

Preparation of Interactive CD-ROM on Poultry farming and Assessment of Its Effectiveness

Shalini Asrani¹, Sushma Kaushik², K. K. Yadav³ and R. K. Asrani⁴

ABSTRACT

Interactive CD-ROM using flash was prepared as per standard procedures. Accuracy, Coverage, Objectivity, Content presentation, Layout and Suitability of pictures, write up and compatibility of CD was perceived high for all the messages on all the parameters. Thus it clearly indicates that all the messages were clearly stated, self explanatory and information appeared to be valid and well researched.

Key words: Interactive CD-ROM, effectiveness, poultry farming.

INTRODUCTION

It has been observed that there is a lot of scope for backyard poultry in the villages. Backyard or family poultry, with tiny investments is seen as an ideal plank for ensuring livelihood security and also providing nourishment to poor households in the rural hinterland. In the nutritive value, poultry egg rank second to cow milk. Agriculturists and nutritionists have generally agreed that developing the poultry industry is the fastest means of bridging the protein deficiency gap presently prevailing in the country.

But Indian poultry industry is flourishing in and around urban areas while villages remain untouched. Unlike other agricultural commodities such as milk, wheat and rice, most of the egg and meat production takes place in urban areas. It is obvious that villagers cannot adopt scientific approach to poultry farming because of lack of proper knowledge or training and resources (Khare, 2001).

Computer is being used in every sphere of life. Its uses are increasing day by day. There is not even a single field that is beyond the grip of computer. It is because of this invention that world has reduced to a global village. CD ROM is a vehicle for bringing our clients to a new level of acceptance for information (Gupta, 2000). CD-ROM technology offers a wonderful opportunity for presenting material such as “tree bytes.” One disk can spot large value of text along with hundreds of photographs (Rogers, 2001). Therefore present study has been planned to prepare interactive CD-ROM on backyard poultry farming which can be used by trainers as well as trainees for self learning.

METHODOLOGY

A. Selection of messages

To prepare an interactive CD ROM on poultry farming, first of all a list of various messages and sub messages was prepared with the help of reviews and available literature. These messages were subjected to 20 experts for their response mainly in three categories 'most needed', 'needed' and 'least needed' (Table 1). Out of the list, ten messages having weighted mean score of more than 2.00 were finally selected for the preparation of media while those five having weighted mean less than 2.00, were dropped (Table 1). Table 1 depicts selection of messages related to poultry. It is clear from the table that a total of ten messages were finally selected.

Table 1: Expert opinion on selection of messages for Preparation of CD-ROM on poultry farming n=20

Messages	Most needed	Needed	Least needed	Total weighted mean
History of poultry farming	3	5	12	1.55
Importance of poultry farming	12	8	0	2.60*
Incubation	2	4	14	0.70
Important breeds of poultry birds	10	6	4	2.30*
Free range & Yarding technique	4	6	10	1.70
Housing system for poultry farming	8	8	4	2.20*
Rearing of poultry birds	7	7	6	2.05*
Seasonal effect on poultry	8	7	5	2.15*
Feed requirements of poultry birds	7	9	4	2.15*
Waterfowl	3	5	12	1.55
Prevention/control of diseases & vaccination	7	8	5	2.10*
Raising the Home Duck Flock	3	4	13	1.50
Preservation of poultry products	8	8	4	2.20*
Economics of poultry farming	12	8	0	2.60*
Problem solutions	7	9	4	2.15*

* Selected messages

¹Department of Extension Education and Communication Management, COHS, CCS HAU, Hisar, ²Department of Animal Nutrition, College of Animal Science, CCS HAU, Hisar (Haryana), ³Department of Veterinary Pathology, DGCN COVAS, CSK HPKV, Palampur (HP)

B. Preparation of CD-ROM

Following steps were followed for preparation of CD-ROM.

a) Planning: Planning is the most important part of any communication process and to make CD ROM most effective, due consideration was given from the infancy stage. At this stage planning was done regarding format, title, number of slides/pages, number of photographs etc. It was decided to prepare CD ROM in Flash Programme (Microsoft) form so as to present comprehensive and easy to access information.

b) Research: After planning stage, research was conducted to collect information regarding the subject poultry. The faculty from the Department of Animal Breeding, College of Animal Sciences, College of Veterinary Sciences and the Department of Extension Education, College of Home Science, CCS Haryana Agricultural University, Hisar and the faculty from the College of Veterinary and Animal Sciences, CSK HPKV, Palampur was consulted. The information was also collected from a number of poultry farms in and around Hisar and Palampur to study and cover the practical aspects of the subject. Library and internet were also explored to gather relevant information. Relevant text material, pictures and illustrations were collected.

