social interaction. (mother-father)





# Skinner of Behaviorism

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## Objectives

To bring student's behavior under control.  
Enhancement of knowledge is predetermined.  
New knowledge is formed by re-enforcement.

## Theory

Learning is nothing to do with the state of mind, but with the Environment.

## Student

Learner is a passive mechanical reactive organism. (on-off )

## Teaching

Teacher in control, creates material, create environment.  
Re-enforcer, behavior modifier, teacher-centered

# 7. Methodology

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- 1. Research Design**
- 2. Population & Sample**
- 3. Instruments**
- 4. Data Collection & Analysis**
- 5. Results and Conclusion**

# 1. Research Design

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**Mixed Methods Approach** of Quantitative, Qualitative and Descriptive Design are Applied.

Qualitative method is used to collect and analyze data while quantitative method is used to further strengthen the qualitative data.

Bogdan & Biklen (2003), Golafshani (2003)

Hoepfi (1997), Thompson (2004)

Hanson & Creswell (2005)

## 2. Population and Sample

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82 students of *Sekolah Taman Setiawangsa* KL

Fail, Average and Good students

0-49

50-64

65-100

Class A      41      ( Control Group)

Class B      41      (Treatment Group)

# 3. Instruments

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Pre-Test and Post Test

40 Parents of the students (Questionnaire)

40 Teachers of the school (Questionnaire)

20 students for interviews (Interview)

Class teacher (Interview)

Head Master (Interview)

Class Observations

*These questionnaires were developed and used based on the theory of Motivation Test Battery developed and tested by Wigfield & Guthrie (1997)*

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# 8. Data Collection

## Traditional

No	Instruments	Respondents	Sample	Collection
1	Pre-Test	Students	41	41 (100%)
2	Post-Test	Students	41	41 (100%)
3	Courseware evaluation Checklist	Students	41	32 (78%)
4	Checklist	Class teacher	1	1 (100%)
5	Questionnaire	Parents	41	33 (80.4%)
6	Questionnaire	Teachers	40	29 (70.7%)
7	Interviews	Students	20	20 (100%)
8	Observation checklist	Students	41	41 (100%)
9	Observation checklist	Class teacher	11	11 (100%)

# 8. Data Collection

**BAIK**

No	Instruments	Respondents	Sample	Collection
1	Pre-Test	Students	41	41 (100%)
2	Post-Test	Students	41	41 (100%)
4	Checklist	Class teacher	1	1 (100%)
5	Questionnaire	Parents	41	35 (85.36%)
6	Questionnaire	Teachers	40	32 (78%)
7	Interview	Students	20	20 (100%)
8	Observation checklist	Students	41	38 (92.6%)
9	Observation checklist	Class teacher	1	1 (100%)
10	Courseware evaluation Checklist	Experts	3	3 (100%)
11	Products evaluation checklist	Products	3	3 (100%)

# 8. Data Collection & Analysis

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1. **Data Reduction** (Deductive and Inductive analysis used for organization)
2. **Data Display** ( Organized based on Research Q & Hypotheses)
3. **Data Verification** (Data were cross-checked few times for validity)

SPSS V. 15 used to analyze data (Descriptive, Frequencies, Paired t-test, Independent sample test, mean differences, Percentage score)

**Adapted from: Miles and Huberman Framework (1994)**



# 9. Results & Hypotheses Testing

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Research Question 1: Increase Comprehension Skills

Research Question 2: Increase Satisfaction-Motivation

Research Question 3: Increase Critical Thinking Skills

**Research Question 4: Significantly Increase Final Grade**

1: BAIK does not increase Comprehension Skill

T.M does not increase Comprehension Skill

Paired t-test Results for Students' Comprehension Skills in Pre-post Test

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	T_pre - T_post	1.02439	4.04962	.63244	-.25383	2.30261	1.620	40	.113
Pair 2	M_pre - M_post	-8.26829	5.30577	.82862	-9.94300	-6.59358	-9.978	40	.000

Paired t-test results Traditional: **Not Significant**

$t(40)=1.620, p=0.113$

Paired t-test results BAIK: **Significant**

$t(40)=-9.978, p=0.000$

## 2: BAIK does not increase Satisfaction-Motivation

### T.M. does not increase Satisfaction-Motivation

#### Percentage Scores between the Traditional and BAIK

Groups	Motivation	Satisfaction
Traditional Based Learning	27.40%	30.10%
Multimedia Based Learning (BAIK)	72.60%	69.90%

#### Mean Differences between Traditional and BAIK

	Group 1	N	Mean	Std. Deviation	Std. Error Mean
M_MOTIVATION	TRADITIONAL	32	1.9618	.58564	.10353
	MULTIMEDIA	38	4.3801	.45383	.07362
M_SATISFACTION	TRADITIONAL	32	2.2594	.56217	.09938
	MULTIMEDIA	38	4.4158	.33452	.05427

