CHAPTER - IV

CONCLUSIONS AND IMPLICATIONS OF THE STUDY

CHAPTER IV

The objectives of the study were to determine the characteristics of the resource systems and the process of developing and communicating innovations which are linked to the adoption of innovations and to study whether there is any relationship between the level of adoption of innovations and the characteristics of resource system, process of developing innovations and the process of communicating innovations.

The dependent variable under study was the level of adoption of innovations. The independent variables were the characteristics of the resource systems, the process of developing and communicating innovations. Three null hypotheses were framed to find out the effect of three independent variables on the dependent variable.

Seven important characteristics of the resource system were finally selected. Three important strategies of communication of innovations were identified. Stages involved in the process of developing innovations were identified on the basis of discussion with eminent educationists and on the review of

the relevant literature. Three questionnaires were prepared for studying the characteristics of the resource systems, the process of developing innovations and the process of communicating innovations. A rating scale was constructed to measure the level of adoption of innovations. An information data sheet was devised to bring out the historical background information about the educational resource systems.

The sample of ninety five (95) educational resource systems (national level= 10; state level = 12; regional level = 3; and local level = 70) was selected from the country. After the collection of the data from the heads of the selected educational resource systems, the questionnaires were scored, data were tabulated and analysis of data was undertaken. Mean and percentage were used to study the characteristics of resource systems, process of developing innovations and the process of communicating innovations. The rank order correlation was employed to examine the relationship between the level of adoption of innovations and the characteristics of the resource systems, the process of developing innovations and the process of communicating

innovations. The results derived have been reported and discussed in the third chapter. The conclusions are being presented in this chapter. At the end, the implications of the study have been discussed.

4.1.0.0. CONCLUSIONS

4.1.1.0. CHARACTERISTICS OF EDUCATIONAL RESOURCE SYSTEMS

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems for their characteristics are 83.60, 76.88, 89.48 and 72.85 respectively. The mean percentage score of the total educational resource systems on their characteristics is 75.03. The coefficient of correlation ($r=0.56$) between the characteristics of total educational resource systems, and the level of adoption of innovation is significant at 0.001 level. The level of adoption of innovations is positively and significantly related to the characteristics of the educational resource system. It can therefore be concluded that the characteristics of the

educational resource systems affect the level of adoption of innovation.

In the present study as many as seven characteristics of the resource systems have been studied which are found to be positively and significantly related with the level of adoption of innovations. The conclusions are as follows:

1) LINKAGE:

The national level educational resource system scored high on linkage factor. A large number of state level of educational resource systems have a high degree of reciprocal and collaborative relationship with their clients and they have a high degree of primacy over their clients. Almost all the regional level educational resource systems develop, to a great extent, the reciprocal and collaborative relationship with their clients. They have primacy to a very great extent over their clients and usually adapt appropriate media for appropriate innovations. The local level educational resource systems scored a little low on the linkage factor. A few local level educational resource systems rarely develops reciprocal and collaborative relationship with their clients and they rarely adapt appropriate media for appropriate innovation. These local level educational resource systems (48 percent)

have a high degree of primacy over their clients. The coefficient of correlation ($r = 0.54$) between the level of adoption of innovations and the linkage factor for all educational resource systems is significant at 0.001 level. Therefore the linkages between educational resource systems and their clients affect the level of adoption of innovations. The more linkages are, the more effective will be day-to-day contact and exchange of information and hence the greater will be the level of adoption of innovations.

2) STRUCTURE

Nearly all the national, state (State Institutes of Education) regional (Regional Colleges of Education) and a large number of local (colleges of education and university departments of education) levels of educational resource systems have a high degree of coordination of efforts and division of labour. Almost all the national, state, (State Institutes of Education), regional (Regional Colleges of Education) and a large number of local (colleges of education and university departments of education) levels of educational resource systems function as a whole and have a coherent and overall view of their clients. The coefficient of correlation ($r = 0.50$) between the level of adoption of innovations and the structure factor for all the educational resource systems is significant at

.001 level. The structure of the resource system, therefore, affects the level of adoption of innovation. To be effective, the resource system needs a high degree of structure in terms of meaningful division of labour and coordination of efforts.

3) OPENNESS

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems for openness factor are 88.57, 86.88, 90.45 and 80.60, respectively. The mean percentage score of total educational resource systems for openness factor is 82.54. Nearly all the national, state (State Institutes of Education), regional (Regional Colleges of Education) and a large number of local (colleges of education and university departments of education) levels of educational resource systems have a high degree of willingness and readiness to help other institutions in the development of innovations and to be influenced by their clients feedback and new scientific knowledge. Almost all the national, state, regional and a large number, of local level educational resource systems possess a high degree of flexibility, accessibility, demonstrability, and adaptability towards innovations. The coefficient of correlation

($r = 0.44$) is significant at 0.001 level. Therefore the openness of the resource system affects the level of adoption of an innovation. Openness of an organisation is fundamental to effective utilisation. Effective resource systems are open to influence and change.

