SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Contained in this chapter is brief review of the study, its purpose, objectives, method of investigation, and major findings. Conclusions and recommendations in respect to some of the major findings are also presented.

Purpose of the study:

Home science at school level has its primary objective of helping individual student to achieve a rich and satisfying home and family life. It has a more vital role to play in modern society, which is fast changing, in preparing girls for duel duties to the family and the society and also enable them to face the challenges of today's complex living pattern.

An effective curriculum is well balanced and functional as per the needs and necessities of the learners. In order to keep any educational programme befitting to the changing needs of the society, a regular evaluation of the curriculum is essential. Unfortunately curriculum evaluation has been neglected very largely and specially very little or no work has been attempted to evaluate and revise home science programme at the school level based on regular researches.
The present study was undertaken mainly to evaluate the existing home science (optional group) syllabus prescribed by the Board of Secondary Education, Rajasthan. In addition to this the physical facilities available for teaching home science, and the quality of textbooks of home science were also assessed. Efforts were made to know the opinion of the teachers and administrators regarding the suitability of the new pattern of 10+2 education system. The specific objectives of the study were:

1. To evaluate the existing curriculum of the home science group as prescribed by the Board of Secondary Education, Rajasthan in relation to the general objectives identified.

2. To know the perception of teachers, school students and college students with respect to the importance attached and extent of achievement of the identified objectives of home science programme in school.

3. To ascertain the opinion regarding the utility of home science programme in school.

4. To know from the college students about the adequacy of home science programme as preparatory course for higher education.
5. To find out the reasons from school students of attending home science course.

6. To ascertain the opinion of teachers about the home science syllabus, its organisation, sequence, language clarity and adequacy of content for available time.

7. To know the opinion regarding the proper balance between theory and practice of home science topics.

8. To assess the physical facilities in home science schools for conducting practicals.

9. To know the quality of faculty in terms of personal and academic background of the home science teachers.

10. To assess the adequacy and suitability of home science text-books.

11. To obtain the suggestions for improvement in the home science programme at school level.

12. To know the opinion regarding efficacy and readiness of schools in implementing 10+2 scheme.

13. To develop a comprehensive model syllabus based on the findings of the study and suggestions from subject matter specialists.
14. To suggest a model blueprint of integrated home science block to facilitate practicals.

Method of investigation:

The data were collected from 130 schools students of class XI of all the seven higher secondary schools which offered home science group, 20 home science teachers and heads of the seven participating schools. The sample also included 26 students of B.Sc. in Home Science College who had studied home science group syllabus in the schools.

Interview technique was employed to gather the required information from all the different respondent groups. Personal interview with the teachers and administrators and group interview with the students were used. Separate schedules for four respondent groups were prepared and finalised after pre-testing for the collection of data.

The investigator personally visited all the participating schools to observe and assess the physical facilities for teaching home science in each school. The data obtained were analysed and statistically treated. Percentages, frequencies, mean weighted scores (mean intensity index), chi squares, rank order correlations and Z test were used as the statistical measures to determine the agreement or
Based on the responses of various respondent groups, extensive discussions with the teachers and administrators, personal observations and analysis of the syllabus by the investigator, a model syllabus was developed. This model syllabus was again discussed with the school teachers to further modify it. Finally it was discussed with the subject matter experts from the Home Science College, University of Udaipur, to give it a final shape. A blueprint of the home science block for home science teaching specially teaching home science practice was also suggested.

Major findings

Importance and achievement of objectives:

According to the teachers the most important objective was to prepare students for their future homes. The school students considered as most important the objective, "to prepare students for higher education". According to the college students the most important objectives were to prepare students for their future homes and to help students to lead a more satisfying personal, family and community life.

The teachers considered as the least important the objective "to prepare students for higher education".
Whereas according to the school students the least important objective was to develop right values and appreciation in students. The college students felt that the least important objectives was to help students to understand the responsibilities of family membership.