c) Treatment: It was decided to make CD ROM in Hindi language for easy understanding of the audience. Keeping in mind the perceived need and problems by respondents, relevant messages were designed and every effort was made to make CD ROM easy to understand and capable of attracting attention and sustain interest of the audience.

d) Outline: The selected ten messages were broken down into subsequent critical sub messages. After each chapter self instructional exercises were given to make the learners test their knowledge gained on the subject. A list of 'Frequently Asked Questions' ((FAQs) was developed with the help of experts and it was added as a separate chapter at the end for better clarity on the subject.

e) Sequencing: Once outline was prepared, then sequencing was worked out to introduce the reader to the subject and take him step by step towards the end.

f) Review: To make improvements in the written text, it was given to scientists of the College of Animal Sciences and Home Science Extension Education, CCS HAU, Hisar for reviewing.

g) Publishing: Only after reviewing and corrections, the final text was published and recorded in CD ROM.

The cover page of CD included title of CD, details about project, details about team and printable version of CD ROM. Hyper linkage was established between home page, all the messages, sub-messages and exercises. The effectiveness of the prepared media package was assessed by showing them to 20 judges comprising extension workers, teachers and scientists. The effectiveness of CD was measured through modified scale of Midha (2001). Parameters such as accuracy, coverage, objectivity, contents presentation, illustrations, linking, compatibility, understandability etc. were used for measuring effectiveness. Schedule for the same was developed. All components had subcomponents which were scored on a three-point rating scale such as high, moderate and low having scores of 3, 2 and 1 respectively. Weighted mean scores of all the components were calculated. After incorporating improvements as suggested by judges, final media was prepared.

RESULTS AND DISCUSSION

1. Accuracy of various poultry messages

Accuracy of poultry messages was assessed under six attributes of accuracy. Table 2 indicates that accuracy in terms of 'understanding of the title', 'free from grammatical spelling and other typographical errors', 'clarity of printing', 'size of typing', 'appropriateness of language', 'clarity of directions', was perceived to be high for all the messages viz., 'Problem solutions' (M_{10}); 'Importance of poultry' (M_1); 'Seasonal effect on poultry' (M_5); 'Housing system for poultry farming' (M_3); 'Knowledge on feed requirements' (M_6); 'Prevention/control of diseases & vaccination' (M_7); 'Important breeds of poultry birds' (M_2); 'preservation of poultry products' (M_8); 'Rearing of poultry birds' (M_4) and 'Economics of poultry farming' (M_9). Accuracy in terms of 'understanding of the title' was found perfect for M_1 , M_2 , M_3 , M_6 , M_7 , & M_{10} . Regarding 'free from grammatical spelling and other typographical errors' maximum score was given to M_3 and M_5 , while least score was given to M_6 . This may be because of the presence of technical words in the message. 'Clarity of printing', 'size of typing' and 'appropriateness of language' was perceived high for all the messages. 'Clarity of directions' scored maximum for M_{10} and the least for M_9 . Overall weighted mean score showed that accuracy of CD was perceived to be high for all the messages on all the parameters. Maximum score was 2.87 for M_{10} , followed by 2.86 for M_1 , 2.85 for M_5 .

2. Coverage and objectivity of various poultry farming messages

The data presented in Table 3 reveals that coverage of information on poultry farming was found to be high for all the messages and the mean score for ten messages ranged between 2.81 to 2.97. M₁, M₂ & M₁₀ scored highest for coverage of various topics followed by M₃ and M₇. Other messages M₉, M₅, M₄, M₆, and M₈ also scored high for coverage. Thus, it clearly indicates that contents related to these messages were covered properly for all the topics.

Table 2: Accuracy of various poultry farming messages for CD perceived by judges

Attributes of Accuracy	Weighted mean score									
	Messages									
	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀
Understanding of the title	3.0	3.0	3.0	2.98	2.94	3.0	3.0	2.85	2.87	3.0
Free from grammatical spelling and other typographical errors	2.84	2.86	2.89	2.76	2.89	2.67	2.75	2.85	2.69	2.86
Clarity of printing	2.98	2.87	2.78	2.69	2.88	2.94	2.85	2.69	2.92	2.87
Size of typing	2.56	2.43	2.45	2.46	2.55	2.48	2.43	2.45	2.47	2.59
Appropriateness of language	2.87	2.76	2.89	2.87	2.96	2.94	2.84	2.95	2.88	2.96
Clarity of directions	2.94	2.87	2.86	2.96	2.89	2.87	2.98	2.95	2.85	2.98
Over all mean score	2.86	2.79	2.81	2.78	2.85	2.81	2.80	2.79	2.78	2.87

Maximum mean score is 3.00
 Low : 1-1.66 Medium : 1.67-2.32
 High: 2.33-3.00.