4) CAPACITY

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems for capacity factor are 88.80, 74.64, 96.00 and 73.20, respectively. The mean percent of the total educational resource systems on capacity factor is 75.72. Approximately all the national and regional levels of educational resource systems possess a high degree of power, funds, prestige and academic environment. They utilise their own internal resources for the development of innovations. A large number of state educational resource systems possess a high degree of power, academic environment, prestige and utilise their own internal resources for the development of innovations. But a majority of the state level ERS generally do not possess ample funds. A moderate number of local level educational resource systems possess a high degree of power, funds, and prestige. A few

local level of educational resource systems do not possess a high degree of funds, power and prestige. A large number of local level ERS possess a high degree of academic environment and utilise their own internal resource for the development of innovations. A few local level ERS do not possess a high degree of academic environment and do not use their internal resources for the development of innovations. It may be possible that these local level ERS do not possess sufficient funds and, therefore, the question of using their internal resources does not arise. The coefficient of correlation ($r = 0.48$) between the level of adoption of innovations and the capacity factor for total educational resource systems is significant at 0.001 level. The capacity factor of the educational resource systems, therefore, affects the level of adoption of innovations. It has been concluded that the more power, prestige and capital possessed by the resource system, the more effective it will be as a resource and as a user.

5) REWARD

The mean percentage scores of the national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems for reward factor are 78.80, 69.64, 84.00 and 69.90, respectively.

The mean percentage score of total educational resource system for reward factor is 71.00. Most of the national level educational resource systems perceived the relative advantage of their clients and they are aware of the time saving potential and relative value of innovations. A large number of state level educational resource systems perceive the relative advantage of their clients and they are aware of the time saving potential and relative value of innovations. Hardly 60 per cent of the national level educational resource systems have sufficient funds and grants as reinforcement for their clients. Approximately 66 per cent of state level ERS possess to a little extent sufficient grants and funds as reinforcement for their clients. Almost all the regional level educational resource systems have sufficient grants and funds as reinforcement for their clients and give sometimes incentives to their clients. A good number of local level educational resource systems (colleges of education and university departments of education) perceive the relative advantage of their clients and are aware of the time saving potential and relative value of innovations. A large number of local level ERS (colleges of education and university departments of education) possess, to a little extent, sufficient grants and funds as reinforcement for their clients and a few local level ERS give sometimes incentives to their clients. The coefficient of correlation ($r=0.37$) between the level of

adoption and the reward factor of the total educational resource systems is significant at 0.001 level. Thus, the relationship between the reward factor of the educational resource systems and the level of adoption of innovations is positive and significant. The reward factor of educational resource systems, therefore, affects the level of adoption of innovations. Profitability or anticipated profitability is a major incentive for diffusion of innovations.

6) PROXIMITY

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems on proximity factor are 78.50, 73.75, 90.00 and 72.02, respectively. The mean percentage of total educational resource systems on proximity factor is 73.50. Majority of the national and regional levels of educational resource systems have a high degree of linkage and easy accessibility with other resource institutions and they possess a high degree of cosmopolitan nature. A large number of national and regional level of educational resource systems possess a high degree of psychological proximity to their clients and a high degree of familiarity with their clients while a few national level educational resource systems have a high degree of geographical

proximity to their clients. Most of the regional level educational resource systems also possess a high degree of geographical proximity to their clients. A large number of state and local levels of educational resource systems possess a high degree of easy accessibility and linkage with other resource institutions and they are to some extent cosmopolitan in nature. A few state level ERS and a large number of local level ERS possess a high degree of geographical as well as psychological proximity to their clients; whereas some local level ERS hardly possess any geographical as well as psychological proximity to their clients. Some of the local level educational resource systems develop innovations which have similarity with past innovations. A large number of state and local level educational resource systems have a high degree of familiarity with their clients. The coefficient of correlation ($r = 0.47$) between the level of adoption of innovations and proximity factor for total educational resource system is significant at 0.001 level. The proximity factor of educational resource system is positively and significantly related to the level of adoption of innovation. Therefore, it can be concluded that the proximity factor of educational resource systems affects the level of adoption of innovations. The most effective resource systems

are those which have easy access and linkage with other resource systems and have a high degree of proximity to user geographically as well as psychologically.

7) SYNERGY

The mean percentage scores of the national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems on synergy factor are 78.75, 70.82, 85.00 and 65.00 respectively. The mean percentage score of total educational resource system on synergy factor is 68.00. Almost all the national, state, regional and a large number of local levels of educational resource systems possess a high degree of persistent leadership. Usually most of the national and regional levels of educational resource systems depend upon the number and diversity of resourceful persons and change agents who gain access to their clients. A few regional and national levels of educational resource systems focus and spread a variety of messages in sequence and in repetition to their clients. Some of the state and local levels of educational resource systems depend upon the diversity and number of resourceful persons and change agents who gain access to their clients, while a few local level educational resource

systems hardly depend upon the resourceful persons and change agents who gain access to their clients. A few state and local levels of educational resource systems focus and spread over a variety of messages in sequence and in repetition to their clients. The coefficient of correlation (r=0.46) between level of adoption of innovations and the synergy factor for the total educational resource systems is significant at 0.001 level. The synergy factor of educational resource systems has a positive and significant relationship with the level of adoption of innovations. It can be concluded that the synergy factor of educational resource systems affects the level of adoption of innovations. The successful utilisation of an innovation requires a persistent leadership in the resource system. There should be some person or some nuclear group pulling together diverse resources, structuring them, developing them and executing strategies for their effective dissemination and utilisation of innovations.

