

PD-WAA 790

Cliff

Formative Evaluation Process for the BKS Rural Satellite Project

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Prepared by Applications Management, AID Rural Satellite Program
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Formative evaluation is an integral part of any experimental, demonstration, or innovative project. The evaluation allows the project coordinators to systematically track project performance against project goals and, where appropriate, to change or correct particular components of project activities, to modify unrealistic project goals, and to trace and evaluate the evolving goals and operations over the course of the project's life. The evaluation process requires that operational goals be clearly stated -- a procedure inevitably useful for project development.

Formative and summative evaluation should be clearly differentiated. The formative evaluation is concerned with the ongoing project, assisting the managers and participants in assessing the project's ongoing performance. Summative evaluation is primarily concerned with assessing whether the project met its stated goals at its conclusion, or at various points during the project. The summative evaluation serves to help policy makers and funders determine whether and how the project was worthwhile, and to provide guidance on how future projects might be organized. While much of the data collected for the two types of evaluation are similar, the use of the results are not, and generally, the processes should remain separate.

Abt Associates, in collaboration with BKS, is performing a summative evaluation of the BKS Project. The formative evaluation needs to be organized and conducted by the BKS staff, preferably in coordination with Abt.

The formative evaluation requires a series of steps:

1. The project's operational goals or objectives must be clearly iterated. These goals should include both strategic (e.g., student performance) and tactical (e.g., technical performance, teacher preparation) goals.
2. Instruments for collecting data on operational performance against these goals need to be designed. The instruments should be relatively simple to administer and easy to answer. The more complex a questionnaire, particularly one that must be completed on multiple occasions, the less willing respondents will be to provide useful answers.
3. The means of administering the instruments needs to be determined when they are designed, including, most importantly, the sampling technique. As it is unlikely that BKS will want to administer most of the instruments after every equipment use, a sampling technique which leads to reliable and valid results is necessary.
4. The instruments need to be rigorously administered over a specified project period. Sporadic or casual administration leads to questionable results. Schedules for instrument administration must be established early in the formative evaluation, and those responsible for their administration should be instructed in how the administration should be carried out, and on the importance of systematic administration.

5. The raw data from the instruments must be collated and summarized at regular intervals. If possible, the data should be stored in computer files to simplify data analysis.
6. The project staff needs to analyze the evaluation results at regular intervals, with the analysis and recommendations for action forwarded to the project management. AED will assist in the review and interviews during the project review visits to the project sites. AED will use the findings from this evaluation in its final project report. Recommendations should refer to the conduct of both the project and the evaluation. It will be useful to discuss the result with Abt, given their involvement with the summative evaluation.
7. Project management may use the information to guide its actions, and use future formative evaluation to assess the effectiveness of project changes.

The areas where formative evaluation would appear to be useful fall into four general areas: system operation, administrative applications, educational applications, and research applications. These are discussed below.

C. Areas of Formative Evaluation

1. System Operation

Within this category, the project needs information on intensity of system use and on the technical performance of the equipment. Measuring intensity of use will provide data on traffic volume, an important variable for determining capacity during particular times of the year, and for assessing the level of channel capacity required in the future. The intensity measure also provides a regular summary of each campus's participation in the project.

Use intensity is a relatively simple measure requiring that each campus maintain a usage log. At the initiation of every system use, an entry should be entered into the log indicating the date, time, duration, type of usage, and locations participating in the teleconference. The log should be kept next to the telephone terminal equipment. It should be emphasized that the usage log is the basis for all of the other formative evaluation -- it provides basic measures of use which other instruments only build on. It is also the easiest of the instruments to complete, summarize, and collate. A sample log form is given in Appendix A. A master log for systems usage should be established at the BKS' coordination office in Ujung Pandang. The periodic student assessment and user's assessment (see Appendices D and F) will be keyed to this master log for assessment of reactions to the sessions from all participants. The "Request for Teleconference" form which will also be used to assess present and future potential volume and type of traffic (see Appendix B).

Technical evaluation is interested in three major questions: did the equipment work, how well, and is it easy to use? The equipment's basic operations should be monitored through the use of maintenance reports. A sample maintenance report is provided in Appendix C. Any equipment problem

requiring repair should be reported on this form to the local technician, with a copy going to BKS project headquarters. The Network Repair Log should be completed every time a piece of equipment is repaired, and copies of the logs should be forwarded to project management in Ujung Pandang.

Basic maintenance problems need to be monitored to determine if there are any consistent equipment failures which require change throughout the BKS system. Compilations of repairs are also necessary for ordering and shipment of spare parts, and for assessment of equipment performance in future procurements.

The procedures and time required for regular maintenance needs to be reviewed by the central project staff to assure that the system is being maintained in an adequate and timely manner. Evaluation of equipment performance and maintenance procedures may be gleaned from the system's user assessments (Appendices D, F, and G).