According to the teachers and school students the objective "to prepare students for their future home" was fully achieved by the home science programme of school. The college students thought that the highly achieved objective was "preparing students for higher education". According to the teachers and school students the least achieved objectives were "to develop right values and appreciations in the students" and "to prepare students for career life". According to the college students the least achieved objective was "to help students to understand the responsibilities of family membership".

There was an agreement in the opinions of the different respondent groups with respect to the importance attached to the objectives identified and the extent of their achievement. It was observed that in general the most important objectives were fully achieved while the least important were achieved to a lesser extent. The order of importance and achievement followed a unique pattern in descending order.
Utility of home science programme:

All the teachers agreed that home science programme makes girls resourceful, provides practical training. A majority of the school students agreed with the statement that the home science syllabus makes girls adaptable to environment and make them well mannered. A majority of the college students also thought that home science training is of practical utility. Twenty nine per cent school students disagreed that home science programme helps to increase poise and grace whereas 61 per cent college students did not agree with the statement that "it developed scientific outlook". All the administrators thought that home science education was of a great utility to the students as it prepares them for their future homes, develops in them good manners, resourcefulness and socialility. They also reported that the programme was suitable to Indian conditions and provided a practical training.

The school students reported their opinion regarding usefulness of 40 items of home science. Although all the items were considered either very useful or useful. The topics which were ranked first in order of their usefulness from various areas were, income and expenditure in the family and budgeting, stitching clothes, different nutrients,
their functions, sources and deficiency, care of children and first aid. The topics ranked towards bottom were preparation for marriage, dyeing and printing, malnutrition, pre-school education and study of social welfare agencies.

In response to an open end question, the most valuable topics in view of 40 per cent of the teachers were: knowledge of nutrients, first and home nursing. The est important topics according to 60 per cent teachers were reproduction in plants and lower animals, town and city planning. The topics, determining calorie content of foods, emotions in children and places of entertainment were considered least important by 25 to 30 per cent teachers.

According to a majority of the college students the school programme of home science adequately prepared them for higher studies. With respect to area wise preparation, college students were most adequately prepared in the field of health science, foods and nutrition. According to 42 and 35 per cent of the college students, adequate training was received in the areas: clothing and textiles and home management respectively. Further all of them were of the opinion that there is hardly any training in the area of home science education and extension.
Reasons and plans for selecting home science:

A majority of the school students selected home science because of their interest in the subject. The second most frequently checked reason was their desire to become good housewives. Parents' influence was the third important reason for choosing home science. Students' own interest was considered the most important reason for the popularity of home science course in schools by a majority of teachers, while poor physical facilities for practicals and lack of scope for higher education in local places were the reasons for its non-popularity. With respect to future plans, 82 per cent school students desired to continue their studies in home science while a few students wanted to take up some jobs after completing higher secondary education.

Interest of the school students:

Efforts were made to find out the topics of interest of the school students. Students reported varied interests in different areas of home science. Findings show that maximum number of responses were in favour of some of the topics in the area of foods and nutrition while minimum were in clothing and textiles. Students reported their greatest interest in the topics, cooking, home decoration, stitching, embroidery, mother craft and first aid.
Revision of the syllabus:

All the teachers and administrators reported that the syllabus should be revised from time to time. Seventy per cent of the teachers knew that syllabus was revised whereas 30 per cent were unaware of any such revision. Those who were aware did not know the specific changes made as a result of the revision.

Organisation, contents and length of the syllabus:

A majority of the teachers agreed with the statements that home science content of the syllabus is according to the level of students' ability and maturity, is in tune with the life of people and is dominated by examinations. A majority of the teachers thought that the contents did not include recent scientific informations.

Fifty five per cent teachers agreed that the syllabus gave adequate weightage to different subjects and had proper relationship between theory and practicals. Sixty to 70 per cent teachers also agreed that the content of the syllabus had proper sequence and continuity and it was not overlapping. But 20 to 30 per cent disagreed with it. Forty per cent teachers felt that syllabus was not clearly stated.
Seventy five per cent teachers reported that the syllabus can be completed within the given time period. The study of the syllabus by the investigator also revealed that the organisation of the content in the syllabus is poor in terms of continuity and sequence and at some places there is duplication and ambiguity.