4.1.2.0 PROCESS OF DEVELOPING INNOVATION

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems on process of developing innovation are 74.57, 76.44, 80.12 and

69.18 respectively. The mean percentage for the total educational resource system is 71.01. The coefficient of correlation ($r = 0.53$) between the process of developing innovations and the level of adoption of innovations is significant at 0.001 level. The level of adoption of innovations has a positively and significant relationship with the process of developing innovations. Therefore, it can be concluded that the process of developing innovations affects the level of adoption of innovations.

The process of developing innovations involves three important stages:

4.1.2.1 Awareness of the innovations

4.1.2.2 Sources of getting information about the innovations

4.1.2.3 Shaping of the innovations

4.1.2.1 Awareness of Innovations

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems for awareness of innovations are 83.50, 85.00, 91.65 and 75.62 respectively. The mean percentage for the total educational resource systems is 78.15. Almost all the national, state,

regional and a large number of local levels of educational resource systems are of the opinion that innovations are required to meet the need of present educational system and educators must introduce the kinds of innovations that would transform educational institutions into dynamic organisations. Approximately all the national, state, regional and a large number of local levels of educational resource systems usually remain aware of current and future educational problems. Usually the development of innovations at national, state and a large number of local levels of educational resource systems is based on the need of the present education system and the compatibility of innovations and rarely on the personal policies. The process of developing innovation at regional level ERS is based on the need of present education system, compatibility of innovations and sometimes on the personal policies. Usually, most of the national, state, regional and a few local levels of educational resource systems develop innovations which represent a change from what was available earlier. The coefficient of correlation ($r = 0.48$) between the level of adoption of the innovations and the awareness of the innovations is significant at 0.001 level.

The awareness of an innovation is positively and significantly related to the level of adoption of an innovation. It can be concluded that the awareness of the innovations affects the level of adoption of innovations.

4.1.2.2 SOURCES OF GETTING IDEAS ABOUT INNOVATIONS

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems for sources of getting ideas about innovations are 69.90, 67.58, 80.66 and 62.68, respectively. The mean percentage score of the total educational resource systems for sources of getting ideas about innovations is 64.63. The score on the sources of getting ideas about innovations is fairly good at national, state and regional levels of educational resource systems. The same has been observed to be comparatively poor at local level of educational resource systems. The coefficient of correlation ($r = 0.51$) between the level of adoption of innovations and sources of getting ideas about

innovations is significant at 0.001 level. It shows that the relationship between the level of adoption of an innovation and sources of getting information is positive and significant. The sources of getting ideas about innovations, therefore, affect the level of adoption of innovations.

Most of national and regional levels of educational resource systems usually send their experts to study the educational innovations in advanced countries and usually transplant the innovations from the advanced countries. However most of the state and local levels of educational resource systems hardly send their experts to the advanced countries and therefore rarely transplant innovations from them. A few national, state, regional and local levels of educational resource systems select innovations for development because some financial assistance is provided to them by various agencies. In general, innovations are not selected for the development in a large number of national, state, regional and local levels of educational resource systems because other institutions have also started developing them and because they give prestige

to them. Financial assistance is one of the factors which to some extent facilitates the selection and development of innovations at all the levels of educational resource systems in India.

Most of the national, state, regional and local levels of educational resource systems usually make use of survey method, research reports, journals and newspapers as sources of information on innovative ideas for the selection and development of innovations. However, a few of them hardly seem to take the help of survey method, research journals, research reports and newspapers for locating the needs of the innovations and developing them. Excepting a few, almost all the national, state and regional levels of educational resource systems usually receive adequate information about innovations. Discussions regarding the initiation and selection of innovations are usually open in the meetings of almost all the national, state, regional and a large number of local levels of educational resource systems.

Most of the national and regional educational resource systems take into cognizance of the suggestions

made by students, university, secondary board of education, State Education Department, Ministry of Education, UNESCO, Bureau of Guidance and Counselling and job providing organisations. However only a few state and local levels of educational resource systems rarely seem to take into cognizance of the suggestions made by students, university, Secondary Board of Education, job providing organisations and Bureau of Guidance and Counselling for the development of innovations. Rarely a few local level educational resource systems take into cognizance of the suggestions made by Union Ministry of Education and UNESCO.

4.1.2.3. SHAPING OF INNOVATIONS

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems on shaping of innovation are 75.44, 80.80, 76.00 and 72.32 respectively. The mean percentage for total educational resource

systems is 73.83. The coefficient of correlation ($r = 0.47$) between level of adoption of innovations and shaping of innovations is significant at 0.001 level. Therefore, there is a positive and significant relationship between the level of adoption of innovation and the shaping of innovation. Thus, it can be concluded that shaping of an innovation affects the level of an innovation.