Table 3: Coverage and objectivity of various poultry farming messages for CD as perceived by judges

Attributes of Coverage and Objectivity	Weighted mean score									
	Messages									
	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀
Coverage										
All topics covered the concept of poultry	3.0	3.0	2.98	2.86	2.87	2.83	2.95	2.82	2.92	3.0
Objectivity										
Write up of all topics/messages clearly stated/self explanatory	2.95	2.85	2.76	2.89	2.84	2.94	2.87	2.97	2.68	2.97
Information appears to be valid and well researched	2.78	2.89	2.76	2.97	2.88	2.67	2.98	2.79	2.85	2.96
Over all mean score	2.91	2.91	2.83	2.90	2.86	2.81	2.93	2.86	2.81	2.97

Maximum mean score is 3.00
 Low : 1-1.66 Medium : 1.67-2.32
 High: 2.33-3.00.

As regarding objectivity, high scores were obtained for 'write up of all the messages clearly stated/ self explanatory' for all the messages, maximum for M₈ & M₁₀ and minimum for M₉. Similarly 'information appears to be valid and well researched' also scored high for all the messages.

It is further revealed from Table 5 that overall coverage and objectivity of the CD was perceived to be high for all the messages and the overall mean score for all the ten messages was high. M₁₀ was found to be having highest scores followed by M₁, M₂ and M₇. Thus it clearly indicates that write up of all the messages was clearly stated, self explanatory and information appeared to be valid and well researched.

3. Content presentation of various poultry messages

Overall mean scores related to content presentation are presented in Table 4. The data clearly indicates that as far as judges' opinion on its attributes was concerned they reported that the attribute viz. 'material managed in a logical sequence and grouping', scored high score for all the messages, maximum for M₆, M₉ & M₁₀. 'Usefulness of the information' and 'searching the links of files easily', were perceived to be high because these two parameters attained maximum mean score value (ranging 2.85 to 2.98) for all the messages indicating that no change was required as far as these parameters were concerned.

Table 4: Content presentation of various poultry farming messages for CD perceived by judges

Attributes of content presentation	Weighted mean score									
	Messages									
	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀
Material managed in logical Sequence and grouping	2.97	2.96	2.94	2.86	2.93	2.98	2.96	2.84	2.98	2.98
Usefulness of information	2.99	2.97	2.94	2.98	2.96	2.98	2.97	2.85	2.95	2.99
Ease in reading	2.96	2.95	2.97	2.12	2.96	2.30	1.95	2.76	2.32	2.96
Links of files easily searchable	2.97	2.98	2.97	2.95	2.94	2.96	2.92	2.96	2.94	2.93
Over all mean score	2.97	2.96	2.95	2.72	2.94	2.80	2.70	2.90	2.79	2.96

Maximum mean score is 3.00
 Low : 1-1.66 Medium : 1.67-2.32
 High: 2.33-3.00.

As far as ease in reading was concerned, comparatively medium mean scores were achieved for M₇, M₄, M₉, and M₆. It may be due to the reason that messages like 'prevention/ control of diseases & vaccination' and 'Knowledge on feed requirements' were more scientific and had technical information thus slight modification was done to increase its effectiveness in terms of readability. The overall mean scores revealed

that M₁ ranked highest in terms of content presentation followed by M₂ & M₁₀, M₃, M₅, M₈, M₆, M₉, M₇ and M₇.

4. Illustrations of various poultry farming messages

Table 5 clearly indicates that overall effectiveness in terms of illustration of various messages related to CD was perceived to be high (ranging from 2.80 to 2.96) for all the messages. Though comparatively low weighted mean score was achieved by M₇, M₅ and M₁₀ i.e. 'prevention/ control of diseases & vaccination', 'seasonal effects on poultry' and 'Problem solutions' which indicated that layout of pictures, illustration, suitability of pictures and illustrations to content need to be modified. Thus, modification was done for this message. The table thus clearly reveals that both layout and suitability of pictures was perceived high for all the ten messages. However as far as overall mean scores are concerned, M₁ scored highest in terms of illustrations followed by M₆, M₂, M₉, M₃, M₈, M₄, M₁₀, M₇ and M₅.

Table 5: Illustrations of various poultry farming messages for CD as perceived by judges

Attributes of illustrations	Weighted mean score									
	Messages									
	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀
Layout of pictures/illustrations/ graphics is appropriate	2.98	2.92	2.89	2.78	2.79	2.94	2.98	2.86	2.98	2.86
Suitability of pictures/illustrations to contents	2.95	2.92	2.94	2.91	2.86	2.95	2.98	2.85	2.87	2.83
Over all mean score	2.96	2.92	2.91	2.84	2.82	2.94	2.98	2.85	2.92	2.84

Maximum mean score is 3.00
Low : 1-1.66 Medium : 1.67-2.32
High: 2.33-3.00.