Finally, the adequacy of equipment operations, given the overall project goals, needs to be assessed. Two major issues in particular need attention: the adequacy of the equipment in meeting project requirements, and the perceived ease in using the equipment by project participants. While these issues should be readily addressed if only audioconferencing is used, they become more complex when ancillary technologies, such as the video graphics offered by the Aregon equipment, are introduced. Thus, a special questionnaire has been prepared for evaluating the video graphics equipment. This can be found in Appendix G.

The first issue, relating to the adequacy of the equipment in meeting project requirements, needs to be assessed against user comments. Students and teachers, for example, should be able to indicate whether the voice transmissions are clear, whether graphic transmissions are readable, and the like. More importantly, user satisfaction with the equipment needs to be measured, requiring more sophisticated measures aimed at the tie between educational purpose and equipment delivery -- simply, did the medium adequately provide for the project's educational requirements? This question will be included in the questionnaires designed for assessments at the end of each term (see Appendix E, Summary Student Assessment; Appendix G, Video Graphics Assessment; Appendix H, Summary Dosen Assessment; and Appendix I, Dosen Follow-up Interview).

The second issue, simplicity of use, is a relatively easy measure to collect, and is vitally important to future system modifications design. Questions about facility of use are included in the user instruments in Appendices D - I.

2. Administrative Applications

The BKS system should be evaluated to determine whether it is being used effectively to meet BKS's administrative needs. Evaluation of administrative uses obviously requires a fair degree of discretion so as to maintain confidentiality.

- b. Are support materials being effectively provided and used? In this case, we would attempt to measure whether the students are being provided with course outlines, reading materials, and other support materials (such as bibliographies) which support the distance teaching. For distance teaching, we will want to see if there is any difference between the materials normally provided to students and those that are provided, or should be provided, using the BKS system.
- c. How effectively did the instructors use the system? Historically, most tele-education systems have had initial problems with the instructors' use of the system. We will attempt to determine how effectively they are using the system, with an eye for modifying pedagogical techniques through additional training and information. Obviously, this is an area to be approached cautiously so that instructors do not get the impression by participating in the distance teaching demonstration they are being individually picked out for criticism.
- d. What requirements are there for support media and how effectively are existing support media being used? Here, we would want to examine the use of the video graphics, slides, videotapes, and other audio-visual materials as they support the teleconferencing, and determine how these can be used most effectively in the teaching. In part this requires an examination of how they are being used, and more importantly, what gaps they might fill in the teleconferences.
- e. How useful do the students find the system, and what changes might be made to increase their responsiveness to it? In this case, we will try to measure student satisfaction, particularly as compared to other teaching methods with which they are familiar. The purpose here would be to identify system characteristics as well as instructional techniques which might be altered to improve student satisfaction with the system.
- f. How useful do the dosen find the system, and what changes might be made to improve their satisfaction with it? This part of the evaluation is similar to the student evaluation, but approaches the problem of system effectiveness from the instructor's standpoint.

Evaluating the educational uses of the system will require a series of instruments. Student responses will be measured using three types of instruments -- a written questionnaire to be administered two-three times each term (Appendix D) a summative questionnaire and a questionnaire dealing only with the video graphics to be administered at the end of the term (Appendices E and G), and selected in-depth interviews. The first questionnaire will allow for changes during the term, the second questionnaires will provide more in-depth information, and the interviews will be used to followup on information gathered from the written questionnaires. As can be seen from the draft questionnaires, the instruments can be completed relatively quickly, and are designed using methodologies proven to have a high level of internal reliability and validity.

Among the questions to be reviewed are:

- a. How is the system used for university administration? The issues here are to evaluate the way the system is being used, how it is affecting the university's conduct of its business, and to determine where it may better serve university needs by changes either in administrative procedures, behavior or in system characteristics.
- b. How is support material used and what is its effectiveness? The question is primarily oriented toward the availability and quality of supporting documentation, like agenda, memoranda, and audio-visual support, which may play a role in the effectiveness of a teleconference.
- c. What is the effectiveness of the teleconferencing? This question will attempt to measure the perceived usefulness of the teleconferencing to the university's administration compared to other means of communication.

These questions will be addressed through the use of instruments which should be applied on a regular basis, albeit not after every administrative use of the system. An easily applied sampling scheme would be to distribute the forms on randomly assigned days. We suggest that the forms be filled in once a week for all administrative sessions, choosing a different day each week, that is, in week one, all Monday sessions would complete the forms; week two, all Tuesday sessions, etc. The BKS will have to assess whether the campuses should be sampled, or whether a total campus sample is necessary to provide information about the BKS in general, as well as about each campus in particular. We suggest that the linkage between the Jayapura and Manokwari campuses of UNCEN, and between P&K in Jakarta and UNHAS be particularly studied, as these nodes may generate significant traffic. The instrument for this application is shown in Appendix F.

In preparing this instrument, care is taken to preserve meeting confidentiality. For addressing more sensitive questions concerning the types of administrative uses the teleconferencing most effectively serves, structured confidential interviews are suggested. A set of questions for these interviews are provided in Appendix G.