Usually, in a majority of state, regional and local levels of educational resource systems the innovations tend to flow to a considerable extent from the central administration to subordinates and heads of these resource systems usually support the innovations. Most of the national, state, regional and a large number of local levels of educational resource systems usually involve their subordinates and other staff members in the development of innovations. Innovations are developed in most of the educational resource systems in India by teams of researchers. Staff members and subordinates are provided fairly good opportunities to be involved in the development of innovations.

A majority of the national state and regional levels of educational resource systems in India usually try out the developed innovations, on a small sample, and have the provision for modifying the innovations according to the needs of the clients. More than 50 per cent of the local levels of educational resource systems in India usually try out the developed innovations on a small sample and have provisions for the modification of innovations according to the needs of the clients. These modifications are made after considering the favourable and unfavourable reactions of the clients.

Most of the national, state, regional and a few local levels of educational resource systems usually guarantee the psychological security and freedom to their subordinates in the shaping of innovations, at their resource system. However, some local level educational resource systems do not seem to pay much attention for providing psychological security and freedom to their subordinates.

A large number of national, state, regional and local levels of educational resource systems

systems usually consider the adaptability and assosiability of innovations. The national, regional and state levels of educational resource systems usually consider the complexity, divisibility, effectiveness, structuralisation and academic effectiveness of an innovation while developing it. A few local level educational resource systems rarely consider the adaptability, associability, complexity, divisibility, flexibility, [illegible] effectiveness, structuralization and academic effectiveness of innovations while developing them. A few regional and local levels of educational resource systems rarely consider the burdensomeness of innovations while developing them. But a large number of educational resource systems consider the important characteristics of the educational innovations while developing them. Almost all the national and state levels of educational resource systems usually consider the time economy of innovations.

4.1.3.0 PROCESS OF COMMUNICATING INNOVATIONS

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education

and university departments of education) levels of educational resource systems for the process of communicating innovations are 68.27, 59.81, 63.33 and 50.44, respectively. The mean percentage for the total educational resource systems for the process of communicating innovations is 53.91. It can be concluded from this that the educational resource systems in India have poor channels for communicating innovations. The coefficient of correlation ($r = 0.58$) between the level of adoption of innovations and the process of communicating innovations is significant at 0.001 level. The level of adoption of an innovation is positively and significantly related to the process of communicating innovation. Therefore it can be concluded that the process of communicating innovations affects the level of adoption of innovations. There are three important channels of communication of innovations. These are as follows:

4.1.3.1 One-way communication of innovations;

4.1.3.2 One-way feedback communication of innovations;

4.1.3.3 Two-way communication of innovations.

4.1.3.1 <u>One Way Communication of Innovations</u>

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of

Education) and local (colleges of education and university departments of education) levels of educational resource systems for one way communication of innovations are 64.33, 58.61, 63.88 and 51.07, respectively. The mean percentage of the total educational resource systems for one way communication of innovations is 53.82. The coefficient of correlation ($r = 0.47$) between level of adoption of innovations and one way communication of innovations is significant at 0.001 level. The level of adoption of an innovation is positively and significantly related to one-way communication of the innovation. Thus, it can be concluded that one-way communication of innovations affects the level of adoption of innovations.

Most of the national and state levels of educational resource systems disseminate to a considerable extent innovations to their clients through journals, research reports, books, lectures, symposia, demonstration, mailing and oral presentation, while only to a little extent through radio, tape recorder, television, and newspapers. Most of the regional level educational resource systems usually communicate innovations through journals, research papers, lectures, symposia, oral presentation and to a little extent by radio. The

regional level of educational resource systems communicate innovations to some extent by newspaper, mailing and books. These hardly communicate innovations through television and tape records. The local level educational resource systems disseminate innovations to some extent through journals, demonstration and oral presentation and to a considerable extent through lecture and symposia. The local level ERS disseminate innovations to a little extent through books, newspaper, research report and mailing and hardly through television, radio and tape records.

4.1.3.2 One-Way Feedback Communication of Innovations

The mean percentage scores of national, state (State Institutes of Education), regional (Regional colleges of education) and local (colleges of education and university departments of education) levels of educational resource systems for one way feedback communication of innovations are 64.66, 59.85, 65.00 and 51.40, respectively. The mean percentage score of the total educational resource systems for one way feedback communication of innovations is 54.29. The coefficient of correlation ($r = 0.55$) between the level of adoption of innovations and one way feedback communication of

innovations is significant at 0.001 level. The level of adoption of an innovation is positively and significantly related to the one way feedback of communication of the innovation. Therefore, it can be concluded that one way feedback communication of innovations affects the level of adoption of innovations.

Most of the national, state, regional and local levels of educational resource systems, usually elicit feedback through survey method. A few regional level ERS elicit feedback sometimes through evaluation method. Most of the national and state levels of educational resource systems elicit to a considerable extent feedback through evaluation method while a few local level ERS adopt to a little extent the evaluation method to elicit feedback. Most of the national, state regional and a large number of local levels of educational resource systems, usually adopt the direct and indirect method of feedback. About 50 per cent of the national and state levels of educational resource systems sometimes study the behaviour and attitudes of clients by making use of public archieves. A few regional level ERS use, to a little extent, public archieves and private records to know the behaviour and attitudes of their clients.