#### T test on Motivation and Satisfaction between Traditional and BAIK

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
M_MOTIVATION	Equal variances assumed	.119	.731	-19.454	68	.000	-2.41831	.12431	-2.66636	-2.17026
	Equal variances not assumed			-19.036	57.879	.000	-2.41831	.12704	-2.67261	-2.16401
M_SATISFACTION	Equal variances assumed	5.885	.018	-19.852	68	.000	-2.15641	.10862	-2.37317	-1.93966
	Equal variances not assumed			-19.045	57.879	.000	-2.15641	.11323	-2.38400	-1.92882

### 3: BAIK does not increase Critical Thinking Skills

### T.M. does not increase Critical Thinking Skills

**Pairwise Comparisons**

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig. <sup>a</sup>	95% Confidence Interval for Difference <sup>a</sup>	
						Lower Bound	Upper Bound
Pre_Test	Traditional	Multimedia	.256	1.503	.865	-2.735	3.247
	Multimedia	Traditional	-.256	1.503	.865	-3.247	2.735
Post_Test	Traditional	Multimedia	-3.756*	1.787	.039	-7.313	-.199
	Multimedia	Traditional	3.756*	1.787	.039	.199	7.313

Based on estimated marginal means

\*. The mean difference is significant at the .05 level.

a. Adjustment for multiple comparisons: Bonferroni.

**Paired Samples Test**

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	T_pre - T_post	-5.10976	7.93608	1.23941	-7.61469	-2.60482	-4.123	40	.000
Pair 2	M_pre - M_post	-9.12195	9.97546	1.55790	-12.27059	-5.97331	-5.855	40	.000

T.M mean:            -5.10976            t= -4.123

BAIK mean:            -9.12195            t= -5.855

# 4: BAIK does not Significantly Increase Final Grade

## T.M does not Significantly Increase Final Grade

**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	T_Pre	52.44	41	14.620	2.283
	T_Post	59.17	41	16.052	2.507
Pair 2	M_Pre	47.49	41	16.686	2.606
	M_Post	78.63	41	13.705	2.140

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	T_Pre - T_Post	-6.732	15.011	2.344	-11.470	-1.994	-2.872	40	.007
Pair 2	M_Pre - M_Post	-31.146	19.768	3.087	-37.386	-24.907	-10.089	40	.000

# Treatment Group



# Control Group

28/10/2012

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Post test Results Multimedia and Traditional according to Categories

Students	Post- test Traditional			Post-test Multimedia		
	Fail	Average	Good	Fail	Average	Good
1	49					80
2			80			85
3	35.5					85
4		51				89
5			75			85
6			65			85
7		50				80
8	33					81
9	49					83
10			83 G			83
11	42.5					88
12			73		60	
13			65.5			69
14	44.5 F					73
15		58			60	
16			73.5		60	
17	44					70
18			87			75
19		61				97
20		59				100
21	39					95
22	31.5					95
23			85			90
24		62				100
25	21					100
26			72			95
27			84			83
28		58			63	
29			70			83
30		54		45		
31			75		52	
32		54.5			60	
33	43					76
34		60				65
35		55				89
36		50.5				81
37		51.5				85
38			67.5			65
39			77			77
40		68.5				67
41		68.5				70

# Market's Products Evaluation

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1. Mayer's Nine Ways to Reduce Cognitive Load in Multimedia Learning (2003)
2. Gagne's Nine Steps of Instructional Events (1985)
3. Keller's ARCS Model of Motivational Design (1988)
4. Reigeluth's Seven Steps of Elaborative Theory of Instructional Design (1999)
5. Merrill's Component Display Theory (1983)

**Checklist for a General Review of Arabic Multimedia Courseware in Malaysian Markets**

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No	General Criteria for Evaluation	Product 1	Product 2	Product 3
1	Is there an author in this courseware?	No	No	No
2	What is his/her qualification?	Unknown	Un known	Un known
3	Is the author reputable?	No	No	No
4	Objectives/goals are outlined.	No	No	No
5	Field-tested methodology used.	No	No	No
6	The courseware is lesson based.	No	No	No
7	Learning outcome is identified.	No	No	No
8	The course content is relevant.	Yes	Yes	Yes
9	The course content is validated.	No	No	No
10	There are activities to practice.	Yes	Yes	Yes
11	Learning activities are different.	Yes	Yes	Yes
12	Activities are related to real life.	No	No	No
13	Activities arouse thinking.	No	No	No
14	Feedbacks are morally sound.	No	Yes	Yes
15	This courseware has redundant text.	Yes	Yes	Yes
16	Animations are destructive.	Yes	Yes	Yes
17	Courseware requires installation.	No	Yes	No
18	Media-animation-sound relevant.	No	No	No
19	Quality of media is questionable.	Yes	Yes	Yes
20	Media in this courseware is helpful for learning.	Yes	Yes	Yes
21	There is an integration of media.	Yes	Yes	Yes
22	Media is relevant to the concept.	No	No	No
23	Graphics convey learning message.	No	No	No
24	Animations difficult to load.	No	No	No
25	Quality of graphics is poor.	Yes	No	No
26	Video clips convey wrong message.	Yes	No	No
27	Media in this courseware attracts attention.	No	No	No