Opinion from school students were obtained regarding time distribution in theory and practicals in home science. A majority of the students thought that equal and enough time was given to teaching home science theory and practicals. When asked to suggest desired change, majority were of the view that equal weightage should be given to teaching theory as well as practicals. Teachers reported that periods allotted to teaching home science in class IX and X were not adequate. Lack of provision for longer practical periods for home science practicals in all the classes also posed many problems in conducting practicals in true sense.

Teachers, school students and college students suggested the following topics to be completely deleted from the syllabus:

1. Reproduction in plants and lower animals.
2. Planning of town and city.
3. Study of water and room coolers, and vacuum cleaner.
4. Determination of calories in the diets.

5. Joint family, Hindu Code Bill, dowry system, Bharat Sevak Samaj and other social welfare agencies, Sati Pratha and guiding.

A majority of the three respondent groups suggested to reduce the contents in child psychology, cooking practicals and physiology.

Teachers, school students and college students suggested the following topics for inclusion in the present home science programme.

1. Extension education.
2. Basic sciences.
4. Personal appearance.
6. Applied arts.
7. Nursery school observation.

Faculty:

There were in all total 20 teachers who were teaching home science group in the seven higher secondary schools. A majority of the teachers (80%) had some kind of training in home science. Twenty per cent were non home scientists.
They were all trained teachers and sixty per cent of them had attended 1 to 3 refresher courses in home science. All the teachers were teaching more than one subject of home science in schools. In addition to teaching home science courses, 45 per cent were teaching other subjects like Hindi, Geography, Civics, Social Studies, English, General Science and Biology etc. The teachers were also assigned a number of extra curricular activities like games, guiding, and creative writing etc.

With respect to the teaching experience 45 per cent teachers had sufficient experience i.e. from 10 to 20 years, 45 per cent had experience of 6 to 9 years and rest 10 per cent teachers had the experience of 1 to 3 years.

All the teachers had the work load of 30 to 36 periods per week that included teaching of home science and of other subjects. One period in the school consisted of 35 minutes. There were no separate periods for practicals.

**Physical facilities:**

A majority of the schools had good facilities for conducting practicals in different disciplines of home science. Two schools in Ajmer and R.M.V. School in Udaipur had quite satisfactory facilities for teaching home science practice. The government school in Dholpur had the poorest
facilities for most of the areas. It was generally observed that private schools had better facilities in comparison to the government schools. It should have been the other way round. Although the possible reasons for this are not known but the variations may be due to lack of dedication on the part of teachers and administrators of government schools in comparison to the private schools.

When students were asked to report their difficulties faced by them and offer suggestions for the improvement it was found that the difficulties varied from school to school which was quite obvious as the management and the quality of the faculty varied. In some case the laboratories were not available while in others adequate space and equipment was missing. In order to meet these difficulties the teachers had to resort to conducting demonstrations and showing to students rather than involving them in self activity and participation. Wherever sufficient funds were not available for material required for conducting practicals, students were asked to bring supplies as well as the equipment required. It was a practice in some of the schools to charge fees from the students to provide material for the practicals.

Suggestions from administrator, teachers and students were sought which covered everything with respect to the
physical facilities. All the three groups offered very practical suggestions. It was suggested that a separate block consisting of laboratories, class rooms and a modern small house be developed having adequate and modern facilities.

Home science textbooks:

With a view to assess the home science textbooks, opinion from the teachers and school students were sought. In general it was felt that the existing prescribed textbooks by the Board of Secondary Education were not found to cover the total syllabus, contained subject matter which was old and obsolete and did not have sufficient illustrations. In general it can be said that the textbooks were not up to the mark to provide the kind of help and guidance required to the students.

