

PERCEPTION AND COMPREHENSION OF VIDEO MODULE ON MILLETS

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ABSTRACT

Video is considered an effective communication medium because it combines both visual and audio elements, which help the audience understand information more effectively. This combination creates better engagement and improves the retention of information among viewers. The present study was conducted to assess the understanding and field testing of a developed video module on “Millets” among rural women. The video module was field tested with 120 rural women selected from six villages of Palanpur and Vadgam talukas of Banaskantha district in North Gujarat. A structured interview schedule was used for data collection, while statistical measures such as frequency, percentage, and mean were applied for analysis. The findings related to the background characteristics of respondents indicated that most of the rural women belonged to the middle-age group (62.50%), had education up to the primary level (65.00%), belonged to the Other Backward Class category (62.50%), were engaged in farming and animal husbandry, and had moderate exposure to mass media sources. The overall perception score (96.80 MPS) and comprehension score (88.23 MPS) indicated that the developed video module was highly effective, as most respondents fell under the good category for both perception and comprehension. The study concluded that the video module on millets can be effectively utilized by extension personnel, development agencies, and field workers for transferring scientific information related to millets among rural women.

Keywords: comprehension, perception, field testing, video module, millets

INTRODUCTION

Video has become an important communication tool because it presents information through both visual and auditory channels simultaneously. It helps in presenting difficult concepts in a simple and attractive manner. Videos are capable of gaining attention, improving memory retention, and explaining complicated ideas through visual presentation and narration. In addition, videos create emotional connection and make communication more memorable and convincing. Due to digital technology, videos can easily reach a large audience through various online platforms (Chauhan *et al.*, 2016; Pratik & Vinaya, 2021).

Nowadays, videos also include interactive elements that improve communication effectiveness and provide authentic learning experiences by presenting real-life situations and people (Pratik *et al.*, 2023). Audio-visual media play a major role in classroom teaching as well as extension education because they stimulate both hearing and seeing senses together. This dual presentation system improves understanding and creates deeper meaning among viewers.

Field testing refers to the process of testing communication materials before their large-scale use among the intended audience. Testing helps to determine whether the

audience receives and interprets the message in the desired manner. It also identifies whether visuals, symbols, and sequences are properly understood and whether the content appears meaningful and relevant to viewers.

Generally, communication materials are designed by educated and urban individuals who are highly exposed to modern media. However, these materials are often meant for rural audiences who may have limited exposure to audio-visual communication. Therefore, field testing becomes an essential step for developing effective and suitable communication materials and for avoiding ineffective communication efforts.

Millets were traditionally considered poor people's food in India, but recently they have received increased attention because of their nutritional and health benefits. Compared to rice and wheat, millets possess superior nutritional qualities and can serve as healthy gluten-free alternatives. However, the cultivation and consumption of millets in India declined over the years for several reasons. According to Kalaiselvi *et al.* (2016), the cultivation area under small millets reduced drastically from 7.22 million hectares to 2.29 million hectares between 1961 and 2009. Factors such as labor-intensive cultivation practices, low productivity, poor market support, easy availability of

rice and wheat through the public distribution system, and inadequate commercialization contributed to this decline.

Recognizing the importance of millets, the United Nations General Assembly declared the year 2023 as the “International Year of Millets” following India’s proposal supported by several countries. Millets are now popularly known as “nutri-cereals,” “future crops,” and “super foods” because of their high nutritional value. Ashoka et al. (2020) reported that millets contain higher levels of fiber, vitamins, proteins, calcium, and iron compared to many common cereals.

India contributes the largest share of global millet production and produced nearly 10.91 million tonnes during 2018–2019. Despite this, India continues to face problems related to malnutrition as well as lifestyle diseases such as obesity and diabetes. Many people are still unaware of the nutritional and environmental advantages of millets. These crops are highly drought tolerant and support sustainable agriculture, food security, and nutritional improvement. Therefore, creating awareness regarding millet consumption has become extremely important.

OBJECTIVES

- (1) To field test the developed video module for perception among rural women
- (2) To field test the developed video module for comprehension among rural women

METHODOLOGY

Development of video module

The video module on “Millets” was prepared in Gujarati language for providing scientific information to rural women. Relevant subject matter was collected through textbooks, journals, electronic resources, and expert consultation. The important areas included in the video were concept and importance of millets, history, types of millets, nutritional and health benefits, cultivation regions, processing methods, and preparation of millet-based food items.

The video was developed through several systematic steps such as planning, script writing, sequencing of content, storyboard preparation, recording, editing, adding visual effects, reviewing by experts, and final refinement. The final duration of the video module was 26 minutes. Before finalization, the video was pre-tested with twenty non-sample rural women to evaluate audio and visual clarity. Necessary improvements were incorporated based on their suggestions.