No	General Criteria for Evaluation	Product 1	Product 2	Product 3
28	Media and text in this courseware are distanced	Yes	Yes	Yes
29	Media and text are not concurrent on the page.	Yes	Yes	Yes
31	Texts are narrated in story form	No	No	No
32	There is background music	Yes	Yes	Yes
33	Many animations on the screen.	Yes	Yes	Yes
34	Text, animations, graphics are near to each other.	No	No	No
35	The courseware encourages engagement.	No	Yes	Yes
36	Examples are biased.	Yes	No	No
37	There are mistakes in the text.	Yes	Yes	Yes
38	Narration is not clear.	Yes	Yes	Yes
39	Navigation is easy.	Yes	Yes	Yes
40	Page design is consistent.	No	No	No
41	Links are properly placed.	Yes	Yes	Yes
42	Graphics dominate the screen.	Yes	Yes	Yes
43	Font size is big enough.	No	No	No
44	Background clashes with the text.	Yes	No	No
45	There is group learning session.	No	No	No
46	Puzzles and quizzes are provided.	Yes	Yes	Yes
47	Learners are rewarded with marks.	No	No	No
48	There are revision and repetition.	No	No	No
49	Lessons can be printed.	No	No	No



**Checklist for a Specific Review of the Arabic Multimedia Instruction in Malaysian Markets**

No	Specific Criteria for Evaluation	Product 1	Product 2	Product 3
1	Was this courseware attention seeker?	No	No	No
2	Were the objectives of this courseware clearly defined?	No	No	No
3	Does this courseware stimulate learner's prior knowledge?	No	No	No
4	Was the content of this courseware Sequenced?	No	No	No
5	Does this courseware provide guidance for the learner?	Yes	Yes	No
6	Does this courseware provide ample practice for the learner?	No	No	No
7	This courseware provides enough feedback for the user.	Yes	No	No
8	This courseware provided assessment to know if the learner acquired knowledge.	No	No	No
9	This courseware is lesson based.	No	No	No
10	This courseware has a review for each lesson learnt.	No	No	No
11	Is this courseware interesting?	No	No	No
12	Does this courseware make learner curious to continue learning?	No	No	No
13	Does this courseware challenge the learner?	Yes	No	No
14	Does this courseware help learner to use the skill learnt later?	No	No	No
15	In this courseware learner feels confident that he/she can learn.	No	No	No
16	In this courseware learner feels satisfied that he/she is learning something new.	No	No	No
17	This courseware is designed for the target audience.	Yes	Yes	Yes

No	Specific Criteria for Evaluation	Product 1	Product 2	Product 3
18	Media selection is appropriate in this courseware.	No	No	No
19	This courseware has group learning as well as individual learning activities.	No	No	No
20	This courseware eliminated unwanted and redundant information.	No	No	No
21	This courseware provided opportunity for the learner to be in control.	Yes	Yes	Yes
22	This courseware is designed based on a solid reason.	No	No	No
23	This courseware engages learner in critical thinking.	No	No	No
24	This courseware can be used in a socially packed environment.	No	No	No
25	This courseware is based on field-tested paradigm of learning.	No	No	No
26	In this courseware words are illustrated with pictures.	Yes	Yes	Yes
27	In this courseware words and pictures are presented concurrently.	No	No	No
28	In this courseware words are supplemented with narration.	Yes	No	No
29	In this courseware information is presented in segments.	Yes	Yes	Yes
30	In this courseware information is presented as a conversation.	No	No	No
31	This courseware is field-tested.	No	No	No