Most of the local level educational resource systems hardly use the public archives and private records for knowing about the behaviour and attitude of their clients. Some of the national, state, regional and local levels of educational resource systems take, to some extent, the help of observation techniques to determine preferences of reactions of their clients about the innovations, while only a few colleges of education and university departments of education employ observation technique to determine the reactions and preferences of the clients about the innovations.

4.1.3.3 TWO WAY COMMUNICATION OF INNOVATIONS

The mean percentage scores of national, state (State Institutes of Education), regional (Regional Colleges of Education) and local (colleges of education and university departments of education) levels of educational resource systems for two-way communication of innovations are 71.33, 60.97, 61.10 and 48.62, respectively. The mean percentage of the total educational resource systems for two-way communication of innovations is 52.95. The coefficient of correlation ($r = 0.55$) between the level of adoption of innovations and the two-way communication of

innovations is significant at 0.001 level. Thus, the level of adoption of an innovation is positively and significantly related to the two-way communication of the innovation. Therefore it can be concluded that the two-way communication of innovations affects the level of adoption of innovations. Most of the national, state, regional and some of the local levels of educational resource systems, usually communicate innovations to their clients through dyadic exchange method. A few local level ERS, hardly disseminate innovations through dyadic exchange method. Most of the national, state and regional levels of educational resource systems have a high degree of consultant relationship with their clients of different status while a few local level ERS have very little consultant relationship with their clients of different status.

Most of the national, regional and some of the state and local levels of educational resource systems communicate innovations to a great extent to their clients in small groups where free feedback is received and responded to. Most of the national and state levels of educational resource systems exercise to some extent T-group technique, role playing technique, action research technique, grid plan, inquiry team and derivation conferences to communicate innovations. The regional and local levels of educational resource systems exercise to a little extent T-group technique, role playing technique,

action research technique and grid plan technique to communicate innovations to their clients. Hardly a few state, regional and local levels of educational resource systems exercise in common T-Group technique, action research technique, grid plan technique, role playing technique, inquiry team technique, and derivation conferences to communicate innovations to their clients.

4.2.0.0 IMPLICATIONS OF THE PRESENT STUDY

The present study has identified the characteristics of educational resource systems, the process of developing innovations and the process of communicating innovations which affect the level of adoption of innovations. The seven important characteristics of educational resource system are, namely, linkage, structure, openness, capacity, reward, proximity and synergy. The important stages involved in the process of developing educational innovations involve awareness of innovations, sources of getting information and shaping of innovations; The educational innovations developed at educational resource systems are communicated to the clients. The communication of educational innovations consists of three channels, one way communication of innovations, one way feedback communication of innovations and two way communication of innovations. The whole process can be represented as shown in figure 4.0.0.0 and Table No. 4.0.0.0.

Figure: 4.0.0.0. Gives a schematic representation of the characteristics of educational resource system, process of developing and process of communicating innovations.