3. Educational Applications

The most important part of the formative evaluation relates to the educational applications. Current plans call for the ACTE-V Program and several agricultural courses to be the initial activities in this category. Given that the educational applications are the most formal uses of the systems, the possibilities for using formative evaluation to correct or improve project design and operations are relatively high.

Among the questions which may be addressed are:

- a. Is the teleconferencing system adequately meeting teaching needs? This question would address how well the system is performing, the quality of the sound, and ease of system use. These performance issues can be corrected while the project is in progress.

Dosen will be provided with questionnaires which will be administered once, at the end of each term. In addition, follow-up interviews will be conducted to get more detailed information. The Summary Dosen Questionnaires may be found in Appendix H, and the questions for the structured interviews in Appendix I.

4. Research Applications

To a large extent, the research applications should parallel the administrative -- much of the system use will be for coordination of activities and exchange of information. We may also anticipate some use of facsimile transmission for exchange of documentation, and for accessing library materials. In each of these cases, we will want to assure through the formative evaluation that the system adequately meets the requirements of the researchers. A research evaluation instrument will be developed in the future.

APPENDICES

- A BKS Network Log
- B Request for Teleconference
- C Network Repair Log
- D Periodic Student Assessment
- E Summary Student Assessment
- F BKS System User's Assessment
- G Video Graphics Assessment
- H Dosen Questionnaire
- I Dosen Follow-up Interviews

APPENDIX A
BKS Network Log
 (COMPLETE THIS AFTER EACH NETWORK USE)

Date: _____
 Time: _____ to _____

CIRCLE TIME ZONE: WIB, WITENG, WITIM

Network Use (CHECK ONE)

- Administrative Meeting _____
- Network Maintenance _____
- Course _____ Title: _____
- Research _____
- Other _____ Specify: _____

Jakarta IPB UNHAS UNSRAT UNTAD UNLAM UNCEN/J UNCEN/M UMMUL UNPATI IKIP U.P. IKIP Menado

Participating Sites

Number of Participants at Each Site

Quality of Audio Reception from*

Quality of Reception from:

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	<u>Very Poor</u>
o electrowriter	_____	_____	_____	_____	_____
o facsimile	_____	_____	_____	_____	_____
o video cassette	_____	_____	_____	_____	_____
o other	_____	_____	_____	_____	_____

File a Fault Report for any network problems.

Note any particular problems with the network, with the use of the network by the users, or with the end equipment:

APPENDIX B

BKS

REQUEST FOR TELECONFERENCE

(COMPLETE THIS FORM TO REQUEST A TELECONFERENCE AND SUBMIT TO YOUR CAMPUS COORDINATOR. THE CAMPUS COORDINATOR SHOULD FORWARD THE FORM TO DR. ANWAR HAFID, BKS PROJECT HEADQUARTERS)

Your name: _____ Today's Date _____

1. University: _____

2. Department: _____

3. Names of Contact Persons at Participating Campuses:

1. _____ 7. _____

2. _____ 8. _____

3. _____ 9. _____

4. _____ 10. _____

5. _____ 11. _____

6. _____ 12. _____

4. Date requested for the teleconference:

Time requested: _____
CIRCLE WHETHER WIB, WITENG, OR WITIM TIME

Number of hours requested: _____

4. Alternative dates: (1) _____
(2) _____

Alternative Times (1) _____
(2) _____

5. Purpose of Teleconference: / / Administrative / / Class
(CHECK AS MANY AS APPLY) / / Network Maintenance / / Research
/ / Other (specify) _____

6. Number, Positions and/or Names of participants expected at each site:

- UNHAS _____
- UNLAM _____
- UNCEN (Jay) _____
- UNCEN (Man) _____
- UNSRAT _____
- UNMUL _____
- UNPATI _____
- UNTAD _____
- IKIP UP _____
- IKIP Manado _____
- Jakarta _____
- IPB _____
- Other _____

7. Will any advance materials be sent to participants?

(e.g., Agenda) / / Yes / / No

8. Will more than one conference on this topic be needed?

/ / Yes / / No / / Not Sure

9. IF YES, please indicate possible date, time, length of follow-up conference.

Date _____ Time: _____ Length _____

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APPENDIX C
BKS FAULT AND REPORT LOG

I. FAULT REPORT
(TO BE COMPLETED BY LOCAL COORDINATOR)

PERMTEHLcanntentadted
/ / Yes / / No / / yes / / no

1. Location: _____
2. Date reported: _____ Time reported: _____

3. Your Name: _____

4. When did it occur: Date: _____ Time: _____

5. Did you complete the teleconference:
/ / Yes, on time
/ / Yes, but it took longer
/ / No

6. Describe the nature of the problem:

7. Was anyone contacted to repair the fault? / / Yes / No

IF "YES", who was contacted:

	DATE	TIME	CONTACT NAME & TITLE	YOUR NAME
1.				
2.				
3.				
4.				