Later, the video was evaluated by thirty experts on

different parameters including visual quality, audio quality, presentation, and content aspects using a five-point continuum consisting of excellent, very good, good, average, and poor categories. The video module was modified according to expert suggestions before field testing.

Field testing of video module on millets

The study was carried out in Banaskantha district of North Gujarat. Two talukas, namely Palanpur and Vadgam, were selected randomly. From each taluka, three villages were selected randomly, namely Chhapi, Kotadi, Changa, Jagana, Jasleni, and Sedrasan. Thus, a total sample of 120 rural women was selected by using a multistage random sampling technique, with twenty respondents from each village.

The required information was collected through a structured interview schedule prepared by the investigator. Respondents were contacted personally with the help of local leaders, and the purpose of the investigation was explained clearly. The video was shown in groups of twenty respondents according to a pre-planned schedule in the local dialect.

Immediately after watching the video, respondents were interviewed to assess their perception and comprehension regarding the video module. Separate questions were framed for perception and comprehension assessment. Questions related to perception included identification of moving visuals and opinions regarding audio quality. Questions related to comprehension focused on understanding of scenes and messages conveyed through visuals.

A separate score sheet was developed for measuring both perception and comprehension. Each correct response received a score of one, while incorrect responses were given zero score.

Separate questions were prepared for both visual perception and comprehension.

For perception questions framed were like

- (1) What moving images do you see in this scene?
- (2) What are your views about audio of this video module?

For comprehension

- (1) What do you understand from this scene?
- (2) What message do you receive from this scene?

A list of selected visuals and messages from each scene was prepared to record the responses of the respondents. This method enabled the investigator to elicit true responses from the respondents.

Table 1: Perception and comprehension scores of video module

Scene No.	Score	
	Perception	Comprehension
1	16	00
2	2	3
3	6	7
4	11	5
5	13	6
6	12	6
7	11	5
8	12	6
9	12	5
10	8	4
11	11	5
12	13	9
13	10	3
14	6	10
Visual clarity	7	00
Audio clarity	7	00
Total	157	74

Perception and comprehension of the video module by respondents were analyzed by developing score sheet. Score were assigned to the visuals and messages intended from each scene. Each correct answer for perception and comprehension was assigned score 1 and for incorrect response score was zero.

Total score for visual perception – 157

Total score for comprehension – 74

Details of scores for each scene are given below.

RESULTS AND DISCUSSION

Perception of video module by the respondents

This section presents the findings about the perception of the video module on millets by the respondents. The perception was analysed in terms of the identification of the visuals shown in the video module on millets by rural women. It provided insights into how the respondents perceived the visual presented in the video. The developed video module was divided in fourteen scenes. The findings in terms of visual perception have been presented separately for each aspect and scene of the video module.

Table 2: Overall visual perception of video module across scenes

(n=120)

Scenes	No. of visuals	Fully identified (%)	Range (%)	Key observation
Scene 1	16	Majority (100%)	92.50–100	Familiar rural visuals
Scene 2	2	100	100	Very clear visuals
Scene 3	6	High	83.33–97.50	Animation improved perception
Scene 4	11	High	78.33–100	Nutrition lowest
Scene 5	13	High	81.67–100	Technical visuals lower
Scene 6	12	Very high	92.50–100	Familiar repetition helped
Scene 7	11	Very high	92.50–100	Clear and simple visuals
Scene 8	12	Very high	92.50–100	Slight drop in dishes
Scene 9	12	High	85.00–100	Technical terms lower
Scene 10	8	High	90.00–100	Health visuals slightly lower
Scene 11	11	High	88.33–100	Abstract conditions lower
Scene 12	13	Very high	88.33–100	Strong familiarity
Scene 13	10	High	86.67–100	Health visuals lower
Scene 14	6	Very high	95.83–100	Familiar processes

The findings related to perception revealed that respondents showed a high level of ability in identifying and interpreting visuals presented in the video module. In most scenes, respondents correctly recognized visuals, and the percentage ranged from 83.33 to 100 per cent.

The highest level of perception was noticed in scenes showing familiar rural activities, agricultural practices, and traditional food preparations. Visuals related to millet crops, farming operations, and commonly consumed dishes were identified correctly by most respondents. This indicates that locally relevant and familiar visuals helped respondents

understand the content more effectively.

However, comparatively lower perception was observed in scenes related to nutritional information, technical concepts, and abstract health conditions. The lower perception in such scenes may be due to the complexity of information and the use of less familiar visuals. Animated visuals included in the video were found useful in attracting attention and improving understanding among respondents. Repetition of similar visuals in different scenes also helped respondents recognize information more easily.