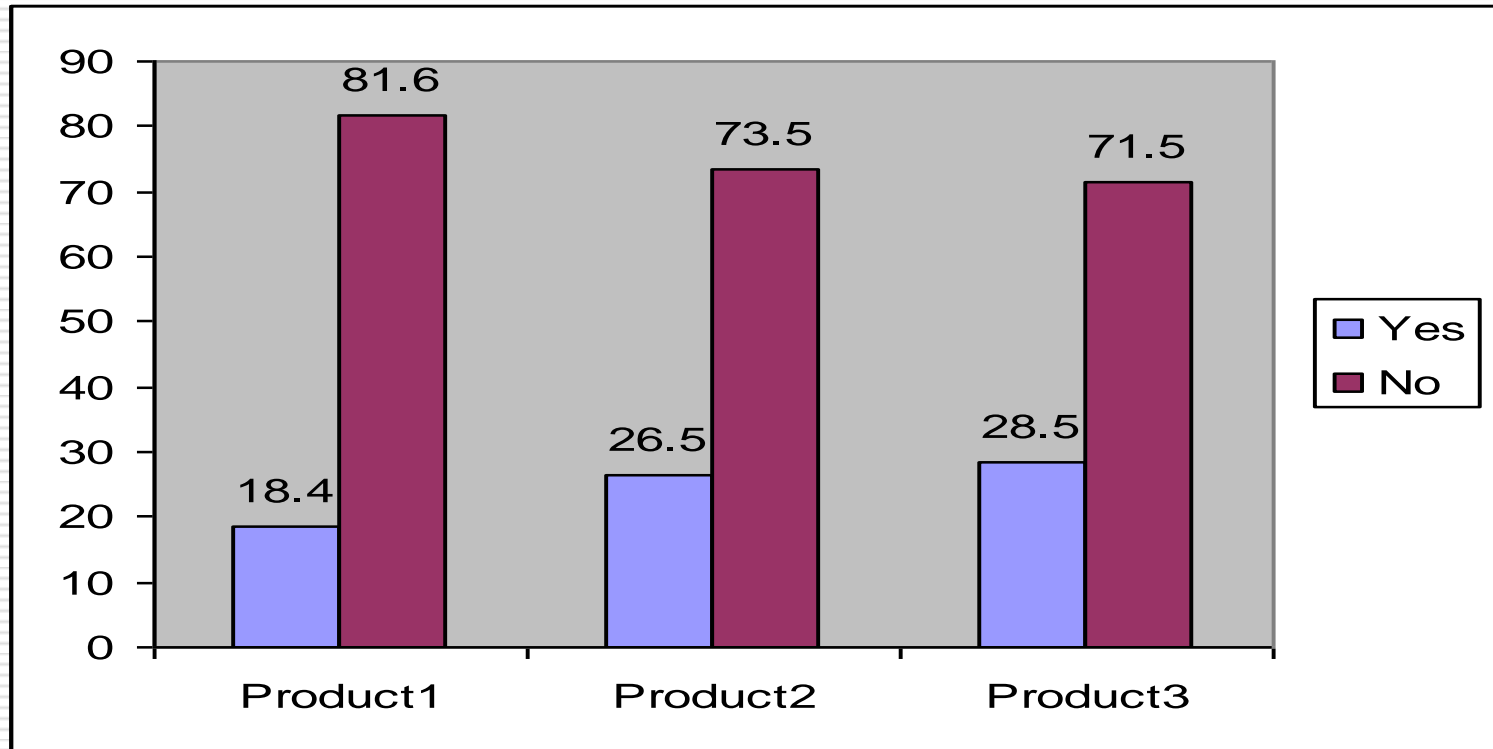
## General Checklist (49)

	Yes	%	No	%
<b>Product 1</b>	9	18.4	40	81.6
<b>Product 2</b>	13	26.5	36	73.4
<b>Product 3</b>	14	28.5	35	71.5
<b>Mean</b>	12	24.5	37	75.5

## Specific Checklist (31)

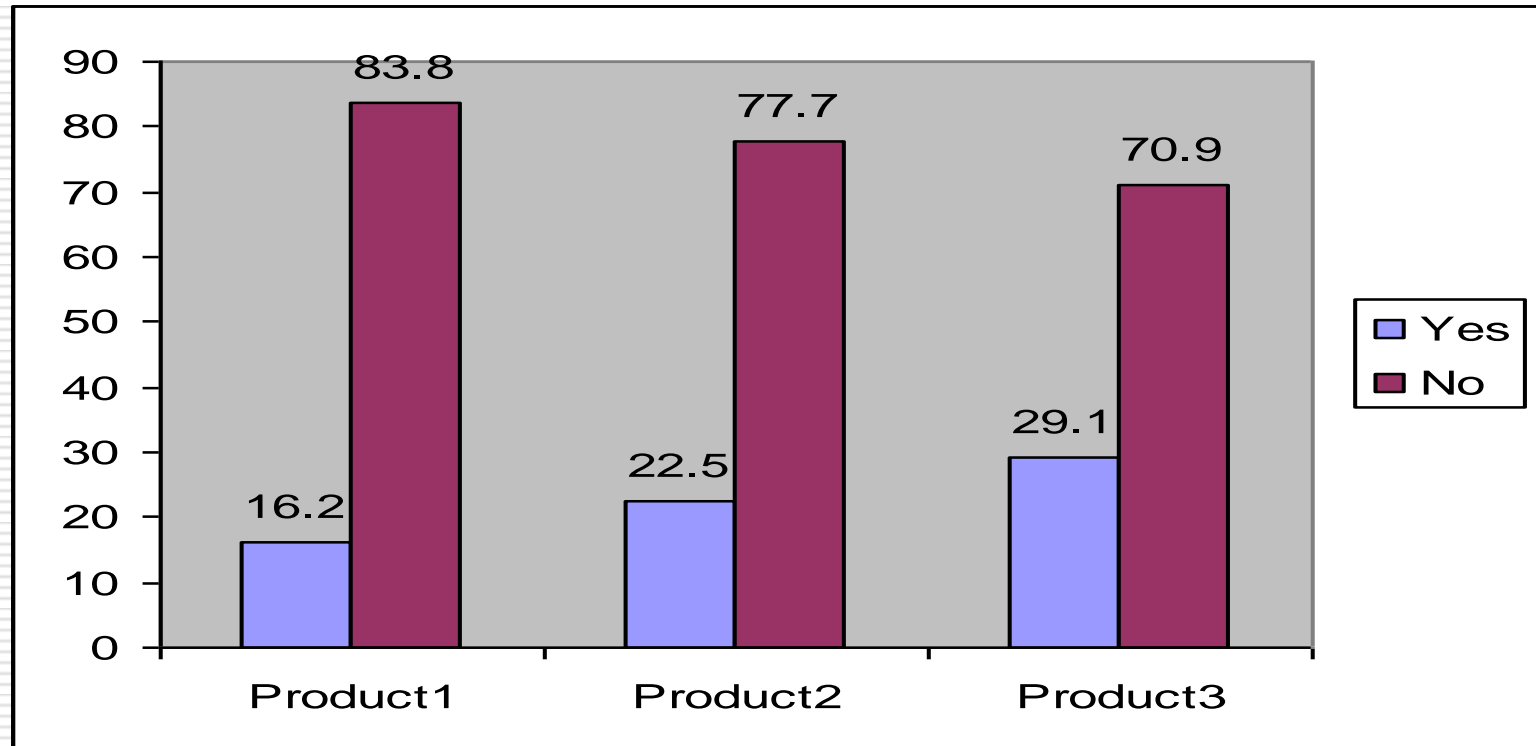
	Yes	%	No	%
<b>Product 1</b>	5	16.2	26	83.8
<b>Product 2</b>	7	22.5	24	77.7
<b>Product 3</b>	9	29.1	22	70.9
<b>Mean</b>	7	23	24	77