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8. If any additional contacts were made regarding this fault, please record here:

DATE	TIME	CONTACT
1.		
2.		
3.		

II. REPAIR REPORT (TO BE COMPLETED BY INDIVIDUAL WHO DID REPAIR)

9. Date Repaired: _____ Time Repaired: _____

10. Your Name: _____ Date: _____

11. Fault was in: (CHECK ALL THAT APPLY)

LINES:

_____ Local Lines
_____ Satellite Links

END EQUIPMENT:

_____ Telephone hand set
_____ Convenor
_____ Loudspeaker
_____ Graphicswriter/Lightpen
_____ Graphicswriter/Monitor
_____ Graphicswriter/Other (SPECIFY) _____
_____ Display Monitors
_____ Microphone (push-to-talk)
_____ Microphone (lavaliere)
_____ Facsimile Machine
_____ Terminal Equipment
_____ Videocassete Player
_____ other (SPECIFY) _____

12. Could repair be undertaken locally?

Yes / / No / /

If NO,

o / / Spare parts were necessary (SPECIFY) _____

o / / Equipment had to be returned to manufacturer

o / / Other (SPECIFY) _____

13. Briefly describe the repair:

APPENDIX D
Periodic Student Assessment

(THESE QUESTIONS REFER ONLY TO TODAY'S SESSION)

Date: _____

Time: _____

Location: _____

Course Title: _____

(FOR THE QUESTIONS BELOW CHECK _____ THE LINE THAT REFLECTS YOUR ANSWER)

I have taken other courses on the BKS system:

yes _____ no _____

Did today's session actually start before the teleconference period?

Yes, more than 30 minutes earlier _____

Yes, but less than 30 minutes earlier _____

No _____

If your answer to 9 was Yes, which of the following activities occupied most of the pre-teleconference session?

Explaining the objectives of the session _____

Getting to know the other members of your group _____

Learning how to operate the equipment _____

Preparing content for the session _____

Reviewing material from a previous session _____

Other:

(specify) _____

Was there a moderator or group leader with your group?

yes _____ no _____

Were any audio-visual media used during today's session?

yes _____ no _____

If your answer to #9 was yes, please indicate the media used:

_____ video graphics/writer _____ cassette tapes
_____ video-tapes _____ slides
_____ charts _____ other (indicate _____)

. In terms of my attendance in the course thus far:

I've attend all sessions _____ I've missed 1 or 2 sessions _____
I've missed more than 3 sessions _____

low are a series of statements with which you will have varying degrees of agreement. eck the box which indicates whether you strongly agree, agree, neither agree nor sagree (neutral), disagree, or strongly disagree with the statement:

	<u>Strongly</u> <u>Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly</u> <u>Disagree</u>
. The physical layout of the room worked well for the class session.	_____	_____	_____	_____	_____
. The type of teleconference equipment used at this site was adequate to meet the class requirements.	_____	_____	_____	_____	_____
. The equipment was easy to use.	_____	_____	_____	_____	_____
. There were enough microphones to allow ready participation by any member of the class.	_____	_____	_____	_____	_____
. I could clearly hear the participants at the other sites.	_____	_____	_____	_____	_____
. I could clearly read the writing and other graphics on the video screens.	_____	_____	_____	_____	_____
. The class presentation was well organized.	_____	_____	_____	_____	_____
. The session held my interest.	_____	_____	_____	_____	_____
. Administrative and operational procedures occupied too large a part of today's session.	_____	_____	_____	_____	_____
. I actively participated in today's session by responding via the conference system.	_____	_____	_____	_____	_____
. The teacher encouraged participation.	_____	_____	_____	_____	_____

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
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There was plenty of time for participation.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

I prepared for today's session by completing the necessary readings.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

There was a good deal of participation from the other centers:

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

During today's session I did not get a good idea of how participants at other sites were reacting.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

The group at this site held discussions during the teleconferencing portion of the class which were not transmitted to the other sites.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

(ANSWER #28 ONLY IF AUDIOVISUAL MATERIALS WERE USED IN THIS CLASS

The audiovisual materials used in this class were effective in supporting the instruction.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

I would rate the overall technical quality of the interactive network exchange as:

excellent___ very good___ good___ fair___ poor___

The factors that contributed to my rating in #30 are:

Please make suggestions for future use and/or improvement of the network:

Please make other comments regarding this session:

APPENDIX G
GRAPHICSWRITER ASSESSMENT

Have you participated in a course before this one which used the graphics writer?
/ / Yes / / No

In order to determine which of the color combinations is easiest to read, please circle the one background and one foreground color which when used together are easiest to read. Then, cross-out the one background color and one foreground color which was most difficult to read.