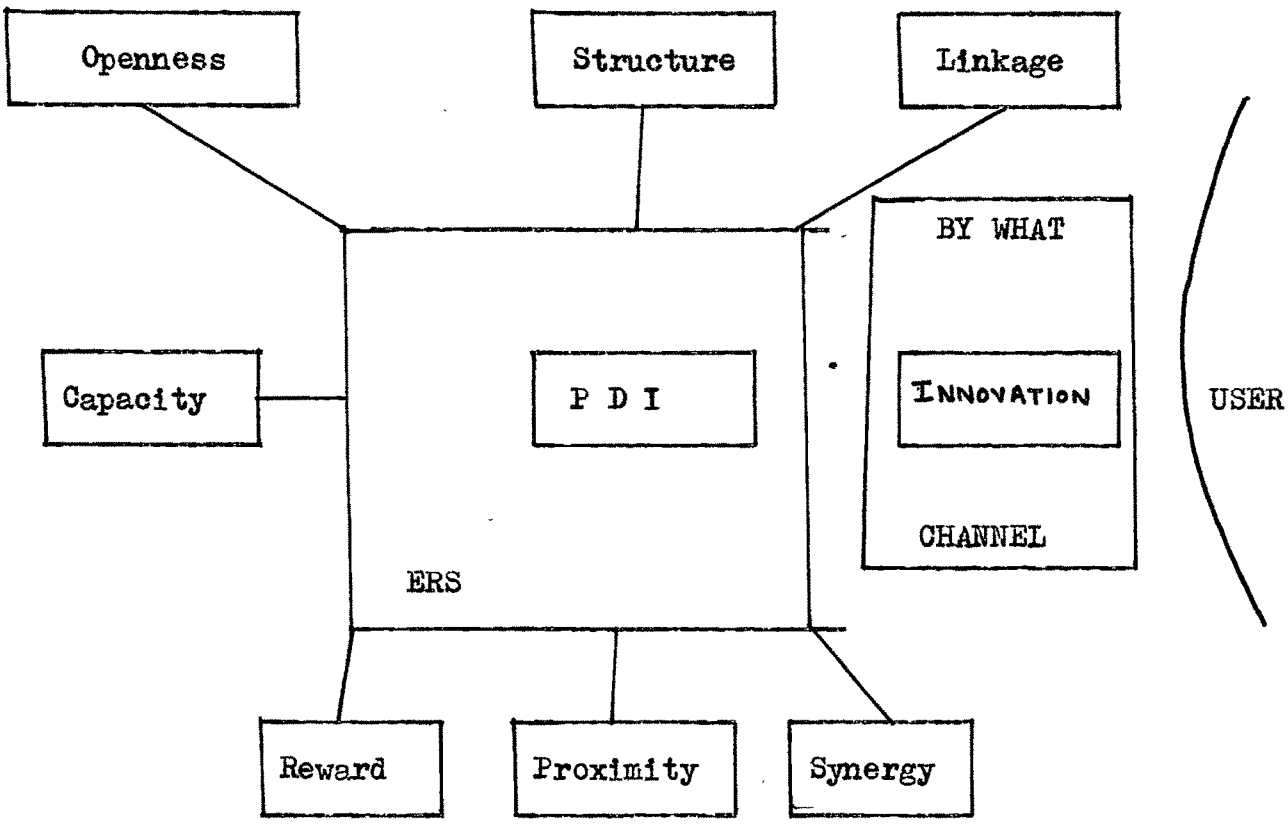

TABLE 4.0.0.0.0 showing example of the whole process

Where	Who	What	Transfer what	By what Channel	To whom
Centre of Advanced Study in Education (characteristics)	A team of educators & researchers	To develop an educational innovation, viz., micro-teaching	Developed innovation viz., micro-teaching	Publication and setting up various seminars	Teachers educators at colleges of education and university departments of education

The three components, namely, characteristics of educational resource system, process of developing educational innovations. Continued

and the process of communicating educational innovations are quite important and play a significant role in the adoption of educational innovations. Having a glance at the results and conclusions of the present investigation, an attempt has been made to frame an ideal image of an educational resource system bringing out its characteristics, process of developing and communicating innovations. An ideal educational resource system should possess the seven major characteristics to a high order. These are; linkage, structure, openness, capacity, reward, proximity and synergy. An ideal education resource system should have a high degree of recriprocal and collaborative relationship with its clients. It should have a successful internal linkage within itself and among its members. The effective educational resource system should have a high degree of structure in terms of meaningful division of labour and coordination of effort. It should function as a whole. It should have a structured and coherent view of the education system and should understand the various sub-systems of the education system. A structured approach will help the educational resource system in diagnosing and defining its own appropriate role vis-a-vis the school system or university system. The educational resource system should have the readiness to receive and give new information. It should have willingness to help, to listen, and to be influenced by various sub-systems of the education systems.

An ideal educational resource system is supposed to have an expertise with high intelligence, education; it should have power and funds in order to plan and structure its activities on a large-scale, over a long time span. It should have a systematic reward system. It should have proximity to its clients geographically as well psychologically. Proximity makes linkage more possible. A successful educational resource system requires a persistent leadership. There should be some person or some nuclear group which can pull together the diverse resources, structuring and developing them for their effective dissemination and utilisation.

An educational resource system should keep into consideration the following important steps while developing innovations. These are: awareness of educational innovations, sources of getting information about innovations and shaping of innovations. The educational resource system should be aware of the present as well as future educational problems arising from socio-economic change. The innovations developed should represent a change of what was available earlier. Such innovations should be developed which will help educational institutions in better functioning and catering to the needs of society. The procedure of developing innovations should be based on the compatibility of innovations and less on personal policies. The educational

resource system should take the help of survey method, research reports, research journals and newspapers in locating the needs of the education system. It should also take into cognizance of the suggestions made by students, teachers, universities, secondary boards of education, State Education Departments, Union Ministry of Education, UNESCO, job providing organisations and Bureau of Guidance and Counselling for the development of innovations. Discussions about the development of educational innovations should be open and educational resource system should receive adequate information about the innovations. There should be provision for sending the experts to study the educational innovations at various levels of educational resource systems within the country and abroad. Innovations should not be selected because of prestige, financial aid or because other institutions have also initiated. It must not stipulate that the flow of the innovation is from the central administration to subordinates. Staff members should get an opportunity to be involved in development of innovations. The work should be accomplished in teams and the staff should be provided opportunities to work in a group for developing innovations. An attempt should be made to consider the views and suggestions of the staff associated in the development of innovations and adequate information should be passed to them. The educa-

tional resource system should have the provision to try out the developed innovations on a small sample and should modify and reshape these according to the needs of the clients. The educational resource system should also consider the characteristics of the innovations while developing. The important characteristics of the educational innovations are adaptability, associability, complexity, divisibility, effectiveness, flexibility, structuralisation, academic effectiveness, cost economy and time economy. Once the innovation is developed in the educational resource system, the important function is to communicate it to the school system or the university system. An innovation may not be accepted either because of some undesirable communication process or because of lack of appropriate communication of innovation from resource systems to adopters.