# General Checklist (49)

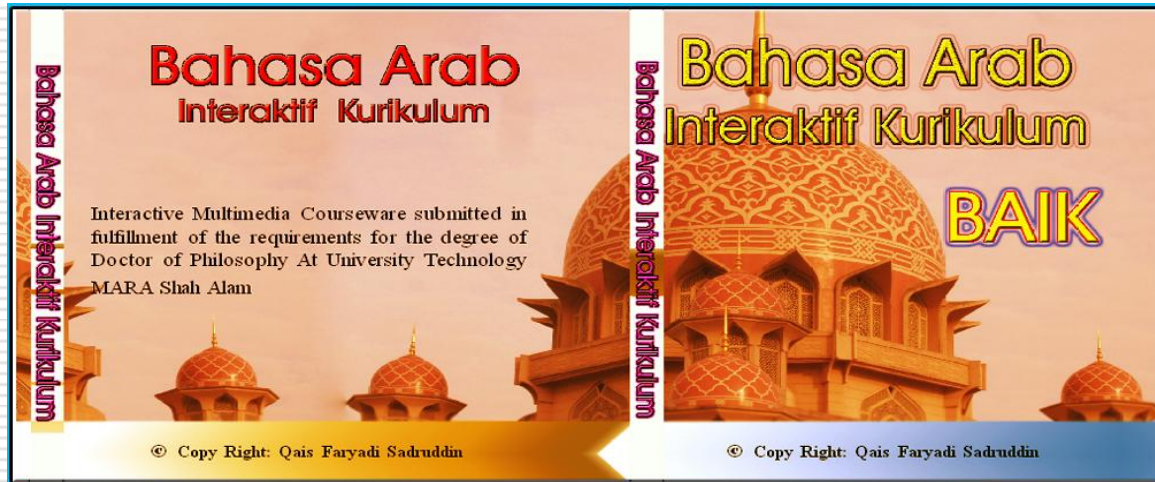


# Specific Checklist (31)

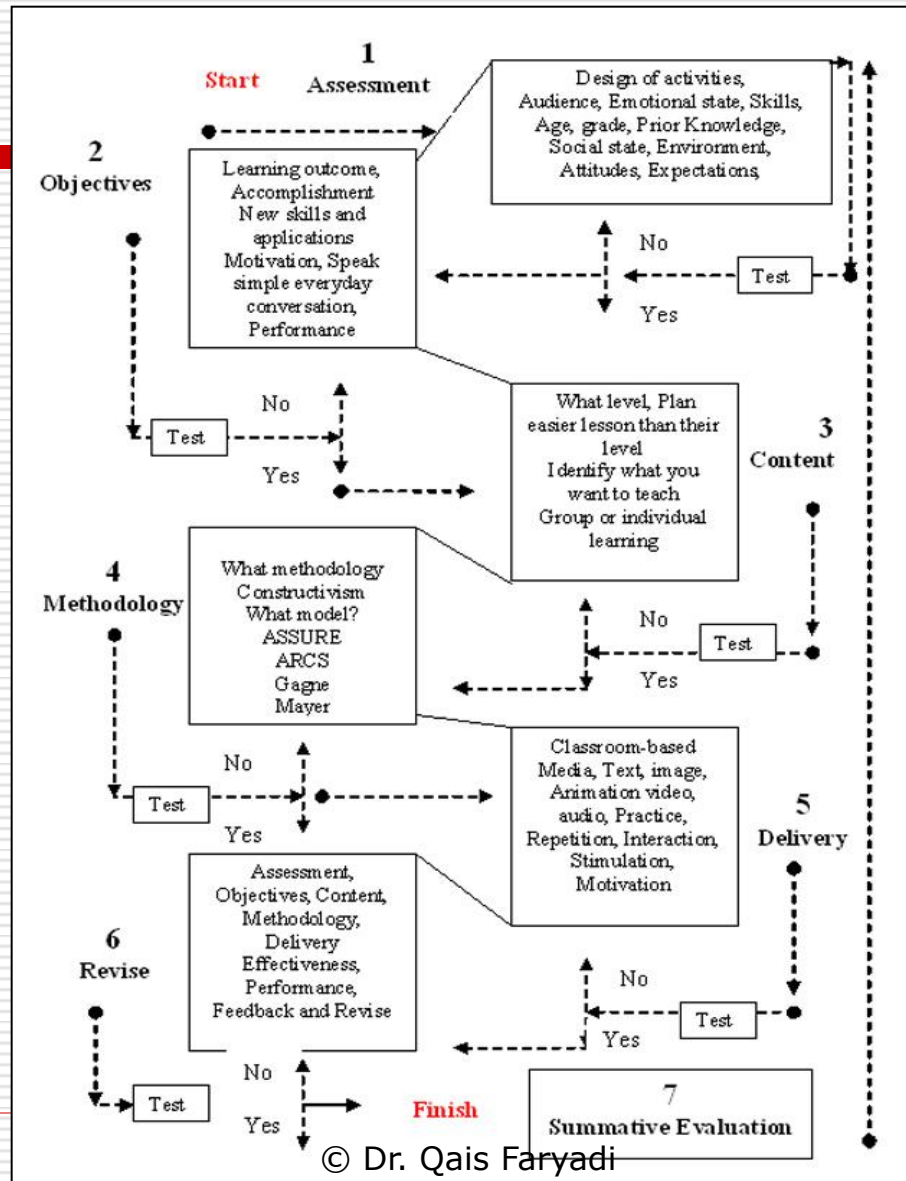
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# Experts Evaluation Of BAIK