6. Writing style and compatibility of various poultry farming messages

Regarding writing style it can be observed from Table 6 that majority of the judges observed that main points in CD were emphasized and all the headings were also differentiated from each other. It may be due to the reason that all heading and sub headings were properly linked with home page and in different colours resulting in ease in searching the related contents. Majority of the judges opined that repetition of words (2.76-2.98) was avoided carefully and 'topic or information of messages are simple in nature'. Overall mean score for all the messages ranged from 2.89 to 2.97 which indicates that CD was perceived to be highly effective in terms of writing style. Maximum score was given to message M₁ followed by M₅, M₁₀, M₈, M₂ and M₁₀. So modification was done to make the language simpler.

Table 6: Writing style and compatibility of various poultry farming messages for CD perceived by judges

Attributes of writing style and compatibility	Weighted mean score									
	Messages									
	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀
Writing style										
The main points were more emphasized	2.98	2.96	2.94	2.95	2.92	2.96	2.98	2.89	2.92	2.91
All the topics/main headings are differentiated from each other	2.94	2.93	2.97	2.93	2.98	2.95	2.99	2.94	2.93	2.98
Topics or information of messages are simple in nature	2.99	2.97	2.95	2.98	2.97	2.82	2.75	2.92	2.82	2.96
Repetition avoided	2.98	2.84	2.76	2.79	2.96	2.92	2.95	2.97	2.92	2.98
Over all mean score	2.97	2.92	2.90	2.91	2.95	2.91	2.91	2.93	2.89	2.95
Compatibility										
Presentation of various messages is according to audience background	2.98	2.95	2.92	2.94	2.98	2.91	2.95	2.92	2.99	2.98

Maximum mean score is 3.00
Low : 1-1.66 Medium : 1.67-2.32
High: 2.33-3.00.

Compatibility of CD was also found to be high for all the messages (above 2.91), maximum for M₉ and minimum for M₆. Thus it clearly indicates that presentation of material on various messages is according to audience background needs, interest, customs and value system.

In the same way Harvelt (1987), Kumar and Singh (1987) also reported that compact discs are low cost storage medium for the dissemination of information CD-ROM holds great promise for developing countries, especially in the farm publication and data base distribution applications. Gupta, (2000) and Rogers, (2001), Anuradha *et.al.*, 2012, also stated that CD ROM is a vehicle for bringing our clients to a new level of acceptance for information and remarked that CD-R technology offers a wonderful opportunity for presenting material such as "tree bytes." One disk can spot large value of text along with hundreds of photographs. Asrani (2006) also developed CD ROM on beekeeping and found it effective on all the parameters.

CONCLUSION

Prepared media was found effective and overall weighted mean score showed that Accuracy, Coverage, Objectivity, Content presentation, Layout and Suitability of pictures, write up and compatibility of CD was perceived high for all the messages on all the parameters. Thus it clearly indicates that all the messages were clearly stated, self explanatory and information appeared to be valid and well researched.

Paper received on : September 16, 2014
Accepted on : October 22, 2014

REFERENCES

- Asrani, S. 2006. Development and Testing of Electronic Media on Beekeeping. M. Sc. Thesis, CCS Haryana Agricultural University, Hisar.
- Gupta, P.S. 2000). Consumerism: Energy Challenges and Opportunities: Consumer conf., 7 (3): 2-11.
- Harvelt, J. H. W. Van. 1987. Advantages of CD-ROM for Local Access to Computerized Data Base in Developing Countries in Comparison with Traditional Bibliographic Services: Suggested Pilot Projects. IAALD quarterly bulletin 32 (3): 161-168.
- Kumar, B. and Singh, K. 1988. Video Technology and Changing Development Scenario: A Third World Perspective. *Interaction* 6(1-2): 38-47.
- Khare, A. 2001. Poultry: A Green Pasture. *Yojana*. 45 (4): 42-43.
- Midha, A. 2001. Standardized Food Safety Data Base for Potential Users. Ph.D. Thesis. CCS Haryana Agricultural University, Hisar.
- Rogers, M. 2001. Adults Learning for Development, London; Casell.
- Anuradha and Singh, Archana Raj. Effectiveness of the Developed Video Compact Disc (VCD) in Knowledge Dissemination, *Indian Journal of Extension Education* Vol. 48, No. 1 & 2, 2012 (81-83)