10+2 scheme of school education:

Efforts were made to secure opinion of school teachers and administrators regarding the stage of schools in introducing the 10+2 scheme:

1. Majority of the teachers as well as administrators felt that the schools are still not ready to start the 10+2 scheme in their campuses as there are lack of adequate laboratory facilities, qualified staff and suggested that these may be improved before introducing the scheme.
2. Frequent training programmes in the work experience and in general home science were suggested by the respondents.

3. Regarding the job opportunities available for students who pass their examination with 10+2 scheme, majority of the respondents gave negative answer. Those who agreed to this, said that job opportunities can be created if the scheme could provide competent hands.

4. Before selecting vocational areas for a school, a community survey be made to know the actual job opportunities and the pattern of training to be imparted to the students.

5. Schools should provide occupational information and guidance to the students.

Conclusions

The following conclusions have been drawn based upon the major findings of the present study.

1. Out of eight indentified objectives, the most important objective according to all the respondent groups was to prepare students for their future homes. As regards the importance attached to other objectives, there was
divergence as well as similarity of the views of the different respondent groups. The possible reasons for such views may be attributed to their past experience, the level of maturity and perception. The teachers and college students seem to view the importance of objectives from a broader outlook than the school students.

2. The highly achieved objective, was "to prepare students for their future homes". It was observed that as the importance of the objectives was decreasing, the extent of their achievement was also going down in the same degree i.e. the important objectives were achieved also and the objectives less important were achieved to least extent.

3. With respect to the utility of the home science programme, in general it has been viewed to be useful by the direct beneficiary namely the school students. Most of the college students in general agreed with the usefulness of the programme, however in their opinion it does not develop a scientific outlook. In their opinion, at the school level more emphasis is laid on the training aspect without developing proper scientific outlook. The majority of teachers have found the programme to be very useful. Similarly the administrators were also of the opinion that home science programme was very useful and further reported
that it provides the right kind of training to make the girls more efficient future housewives and mothers.

4. It was generally observed that the school curriculum sufficiently prepared the students to pursue higher education in some of the areas of home science. However, the college students were of the opinion that there was a need for improvement and revision of the curriculum. It was further reported that there was no exposure to some of the fundamentals of extension education and suggested some weightage to be given to this area also.

5. It was observed that the girls offered home science programme mainly by their own choice and sometimes were influenced by parents, teachers and friends. This shows that the girls have rightly understood the utility of the programme and had positive interest to become efficient housewives. General discussion with the administrators and the parents has also revealed that the home science programme definitely has a utility for girls and therefore it is becoming more and more popular among them. It was pointed out that this course was, to some extent, unpopular not because of its usefulness but because of lack of physical facilities and lack of facilities for higher
education. All this leads to the conclusion that the programme was viewed as useful.

6. Regarding the future plans of school students, most of them desired to continue higher education in home science. They also showed their interests in a wider range of topics from all the areas of home science. The interests of the students were not limited to one or two topics or to learning some of the skills only but they were also interested in some of the basic topics of greater importance and utility. It can be therefore concluded that the home science programme has developed a right kind of interest in the school students.

7. Both the groups namely teachers and administrators felt the need for continuous revision of home science programme based on research work. It was further reported that so far no such work has been done in this field.

8. Suggestions of the teachers, school students and college students were invited with respect to deletion, reduction or addition of some of the topics in the syllabus based on the total utility of the programme. The suggestions offered were found to be quite reasonable, in order and satisfactory. These suggestions were considered while developing the model syllabus.
9. With respect to the organisation, in general the teachers felt that the content of the syllabus were useful and were fairly well organised. However, a section of teachers as well as the investigator herself felt that it lacked continuity and sequence at some places and sometimes there was repetition and overcrowdedness of the content. Further the programme did not include the latest scientific informations. The syllabus was considered as adequate in length and a proper balance was reported between theory and practice by majority of the respondents.

10. The faculty responsible for home science, teaching was found to be fairly qualified and trained having sufficient experience.