# BAIK Road Map Design



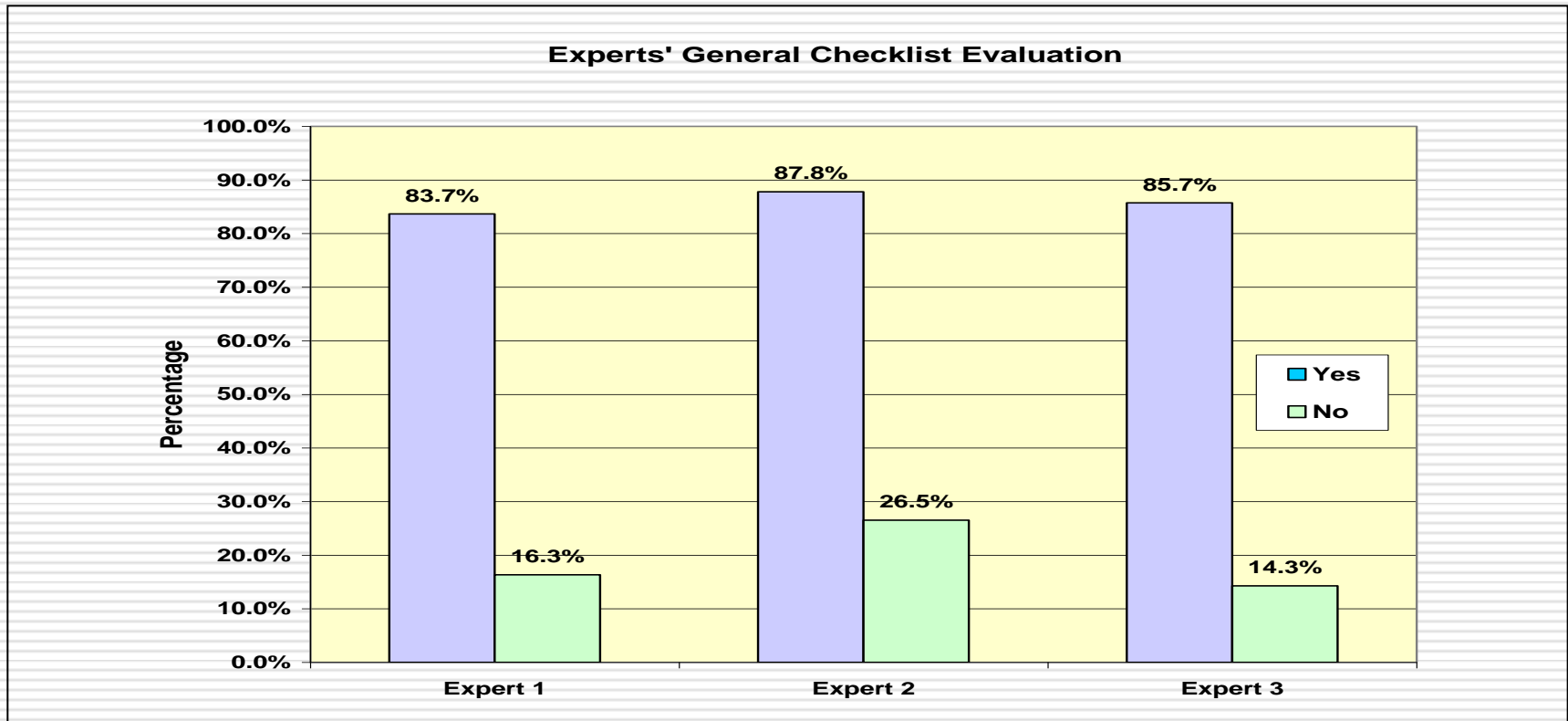
## General Checklist (49)