Overall, the findings demonstrated that the video module was highly successful in communicating visual information when

the visuals were simple, familiar, and directly connected to respondents' daily life experiences.

Comprehension of video module by the respondents

Table 3: Overall comprehension of messages across scenes

(n=120)

Scenes	No. of messages	Highest (%)	Lowest (%)	Key observation
Scene 2	3	98.33	91.67	Concept well understood
Scene 3	7	98.33	90.83	History slightly complex
Scene 4	5	94.17	79.16	Nutrition lowest
Scene 5	6	99.17	70.83	Nutrition lowest
Scene 6	6	96.67	79.17	Health better than nutrition
Scene 7	5	98.33	75.00	Immunity lowest
Scene 8	6	98.33	70.83	Nutrition lowest
Scene 9	5	94.17	79.17	Technical concepts lower
Scene 10	4	97.50	83.33	Good comprehension
Scene 11	5	83.33	66.67	Lowest comprehension
Scene 12	9	93.33	66.67	Abstract concepts lower
Scene 13	3	96.67	92.50	Very high comprehension
Scene 14	10	95.83	66.67	Regional info complex

The findings regarding comprehension indicated that respondents had a good understanding of the information conveyed through different scenes of the video module. The comprehension percentage ranged from 66.67 to 99.17 per cent, showing that the video was effective in communicating messages.

The highest comprehension was observed in simple and practical health-related messages such as benefits of millets in digestion, disease prevention, and weight management. These messages were understood easily because they were presented through simple narration, local language, and familiar examples.

Lower comprehension was observed for information

related to nutritional composition, technical health issues, and geographical distribution of millets. Such concepts appeared comparatively difficult for respondents because of their unfamiliarity with technical information.

Messages related to commonly known millets such as pearl millet, sorghum, and finger millet were understood better than those related to lesser-known millets. This indicates that previous familiarity with the subject matter improves comprehension.

In general, the results clearly showed that the video module effectively communicated important information when the content was simple, practical, and presented in an understandable format.

Table 4: Distribution of the respondents according to overall visual clarity of video module

(n=120)

Sr. No.	Aspects	Yes		No	
		F	(%)	F	(%)
1	The visuals are clear and easy	104	86.66	16	13.33
2	The colors and contrast of visuals are appropriate	108	90.00	12	10.00
3	The visuals are as per the content	106	88.33	14	11.67
4	The visuals help in understanding the topic effectively	107	89.16	13	10.83
5	The visuals are appealing and eye-catching	109	90.83	11	9.16
6	The visuals made the content more interesting	104	86.66	16	13.33
7	The visuals maintain attention of viewers	108	90.00	12	10.00

The findings related to visual clarity indicated that respondents had a highly favorable opinion regarding visual presentation of the video module. Most respondents reported that the colors and contrast used in the visuals were appropriate, relevant to the content, and helpful in understanding the topic.

The majority of respondents also stated that the

visuals were clear, attractive, and attention-catching. The appealing presentation increased viewers' interest and maintained their attention throughout the video. The visuals also supported better understanding of the content.

The results suggest that the visuals used in the video module were meaningful, easy to interpret, and highly suitable for rural audiences.

Table 5: Distribution of the respondents according to overall audio clarity of video module

(n=120)

Sr. No.	Aspects	Yes		No	
		F	(%)	F	(%)
1	The audio is clear and easy to hear	100	83.33	20	16.66
2	The volume levels is appropriate	105	87.50	15	12.50
3	The audio quality is good	102	85.00	18	15.00
4	The audio is relevant to the content	103	85.83	17	14.16
5	The audio help in understanding the topic	106	88.33	14	11.66
6	The audio is presented in enhancing way	107	89.17	13	10.83
7	The audio maintains the attention of viewers	105	87.50	15	12.50

The findings regarding audio clarity revealed that most respondents considered the audio clear and easily understandable. Respondents also expressed satisfaction with volume level, sound quality, and relevance of narration to the content.

The narration style was found engaging and

supportive in improving respondents' understanding of the topic. Respondents further reported that the audio maintained their interest while watching the video.

These findings indicate that the audio component of the video significantly contributed to the effectiveness of the communication material.

Table 6: Overall perception and comprehension of video module

(n=120)

Sr. No.	Component	Range of score obtained	Distribution of respondents			Overall percent mean score
			Poor (0-52)	Average (53-104)	Good (105-157)	
1	Perception (157)	0-157	-	8 (6.67%)	112 (93.33%)	96.80
2	Comprehension (74)	0-74	0-24 Poor	25-49 Average	50-74 Good	88.23
			-	21 (17.50%)	99 (82.50%)	

The findings regarding overall perception and comprehension showed that the majority of respondents belonged to the good category for both variables. For visual perception, 93.33 per cent respondents were categorized under the good category, while only 6.67 per cent belonged to the average category. The findings are in line with the studies of Darji et al. (2017).