<u>Background Color</u>	<u>Foreground Color</u>
Black	Black
White	White
Blue	Blue
Green	Green
Magenta	Magenta
Red	Red
Yellow	Yellow
Aqua	Aqua

Below are a series of statements with which you will have varying degrees of agreement. Check the box which indicates whether you strongly agree, agree, neither agree nor disagree (neutral), disagree, or strongly disagree with the statement:

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
I found the following functions of the light pen to be most useful					
a. writing which I initiated	—	—	—	—	—
b. writing in answer to the dosen's questions	—	—	—	—	—
c. solving an equation	—	—	—	—	—
d. adding to a diagram drawn by the dosen	—	—	—	—	—
e. adding to a diagram drawn by another student	—	—	—	—	—
f. adding to a diagram replayed from a cassette	—	—	—	—	—
g. drawing a diagram	—	—	—	—	—
h. drawing a graph	—	—	—	—	—
i. other uses	—	—	—	—	—

Strongly
Agree

Agree

Neutral

Disagree

Strongly
Disagree

The classes would have been just as effective if they had only used voice.

Comment on any problems you had using the graphics writer:

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
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My use of the light pen added a good deal to the class.

_____	_____	_____	_____	_____
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The graphics tablet was easier to use than the light pen.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

I believe that the television monitors provided a visual focus of attention

_____	_____	_____	_____	_____
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From where I was sitting, I could clearly read the video writing on at least one of the televisions.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

The graphics writer makes it easier to assimilate information.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

I feel comfortable using the graphics writer.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

The dosen used the graphics writer effectively in making the lesson clearer.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

The graphics writer was not used enough by the dosen.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

The dosen invited student responses on the graphics writer.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

The graphics writer was not used enough by the students.

_____	_____	_____	_____	_____
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From where I was sitting, I could clearly see other graphic information displayed on the monitor.

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

The following were effective uses of the video graphics:

a. graphs

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

b. pictures

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

c. charts

_____	_____	_____	_____	_____
-------	-------	-------	-------	-------

d. other (specify) _____

_____	_____	_____	_____	_____
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The dosen's use of prepared graphics helped make his points clearer.

_____	_____	_____	_____	_____
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APPENDIX E

SUMMARY STUDENT ASSESSMENT

(These questions refer to this course only, not to your experience with the BKS teleconferencing system in general)

1. Location _____
2. Course Title: _____

Below are a series of statements with which you will have varying degrees of agreement. Check the box which indicates whether you strongly agree, agree, neither agree nor disagree (neutral), disagree, or strongly disagree with the statement:

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
3. Overall, the technical performance of the teleconferencing system adequately met the class's needs.	---	---	---	---	---
4. I get the impression that much of the spontaneity found in more conventional classes is inhibited using the teleconferencing system.	---	---	---	---	---
5. I got a feeling of personal contact with the people in the other locations using this teleconferencing system.	---	---	---	---	---
(ANSWER #6 AND #7 ONLY IF THE VIDEO GRAPHICS/WRITER WAS USED DURING YOUR COURSE)					
6. I could clearly read the video writing and other graphics during the classes.	---	---	---	---	---
7. The video graphics were used effectively to support the teaching.	---	---	---	---	---
(Answer #8 - 10 only if video tapes were used in teaching your course)					
8. On the whole, the video tapes were useful in providing information essential to the class.	---	---	---	---	---
9. The video tapes were well-organized and produced.	---	---	---	---	---
10. The dosen integrated the video tapes effectively into the overall teaching of the course.	---	---	---	---	---

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
11. There were enough television monitors in the room for the size of the group watching each class.	—	—	—	—	—
12. The television monitors were arranged so that I could satisfactorily see what was happening.	—	—	—	—	—
(ANSWER #13 AND #14 IF SOME OTHER AUDIOVISUALS WERE USED DURING THE COURSE)					
13. The quality of the other audiovisual materials used in the course was adequate so that I could read them.	—	—	—	—	—
14. The audiovisuals were used effectively as part of the class presentations.	—	—	—	—	—
15. Overall, the materials (eg., handouts, books) used with the course reinforced the teaching.	—	—	—	—	—
16. The supply of materials satisfactorily met my class requirements.	—	—	—	—	—
17. Overall, I think that the class presentations were well organized.	—	—	—	—	—
18. On the whole, the classes held my interest.	—	—	—	—	—
19. I think that the time allocated to the class was too long.	—	—	—	—	—
20. Administrative and operational procedures occupied too large a part of the class' time.	—	—	—	—	—
21. I participated often in class via the teleconferencing system.	—	—	—	—	—
22. Generally, my participation in the teleconferencing sessions was greater than in face-to-face sessions.	—	—	—	—	—
23. The teacher encouraged participation.	—	—	—	—	—
24. There was plenty of time for participation.	—	—	—	—	—

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
25. Generally, my participation in the teleconferencing sessions was less than in face-to-face sessions.	—	—	—	—	—
26. My group held discussions during or after the teleconferencing portion of the class which were not transmitted to the other sites.	—	—	—	—	—
27. I found my fellow students more attentive during the teleconference sessions than in conventional classes.	—	—	—	—	—
28. Compared to more conventional classes, I found it harder to concentrate during the teleconferences.	—	—	—	—	—
29. I find the teleconferences more demanding than conventional class sessions.	—	—	—	—	—
30. I feel that I learned more from this course than I would in a more conventional class.	—	—	—	—	—
31. Given a choice I would prefer to take these courses in a face-to-face situation rather than via teleconferencing.	—	—	—	—	—
32. I would like to use this type of communications system for taking similar courses.	—	—	—	—	—
33. Please comment on the improvements which might be made in the teleconferencing system, or in the way it is used.					