	Yes		No	
	Frequency	%	Frequency	%
<b>General Checklist</b>				
Expert 1	41	83.7%	8	16.3%
Expert 2	36	87.8%	13	26.5%
Expert 3	42	85.7%	7	14.3%

## Specific Checklist (31)

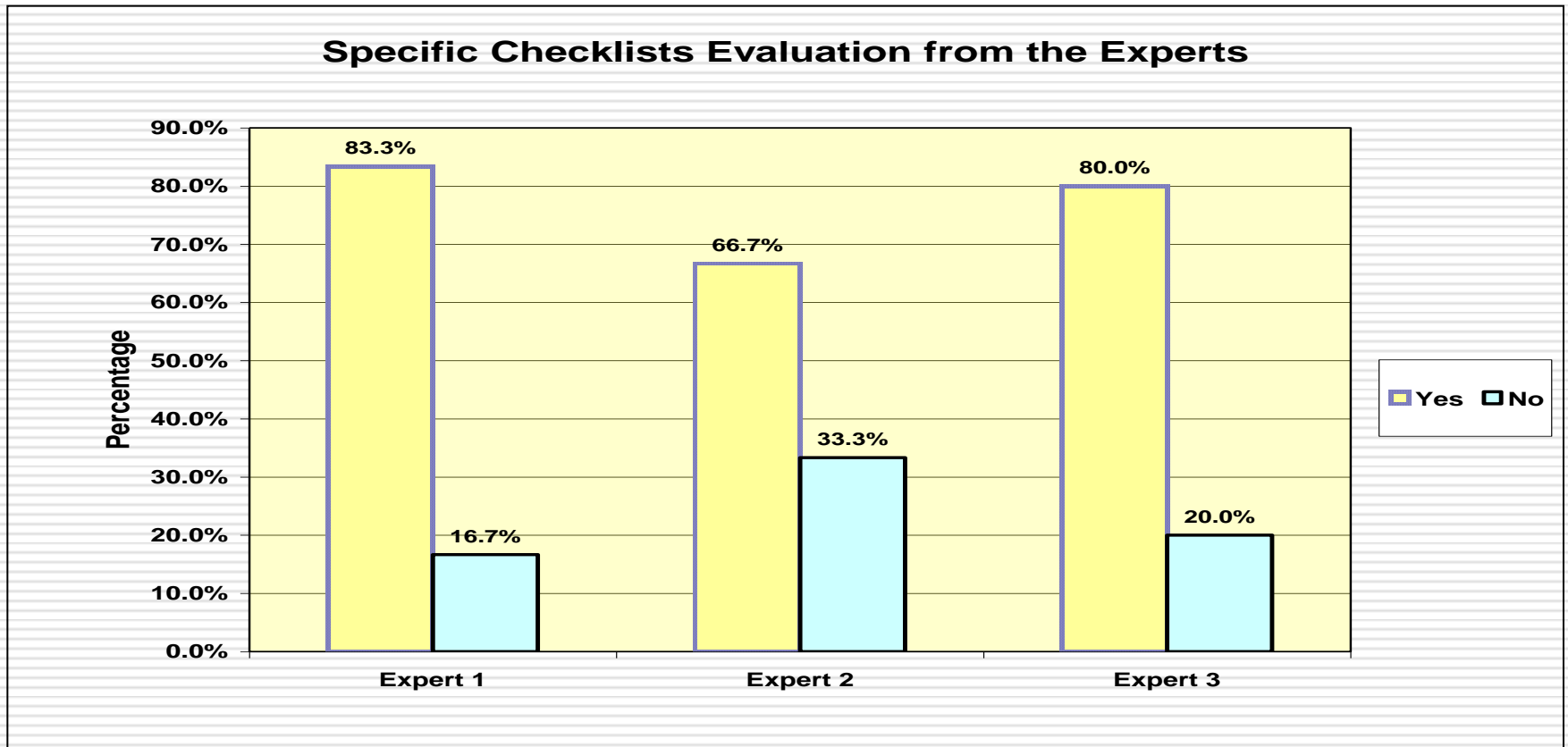
	Yes		No	
	Frequency	%	Frequency	%
<b>Specific Checklist</b>				
Expert 1	25	83.3%	5	16.7%
Expert 2	20	66.7%	10	33.3%
Expert 3	24	80.0%	6	20.0%