11. On the basis of the interview and personal observation of the investigator it is concluded that by and large the participating schools had on an average good to excellent facilities excepting in one school where the subject was introduced very recently. Still there was a scope for further improvement. Out of the seven participating schools, four were privately managed and other three were government schools. When the facilities of two sets of schools are compared, private schools were found to have better facilities than the other group.
12. Based on the responses of different groups, discussion and personal analysis of the books by the investigator, the test books cannot be considered as comprehensive and ideal covering all the aspects with up-to-date knowledge incorporated. There seems to be plenty of scope for improvement, keeping in view the suggestions received from three groups as well as observation of the investigator.

13. It is quite evident from the opinion of the respondents and the review of literature cited that the stage is not yet ripe to introduce the 10+2 scheme in the schools with the existing facilities and preparedness. A lot of planning is required to be done with regard to curriculum, textbooks, physical facilities, finding out actual job opportunities and faculty improvement to introduce this scheme in right earnest.

**Recommendations**

On the basis of the findings of this study, a review of related literature and personal observation and experience of the investigator, the following recommendations are set forth:

1. Analysis of the home science curriculum prescribed by the Board has shown that there are no formal and specified objectives for the course which are necessary to provide
a right direction and guidance to the teachers as well as to the students. It is therefore recommended that clear objectives in general for home science and specific for various areas should be developed so that proper guidlines for teaching can be provided.

2. Any programme has to be dynamic to meet the changing needs which calls for the revision of courses to be in line with the requirements. It is therefore recommended that the home science programme should be revised regularly on some systematic basis to meet the changing needs. Further a scientific approach should be taken to bring about a revision. It is suggested that a regular feed back from the students is received to find out the utility and usefulness of each of the course and of even specific topics within each course. For this a questionnaire be developed and provided to the teachers to be filled by each student at the end of each academic year which can be sent to the committee of courses for analysis. The committee of courses should be appointed for a period of at least five years to receive such feed back, analyse it and incorporate into the course. This committee should also develop a kind of system to ascertain the changing needs of the society to make adjustments in the courses to make them more useful. All this should become
a regular feature of the Board with the sole purpose of offering most useful, up to date and need oriented programme to the girls.

3. Although the home science programme is becoming more and more popular, and girls offer it with their interest and choice, the number of students offering this course in each of the school was not enough looking to the total population. It is therefore suggested that efforts may be made to educate parents as well as the students, at the stage of deciding about the optionals, regarding usefulness of the programme, so that they are rightly motivated in the selection of optional subjects for which orientation programme of one day duration during the vacations be arranged by the schools.

4. On the basis of the responses as well as the analysis of the syllabus, it was observed that at many places the contents of the courses needs proper organisation to avoid repetition, duplication and overlapping. Further it was observed that proper balance with respect to allotment of periods as also allotment of time for theory and practicals is improper and imbalanced. It is recommended that a proper attention be given to these aspects while revising the syllabus of home science group.
5. It has been observed that generally at the school level the teaching of home science is more training oriented rather than scientific. It is therefore recommended that the main emphasis should be given to scientific approach. Along with theoretical instruction, a clear understanding of application of these principles must be provided while conducting practicals.

6. It is recommended that the suggestions offered by the different respondent groups regarding removal, inclusion or reducing contents in the syllabus should be incorporated at the time of the revision of the programme.

7. During the course of discussion and interviewing it was pointed out that the time devoted to practicals is little insufficient to do the exercise. It is therefore, suggested that practicals of long duration should be provided so as to complete the exercises timely and effectively.

8. Based upon the findings of the present study and the basic principles of curriculum building a sincere effort was made by the investigator to develop a model syllabus. This model syllabus may be taken as a guide for further discussion by the statutory body: The Committee
of Courses in home science instituted by the Board of Secondary Education, while revising the programme.

It is further suggested that the proposed model syllabus may be adopted by the Board on an experimental basis in a few selected schools for one term. Scientific evaluation may be done at the end of the term and the programme may be further revised to make it more useful and perfect.