APPENDIX F
BKS System User's Assessment
(check ___ the appropriate line)

1. Date: _____
2. Time: _____
3. Teleconference Activity:
(CHECK AS MANY AS APPLY)
Administration _____
Curriculum Development _____
Research _____
Other (SPECIFY) _____
4. Your Campus or Institutional Affiliation: _____
5. Your role in the teleconference:
Organizer _____ Participant _____
6. Teleconference Topic(s): _____
7. Is this your first teleconference on the BKS system?
Yes ___ No ___
8. IF NO, approximately how many have you participated in?
2-5 _____ 6-10 _____
more than 10 _____
9. Have you received training in the use of the equipment?
Yes ___ No ___
10. Were you provided with, or did you provide, a copy of the meeting agenda:
prior to arrival at the Center _____
upon arrival at the Center _____
no agenda was provided _____ (SKIP TO #12 IF YOU CHECKED NO)
11. Was the agenda followed during the meeting?
yes ___ no ___
12. Did the group at your location hold any discussions prior to the start of the teleconference?
Yes, more than 30 minutes earlier _____
Yes, less than 30 minutes earlier _____
No _____

13. If your answer to 12 was Yes, which one of the following activities occupied most of the pre-teleconference session? (tick only one)

- Discussing the objectives of the session _____
- Getting to know the other members of your group _____
- Learning how to operate the equipment _____
- Preparing content for the session _____
- Reviewing material from a previous session _____
- Other _____
- (specify) _____

Below are a series of statements with which you will have varying degrees of agreement. Check the box which indicates whether you strongly agree, agree, neither agree nor disagree (neutral), disagree, or strongly disagree with the statement:

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
14. The overall technical quality of the network was adequate for the conduct of the meeting.	_____	_____	_____	_____	_____
15. Overall, the session was useful.	_____	_____	_____	_____	_____
16. The teleconference was well organized.	_____	_____	_____	_____	_____
17. The time allocated to today's teleconference was too long.	_____	_____	_____	_____	_____
18. The time allocated to today's teleconference was too short.	_____	_____	_____	_____	_____
19. A disproportionate amount of time was spent on logistical and operational procedures.	_____	_____	_____	_____	_____
20. The teleconference's objectives were clear to me prior to the meeting.	_____	_____	_____	_____	_____
21. The teleconferences' purposes were satisfactorily achieved.	_____	_____	_____	_____	_____
22. I actively participated in the teleconference.	_____	_____	_____	_____	_____
23. The conference leader encouraged participation.	_____	_____	_____	_____	_____
24. Sufficient time was provided for discussion.	_____	_____	_____	_____	_____

- | | <u>Strongly Agree</u> | <u>Agree</u> | <u>Neutral</u> | <u>Disagree</u> | <u>Strongly Disagree</u> |
|--|-----------------------|--------------|----------------|-----------------|--------------------------|
| 25. The discussion was focused and well-organized. | — | — | — | — | — |
| (ANSWER #26 ONLY IF BACKGROUND MATERIALS WERE PROVIDED) | | | | | |
| 26. The background materials provided adequate information for the meeting. | — | — | — | — | — |
| 27. The equipment was easy to use. | — | — | — | — | — |
| 28. How would you rate the performance of the following system components (CHECK THE APPROPRIATE BOXES): | | | | | |

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	<u>Not Used</u>
Transmission lines between sites	—	—	—	—	—
Speakers	—	—	—	—	—
Microphones	—	—	—	—	—
Electrowriter	—	—	—	—	—
Overall System	—	—	—	—	—

29. If there were no teleconferencing, would you have communicated with colleagues about the topic of today's meeting?

Yes ___ No ___

30. If you answered yes to #29, how would you have communicated?

Telephone ___ Mail ___ Travel ___ Other ___

32. Have you any suggestions for future use of the network, improvements, or other comments?

Thank you for completing this form.

APPENDIX H

SUMMARY INSTRUCTORS' SURVEY

(To assist the BKS Satellite Project staff in reviewing the project, your opinions about the performance of the teleconferencing system are required. Please provide us with your frank opinions.)