The resource system should communicate innovations to adopters through journals, newspapers, research reports, books, symposia and demonstrations. A brief resume of the innovation can be mailed to all the concerned systems. The educational resource system should make use of radio and tape records and such other channels. If possible, the

educational resource system should also make use of television for the communication of innovations. The educational resource system should have the provision to know the reactions and preferences of the adopters and should have provisions for the feedback. It can be through survey method, evaluation method, observation and reviews of innovations. The educational resource system should try to elicit feedback through direct as well as indirect method and should keep into consideration the preferences of the adopters with regard to the communicated innovations. But it is not a must that the educational resource system should adopt the one way communication of innovations. The concerned system will naturally like to interact with the educational resource system to know more about the innovations. It should have the provision for communicating innovations to the concerned systems through a dyadic exchange. It can be performed either in the small or large group depending upon the nature of the innovations. The educational resource system should also make use of other techniques, such as T-group, role playing, action research, inquiry team, grid plan and derivation conferences. These techniques have been proved quite useful in communicating innovations in other professions. Based upon this idealistic image of an educational resource system

and the conclusion of the present study the following improvements have been suggested for the various levels of educational resource systems.

4.2.1.0 NATIONAL LEVEL EDUCATIONAL RESOURCE SYSTEM

A. CHARACTERISTICS: The national level educational resource systems should have sufficient funds and grants as reinforcement for its clients so that these can provide frequent incentives to its clients. Geographically these should have a more proximity to its clients. It may be possible to have national level educational resource systems at different regions of the country instead of clustering them at a few important places. These resource systems should also have the provision to spread over a variety of messages with regard to innovations in sequence and repetition. These should make use of various change agents who gain access to their clients.

B. PROCESS OF DEVELOPING INNOVATION: The national level educational resource systems should make more use of survey method, research reports and newspapers in locating the needs of education system. These should also take into cognizance of the suggestions made by the job providing organisation for developing educational innovations. The higher authorities should consult, to a great extent

their subordinates in the development of innovations. More attention should be paid with regard to cost economy of innovations while developing them.

C. COMMUNICATION OF INNOVATION: The national level educational resource systems have an efficient and a better way of communicating innovations. In order to make it more efficient, a few suggestions are made as follows: (1) These should make increasing use of newspapers, radios, tape-records and television for communicating innovations, (ii) There should be some more provision to understand the reactions and preferences of the adopters with regard to innovations (iii) T-group technique, role playing technique, action research technique, grid plan exercise, inquiry team exercise and derivation conferences should find more place in national level educational resource systems for communicating innovations.

4.2.2.0. STATE LEVEL EDUCATIONAL RESOURCE SYSTEM: (STATE INSTITUTES OF EDUCATION)

A. CHARACTERISTICS: The following suggestions have been made:

(1) There is a need to adopt appropriate media for appropriate innovations.

(2) It should have ahigh degree of funds and power

(3) It should have sufficient grants and funds as

reinforcement for its clients. It should also give incentives quite frequently to its clients.

(4) It should be cosmopolitan in nature.

(5) It should have more proximity to its clients geographically as well as psychologically.

(6) It should spread over a variety of messages in sequence and repetition to its clients. It should make more use of resourceful persons who gain access to their clients. It should take frequently the help of change agents.

B. PROCESS OF DEVELOPING INNOVATION

(1) The process of developing innovations should not be totally based on personal policies.

(2) There should be some provision to send experts to study the innovations in advanced countries.

(3) Innovations should not be developed only due to the prestige and the mere availability of financial aid.

(4) There should be more use of newspapers, research journals and survey methods in locating the needs of innovations. It should have adequate information about innovations.

(5) Suggestions made by universities, students, job providing organisation and Bureau of Guidance and Counselling should be given proper attention while developing innovations.

(6) The flow of innovations should not be always from central administration to subordinates.

(7) The complexity and burdensomeness of innovation should also be given more consideration while developing the innovations.

C. PROCESS OF COMMUNICATION OF INNOVATION:

The following suggestions have been made with regard to the communication of innovations.

(1) Newspapers, research reports, books, radios and tape-records, should be used more for communicating innovations. Mailing and also television should be given due consideration for communicating innovations.

(2) More attention should be paid on the one way feedback communication. Feedback should be elicited more by

making use of survey method, evaluation method, and observation technique. The State level educational resource systems should have provision to understand the reactions and preferences of the clients with regard to innovations. The protest by the clients about the innovations should also be attended properly.

(3) There should be more communication of innovations through dyadic exchange. They should communicate innovations in small as well as in large groups. There should be more use of T-group technique, role playing technique, action research technique, grid plan exercise, inquiry team exercise and observation technique for communication of innovations.

4.2.3.0 REGIONAL LEVEL EDUCATIONAL RESOURCE SYSTEM (REGIONAL COLLEGES OF EDUCATION)

A. CHARACTERISTICS: The regional level educational resource systems should make more use of the change agents who gain access to their clients.

B. PROCESS OF DEVELOPING INNOVATION

(1) The process of developing innovations should not be always based on personal policies.

(2) The regional level educational resource systems should not pay much attention on initiation of innovations because of prestige and financial aid.

(3) There should be more use of newspapers and survey method in locating the need of innovations.