# General Checklist (49)

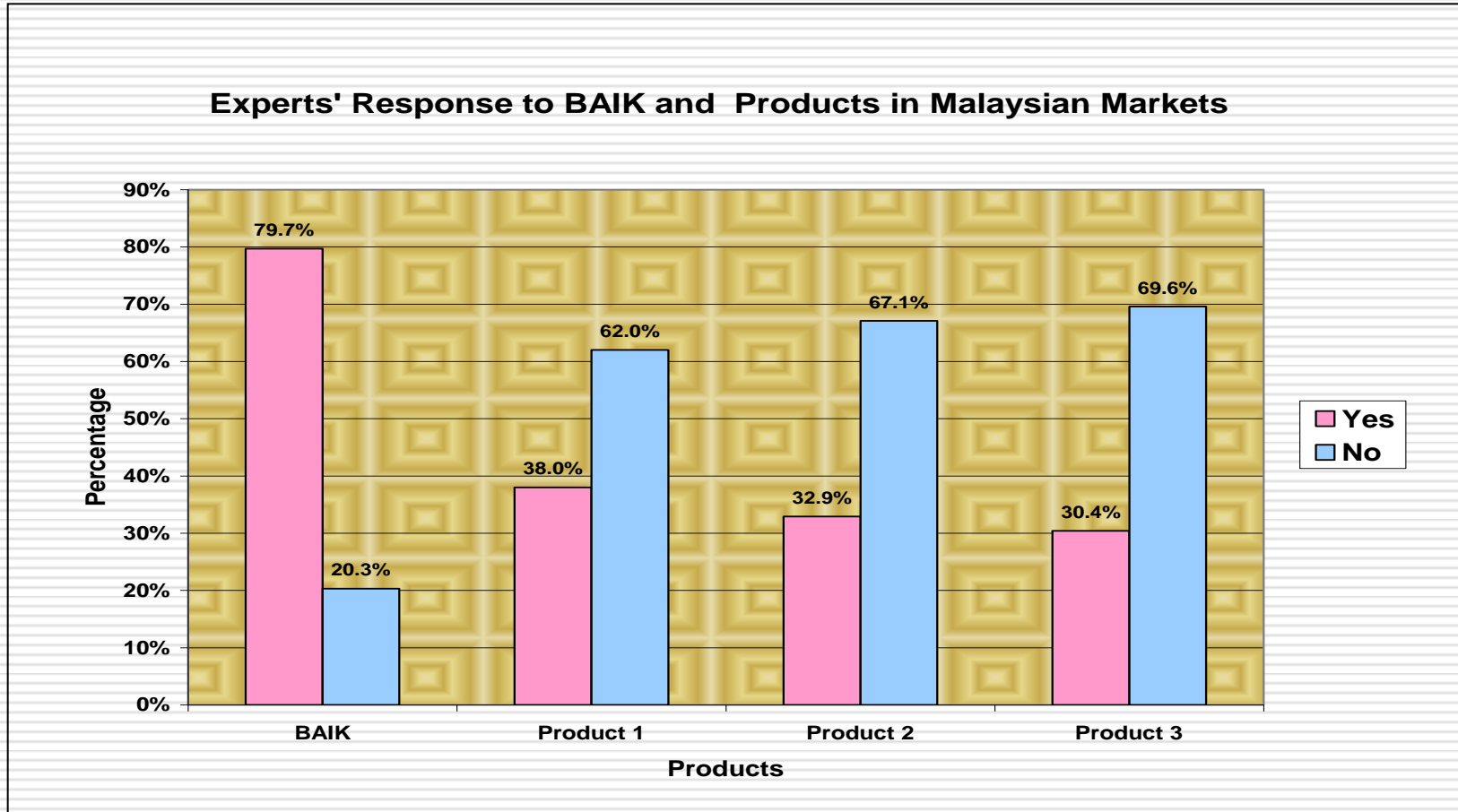




# Specific Checklist (31)



# Comparison Between BAIK and Products



# Comparison Between BAIK and Products

Criteria for Evaluation		BAIK		Product 1		Product 2		Product 3	
		Yes	No	Yes	No	Yes	No	Yes	No
1	In this courseware the objectives are outlined.	√			√		√		√
2	This courseware is based on field-tested model.	√			√		√		√
3	In this courseware the learning outcomes are identified.	√			√		√		√
4	In this courseware the course content is validated.	√			√		√		√
5	This courseware has redundant text.		√	√		√		√	
6	The media and the text in this courseware are distanced from one another.		√	√		√		√	
7	The courseware encourages engagement.	√			√		√		√
8	In this courseware the learners are rewarded with marks.	√			√		√		√
9	This courseware has assessment to know if the learners acquired knowledge.	√			√		√		√

# Conclusion

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- 1. Main Findings of the Study**
- 2. Implications For future Research**
- 3. Limitations**

# 1. Main Findings

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1. This research found that students who are exposed to BAIK significantly improved and outperformed the traditional group in mean score final grade. (BAIK 82% and traditional 18%).
- 2 BAIK also outperformed the traditional group on comprehension, satisfaction, motivation and Critical Thinking skills.

## 2. Future Research

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1. 3rd grade primary school children. Similar investigation should be conducted using different grade children to find out how these methodologies affect their comprehension skills, satisfaction, motivation, and above all their final grade achievements in the classroom.
2. Research should be conducted on physically unable children.
3. Only one unit was tested, use the whole book to see the effect.

# 3. limitations

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1. Only one chapter was tested the results cannot be generalized.
2. Duration of study six weeks.
3. Sample was 41 for each class.
4. Bias ( the same teacher taught both groups). Human factor beyond control of this research.

# Thank You

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# Does Multimedia Really Improve Students' Final Grade?

Yates, R.C.(2004). Analyzing Traditional-Based Teaching Methods versus Technology-Based Teaching Methods in Collegiate Aviation Classroom. *Dissertation Abstracts International*, 66(04), 1268A. Faculty of the Ross College of Education and Human Services of Lynn University.

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