1. University _____ Department _____
2. Class Offered _____
3. Number of years you've taught at the university level _____
4. When did you start working actively on the BKS Satellite Project?
month: _____ year: _____
5. Have you previously taught a course on the BKS teleconferencing system?
Yes ___ No ___
6. Did you have instruction on the BKS teleconferencing equipment prior to offering your course?
Yes ___ No ___
7. Is your participation in the BKS project part of your regular duties?
Yes ___ No ___
8. IF THE ANSWER TO #7 IS NO, have you been relieved of some of your other duties for the duration of your participation in the project?
Yes ___ No ___
9. IF THE ANSWER TO #7 IS NO, how much has your involvement in this project increased your work load?
By about ___%
10. Did you prepare written materials for the course (eg. curriculum, reading lists, etc.)
Yes ___ No ___
11. Did you receive training in curriculum development specific to the BKS system prior to teaching this class.
Yes ___ No ___

12. Did you receive training in teaching techniques specific to the BKS system prior to teaching this class?

Yes ___ No ___

13. Indicate any modifications you made in your style or methods of teaching while using the teleconferencing system.

14. Some of the following persons or groups may have provided you with assistance in planning and implementing this course. Check the box which most closely indicates the level of assistance: often, sometimes, rarely, never):

	<u>Assistance was provided:</u>			
	<u>Often</u>	<u>Sometimes</u>	<u>Rarely</u>	<u>Never</u>
a. The BKS project staff in U.P.	___	___	___	___
b. The BKS project staff at your campus.	___	___	___	___
c. Your campus's audio visual department.	___	___	___	___
d. Your departmental colleagues.	___	___	___	___
e. Your colleagues in other faculties.	___	___	___	___
f. Others	___	___	___	___
(specify) _____				

Below are a series of statements with which you will have varying degrees of agreement. Check the box which indicates whether you strongly agree, agree, neither agree nor disagree (neutral), disagree, or strongly disagree with the statement:

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
15. The training in curriculum development was adequate to allow me to satisfactorily teach the course.	___	___	___	___	___
16. The training in teaching techniques was adequate to allow me to satisfactorily teach the course.	___	___	___	___	___

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
17. The training on the equipment was adequate for me to comfortably teach this course.	—	—	—	—	—
(ANSWER #18 IF YOU PRODUCED YOUR OWN VIDEO GRAPHICS)					
18. I received sufficient training to produce video graphics which were useful for my course.	—	—	—	—	—
(ANSWER #19 IF YOU HAD VIDEO GRAPHICS PRODUCED FOR YOU IN UJUNG PANDANG)					
19. The video graphics producers in U.P. provided useful graphics for my class.	—	—	—	—	—
20. My preparation for the teleconferencing classes was generally the same as for my other classes.	—	—	—	—	—
21. I generally spent more time preparing for the BKS classes than I would normally spend for my other classes.	—	—	—	—	—
22. The written materials were substantially the same as I prepare for my face-to-face courses.	—	—	—	—	—
23. I made modifications in my usual teaching style and methods for the sessions held on the BKS system.	—	—	—	—	—
24. The BKS equipment was easy to use.	—	—	—	—	—
25. The proctors at each participating campus assisted the students in their satisfactory completion of the course.	—	—	—	—	—

26. I found the following audio-visual materials effective in furthering my teaching objectives (check the scales only for the media actually used in this course):

- a. Graphics writer
- b. Prepared graphics
- c. Video tapes
- d. Slides
- e. Other

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
a. Graphics writer	—	—	—	—	—
b. Prepared graphics	—	—	—	—	—
c. Video tapes	—	—	—	—	—
d. Slides	—	—	—	—	—
e. Other	—	—	—	—	—

27. I felt comfortable teaching on the BKS system.

—	—	—	—	—
---	---	---	---	---

28. The interactive capability of the BKS system was as effective as the normal classroom situation for promoting student interest and questions.

—	—	—	—	—
---	---	---	---	---

29. I found the BKS classes more demanding compared to conventional classes.

—	—	—	—	—
---	---	---	---	---

30. Compared to more conventional classes, I found the students more interested and attentive.

—	—	—	—	—
---	---	---	---	---

31. Generally, I believe that the students learned more via the BKS system than they would have through a conventional class.

—	—	—	—	—
---	---	---	---	---

32. I prefer teaching over the BKS system to face-to-face teaching.

—	—	—	—	—
---	---	---	---	---

33. I think this project will be able to continue after the end of the initial funding by using other resources.

—	—	—	—	—
---	---	---	---	---

34. I was very satisfied with my part in the BKS project.

—	—	—	—	—
---	---	---	---	---

35. Please comment on the sources of your satisfaction/dissatisfaction:

36. Please comment on what aspects of the BKS system should be changed or improved.

37. Other comments on the BKS system:

APPENDIX I
INTERVIEW QUESTIONS/TEACHING FACULTY

This series of questions is intended to provide more detailed responses to the questions in the "Summary Instructors' Survey". The interviewer should explain that these more detailed questions are only being asked of a small number of faculty to provide a more complete idea of how effectively the teleconferencing system is meeting the BKS' needs, and more importantly, how the system might be improved.

1. Name: _____
2. Course Offered: _____
3. Today's Date: _____
4. How long have you been teaching this course? _____
5. Have you ever taught a course via the BKS teleconferencing system before this course?
yes ____ no ____
If yes, when and what?