(4) They should pay more attention to the suggestions and views made by job providing organisation, Bureau of Guidance and Counselling, and also by students of universities, university authorities and Secondary Board of Education for the development of innovations.

(5) The subordinates should be consulted frequently in the development of innovations.

(6) The regional level of educational resource systems should also keep into consideration the burdensomeness and time economy of innovations while developing.

C. PROCESS OF COMMUNICATING INNOVATION:

The following suggestions have been made with regard to the process of communicating innovations.

(1) Newspapers, journals, research reports, monographs, mailing, radios, tape-records and television should be made to play an increasing role in communicating the innovations.

(2) The Regional Colleges of Education should adopt direct and indirect method of feed-back in increasing numbers. These should make more use of evaluation and observation methods. There should be some provision to understand the reactions and preferences of the adopter with regard to the innova-tions.

(3) There should be increasing use for T-group technique, role playing technique, action research technique, grid plan technique, inquiry team and derivation conferences in communication of innovations

4.2.4.0. LOCAL LEVEL EDUCATIONAL RESOURCE SYSTEM (COLLEGE OF EDUCATION AND UNIVERSITY DEPARTMENT OF EDUCATION)

There is ample scope for the colleges of education and university departments to improve their characteristics, process of developing and communicating innovations. The following suggestions have been made.

A. CHARACTERISTICS:

(1) They should develop a high degree of reciprocal and collaborative relationship with their clients. They should have primacy over their clients.

(2) Theyshould have a clear overall view of their clients and should understand in depth the relationship of various sub-systems of the education system. They should have more provision for the demonstrability of innovation.

(3) These are required to possess a high degree of power and funds. These should be made aware of the time saving potential and should have a high degree of sufficient grants and funds as reinforcement for its clients.

(4) There is a need of more accessibility and linkage with other resource systems. These are required to have more proximity to their clients geographically.

(5) These are required to make much more use of resourceful persons as well as change agents.

B. PROCESS OF DEVELOPING INNOVATION

(1) The process of developing innovations should be based more on present, future educational problems and compatability of innovations and less on personal policies.

(2) There should be some provision to send experts overseas to study the educational innovations. There should be much more use of survey methods research reports and newspapers for developing innovations. These should develop some more sources for providing adequate information about innovations.

(3) These resource systems should take into cognizance of the suggestions made by Secondary Board of Education, State Departments of Education, job providing organisation, Bureau of Guidance and Councelling, and to some extent, UNESCO.

(4) The subordinates should be involved and should be consulted more by the higher authorities in the

development of innovations. The flow of innovations should not be always from the central administration to subordinates.

(5) There should be some more provision of administering the developed innovations on a small sample and should also pay due consideration for the modification according to the needs of the clients.

(6) Local level educational resource systems should pay more attention to the characteristics of innovations while developing them.

C. PROCESS OF COMMUNICATING INNOVATION:

There seems to be not many effective channels of communication at local level educational resource systems. The following suggestions have been made with regard to effective communication of innovations.

(1) Journals, newspapers, research reports, monographs and books should be used more often as effective vehicles of communicating innovations. More emphasis should be made to communicate innovations through demonstration, mailing, symposia and lectures. The use of radios, tape

records, and if possible television should also be made for communicating innovations.

(2) There seems to be no proper way to elicit feedback of the communicated innovations. There should be more use of survey method and evaluation method to have the feedback of the communicated innovations. These resource systems should have a sound knowledge of the reactions and preferences of the adopters with regard to innovations. Observation technique should be employed more frequently to determine the preferences and reactions of the clients about innovations. Reviews of communicated innovations should be given due consideration. Even if there is any protest to a specific innovation, it should be duly considered for its modification.

(3) There seems to be a poor channel of two way communication of innovations at local level educational resource system. More use of T-group technique, role playing technique, action research technique, grid plan exercise, inquiry team and derivation conferences should be made to communicate innovations. Depending upon the nature the innovations should be

communicated in small as well as in large groups. Dyadic exchange should be more between the adopter and the resource system.

A few important areas emerge on the basis of the suggestions made for various levels of educational resource systems for further exploration. An important aspect is to study the process of developing the innovation. A few innovations should be identified and their detailed process of development should be studied at the educational resource systems. The effectiveness and sequencing of various communication channels are another area that needs to be explored. A few innovations should be studied with regard to the communicating channels. For instance, whether a particular channel of communication is effective for a set of specific innovations or whether the sequence of one channel with another decreases or increases the level of adoption of the innovations, can be studied. This is an important area that deserves an in-depth exploration. Till now the emphasis of researches was more on adopter system and school system. Having studied the characteristics of educational resource system, process of developing and communicating innovations, we have a clear picture of an innovation, its process of

development in the educational resource system, its communication from the educational resource system and then its adoption which includes other variables like teacher, principal, attributes of innovation and factors inhibiting and promoting in the adoption of innovation. This study, it is hoped, has set up the path for an indepth study of important innovations, their development, communication and adoption in detail, in an educational resource system. If this study provides, in its humble way of support to check the utility of the earlier researches, and help tremendously in the planning of an educational innovation at various level of educational resource systems, it will then considered to have cleared the path for further indepth inquiries.