Similarly, 82.50 per cent respondents showed good comprehension, whereas 17.50 per cent demonstrated average comprehension. None of the respondents belonged

to the poor category.

The overall mean percent score for perception was 96.80, while the mean percent score for comprehension was 88.23. These findings clearly indicate that respondents successfully understood both the visuals and messages presented in the video module.

Thus, it may be concluded that the developed video module on millets was highly effective in transferring information among rural women.

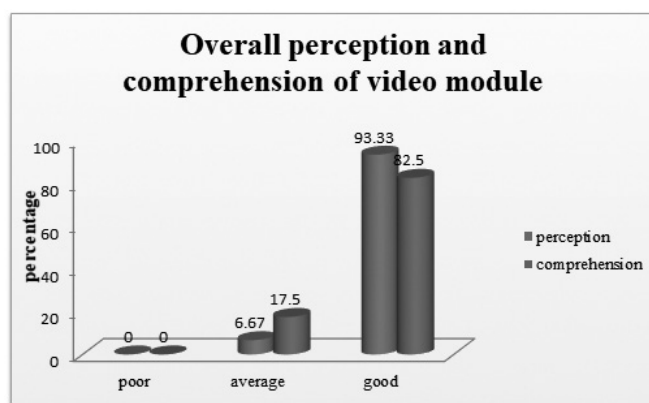


Fig. 1 : Overall perception and comprehension of video module

Table 7: Correlation analysis of respondents' characteristics with perception and comprehension scores (n = 120)

Sr. No.	Variables	Perception (r)	Comprehension (r)
X ₁	Age	0.182*	0.156*
X ₂	Education	0.421**	0.463**
X ₃	Caste	0.098 NS	0.085 NS
X ₄	Family type	0.067 NS	0.052 NS
X ₅	Family size	0.143*	0.168*
X ₆	Monthly income	0.298**	0.326**
X ₇	Self occupation	0.214*	0.237*
X ₈	Family occupation	0.176*	0.192*
X ₉	Land holding	0.261**	0.284**
X ₁₀	Mass media exposure	0.487**	0.512**

Note : *Significant at 0.05 level, ** Significant at 0.01 level, NS = Non-significant

The results of correlation analysis revealed that education and mass media exposure showed a positive and significant relationship with both perception and comprehension. Respondents who were more educated and had better exposure to mass media sources were able to understand and interpret the video more effectively. Similar findings were also observed by Jain (2017); Mor & Jain (2025); Dehariya et al. (2025); More et al. (2025); Bantupall & Saini, (2025); Dangi et al. (2024).

Monthly family income and land holding also showed a positive and significant association with both perception and comprehension. Respondents having better economic conditions appeared to possess greater access to learning resources and information sources.

Age, family size, self occupation, and family occupation also showed significant positive relationships with perception and comprehension at the 0.05 level of

significance. Respondents engaged in agricultural activities and related occupations demonstrated better understanding because of their practical exposure and experiences.

These findings are supported by the study conducted by Panasara (2024), who reported that occupational involvement and practical exposure positively affect the effectiveness of communication materials.

On the other hand, caste and family type did not show any significant relationship with perception and comprehension. Therefore, these variables had very little influence on respondents' understanding of the video module.

Overall, the findings indicate that educational status, economic condition, and exposure to mass media played a major role in improving the effectiveness of the video module.

CONCLUSION

Based on the findings of the study, it can be concluded that the developed video module on millets was highly effective and easily understood by rural women. Respondents demonstrated excellent perception and very good comprehension regarding the information presented in the video. Most respondents were able to understand the major messages because of the use of simple language, familiar visuals, and relevant examples.

The video successfully communicated information related to the concept, types, and health benefits of millets. High perception and comprehension scores clearly indicate the effectiveness of the developed communication material.

The correlation analysis further revealed that education, income, land holding, and mass media exposure positively influenced respondents' understanding. Thus, both personal and communicational characteristics contributed significantly toward learning through video-based communication.

In general, the developed video module proved to be an effective educational tool for improving awareness and knowledge regarding millets among rural women.

RECOMMENDATIONS

- (1) Extension agencies should promote the use of video-based educational materials for increasing awareness regarding nutrition and agriculture among rural communities.
- (2) Similar video modules may be prepared on other important subjects related to farming, health, and nutrition.

- (3) Efforts should be undertaken to improve mass media exposure among rural women for better access to educational information.
- (4) Communication materials developed for rural audiences should use simple language, locally relevant examples, and clear visuals for improving understanding.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest among them.

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