9. Though the physical facilities in all the schools were not so poor, there is still a great scope for improvement. It is suggested that every school should have a separate home science block consisting of laboratories for different areas and a small model house to provide practical experiences. Much care has to be taken by the Board of Secondary Education about the proper physical facilities available in a school, before giving recognition to it. Considering the optimum needs of the different areas of home science a model blue print of a home science block has been suggested.

10. Although faculty responsible for home science teaching was fairly qualified, trained and experienced, however, they were not having specialisation in a particular area of home science. They were also found to teach subjects other
than home science and were found to be loaded with other extracurricular activities. It is therefore recommended that teachers with M.Sc. with specialisation in each of the areas namely foods and nutrition, home management, clothing and textiles and child development be provided as these are the specified areas of the course.

11. In creative work like teaching, the provision of stimulating conditions of work and adequate opportunities for professional advancement are extremely important. There should be regular programme of faculty improvement which can be provided through seminars, summer institutes, workshops and grants for purchase of books. For B.A. Home Science teachers some special arrangements may be made in the University or college of home science to develop a programme to offer a post graduate diploma of two years or a degree of three years duration to further open the avenues for higher promotions or jobs.

12. In view of the syllabus prescribed by the Board of Education Rajasthan, it should take initiative to attract good authors for writing the textbooks. Further looking to the vastness and variability of the subject, no individual author is competent to write a book which can effectively
cater to the needs. It is therefore required that the author from each major areas namely foods and nutrition, clothing and textile, child development, home management and health science should be involved. Generally, it has been observed that the teachers from University level with specialisation in their own field are invited to write a general kind of a textbook covering all the subjects and usually is found to be improperly balanced in view of their own interest and background. Further these teachers lack insight and the kind of experience which is generally found with the school teachers. It is therefore, suggested that the books should be produced in collaboration with experienced school teacher and qualified university or college teachers. This will help in providing proper contents in simple and usable form. Besides this the monopoly approach should be disbanded with. If more than one set of authors are permitted to write the textbooks, it will develop healthy competition and the students will get better quality textbooks.

13. It will not be out of the place to suggest that before going into mass publication of the books, the textbook may be published on pilot basis and sent to various schools on a trial basis to ascertain the usefulness and
efficacy of the textbooks. Suggestions received in this way should be seriously taken up sportingly to further improve the quality and value of the textbooks. In addition to publishing the textbooks, brief guides for teachers may also be brought about to effectively handle the textbook and the course.

From the indepth study and critical examination of the four prescribed home science textbooks it was observed that they are out-dated, obsolete and do not cover the total syllabus effectively. Further they are very old to be of any use under the present context. It is therefore recommended that over all revision of all these textbooks is very essential or completely new books should be developed keeping in view the above suggestions.

14. It is recommended that the Committee of Courses for home science must include representation from the schools as well as home science college in different specialised areas in order to have a proper linkage, continuity and liason between the school and college programme. Further an expertise opinion in revision of the different areas of the course may be obtained through such a committee.
15. It is recommended that ways and means should be devised by home science teachers to acquaint public with home science programme in order to get appreciation and cooperation from people in furthering the programme.

16. Recently the Board has made the secondary and higher secondary programme independent of each other rather than having a three years integrated programme. This means that the girl after passing the secondary examination can leave the school or may seek admission for the college education. Thus she is being exposed to home science programme for two years only instead of three, which is insufficient either as a terminal programme to make her a good housewife or as a preparatory for higher education. It is therefore suggested that three years integrated programme should be offered.

17. It has been observed that the home science group programme is offered by only seven higher secondary schools in Rajasthan which are concentrated only in four districts out of a total 26, and that to in urban areas (map given under method of investigation). It is therefore recommended that there should be at least one school in each district offering this programme so that girls from every part of the state may be benefited by such a useful programme.
18. In view of the opinion received as well as available critical views, it is recommended that the new scheme of 10+2 should be introduced on a very limited and pilot basis to know the weakness of the programme so that the improvements may be brought about to make it more useful and practicable.

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