6. Have you ever used the BKS system other than for your classes?
yes ____ no ____
If yes, for what purposes and how often?

7. Please comment on any of the following physical or technical aspects of the BKS system which you may feel strongly about:
Time of class _____
Length of class _____
Microphone Placement _____
Microphone Design _____
Quality of Sound _____

Sound Volume _____

Graphics Writer _____

Prepared Graphics _____

Video Tape Player _____

Video Monitor Placement _____

Facsimile _____

Others (specify) _____

8. Describe the training you received in the use of the equipment prior to undertaking the class. Do you feel this training was adequate for your teaching requirements?

9. Describe the training you received in curriculum development and teaching techniques specific to the BKS system prior to teaching this class. Do you believe this training was adequate and appropriate in helping you teach the class?

10. What types of assistance did you receive, and from whom, as you prepared and offered your course? Was this assistance adequate and useful?

11. Describe how you were recruited to participate in the BKS project.

12. How has your participation in BKS affected your other academic responsibilities? Do you find that it generally fits into your normal schedule, or that it has increased the amount of time you would normally spend on preparation and teaching?

13. Compared to preparation time for your usual classes, did you require more or less preparation for the BKS classes? Comment.

14. Did you find the interactive capability of the BKS system as effective as the normal classroom situation for promoting student interest and questions?

15. Did you find that the BKS system motivated students more than the usual classroom setting? Explain.

16. What modifications in your usual style and methods did you make for your teleconference sessions?

17. Did you use any audio-visual materials for your teleconferences. Please list.

18. Please comment on how effective you think these materials were in helping you teach your classes.

19. How essential is the prepared graphics component of the system for effective teaching?

20. What problems did you encounter in preparing or having the graphics prepared?

21. How effective was the graphics writing in helping you conduct the class? Did you encounter any problems with the graphics writer?

22. If videotapes were used as part of the course, comment on the effectiveness of the program content and quality of production in supporting the classroom teaching. Were you able to incorporate the videotape effectively into your teaching?

23. What other audio-visual support would you have liked?

24. What do you feel are the major advantages of the two-way BKS system for teaching-learning?

25. What do you feel are the major disadvantages of the BKS system for teaching-learning?

26. Did you feel comfortable teaching on the BKS system?

27. Compared to more conventional classes, did you find the BKS classes more or less demanding? Explain.



APPENDIX H

SUMMARY INSTRUCTORS' SURVEY

(To assist the BKS Satellite Project staff in reviewing the project, your opinions about the performance of the teleconferencing system are required. Please provide us with your frank opinions.)

1. University _____ Department _____
2. Class Offered _____
3. Number of years you've taught at the university level _____
4. When did you start working actively on the BKS Satellite Project?
month: _____ year: _____
5. Have you previously taught a course on the BKS teleconferencing system?
Yes ___ No ___
6. Did you have instruction on the BKS teleconferencing equipment prior to offering your course?
Yes ___ No ___
7. Is your participation in the BKS project part of your regular duties?
Yes ___ No ___
8. IF THE ANSWER TO #7 IS NO, have you been relieved of some of your other duties for the duration of your participation in the project?
Yes ___ No ___
9. IF THE ANSWER TO #7 IS NO, how much has your involvement in this project increased your work load?
By about _____%
10. Did you prepare written materials for the course (eg. curriculum, reading lists, etc.)
Yes ___ No ___
11. Did you receive training in curriculum development specific to the BKS system prior to teaching this class.
Yes ___ No ___

UNITED STATES GOVERNMENT

Memorandum

TO : BOB WARE, SER/CM

DATE: 6-25-81

FROM : LARRY FRYMIRE, DS/ED 177

SUBJECT: RURAL SATELLITE PROGRAM EVALUATION MANAGEMENT PROPOSAL REVIEW

The attached chart summarizes the final evaluation actions of the Evaluation Proposal Review Committee. At its meeting 6-22-81, the committee recommended that DS/ED forward to SER/CM its scoring and rank-order list of best and final proposals from Abt, AIR, Annenberg-University of Pennsylvania and University of Kentucky Foundation.

In his letter to you, Bob Schenkkan re-affirmed the Evaluation Committee summary-scoring.

Please let us know if we can be of further assistance in the negotiation-selection process.



UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
 AGENCY FOR INTERNATIONAL DEVELOPMENT
 WASHINGTON D C 20523

JUNE 25, 1981

RURAL SATELLITE PROGRAM

EVALUATION MANAGEMENT PROPOSAL REVIEW COMMITTEE

FINAL EVALUATION AND RANKING

Score=0-125 Ranking = 1-4

PROPOSAL	EVALUATORS						TOTAL SCORE	RANK ORDER
	BL	RG	RB	BW	LF	RS		
ABT	98	109	118	100	116	116	657	1
AIR	104	105	120	98	109	115	651	2
ANNENBERG U.PENN.	104	106	108	106	114	113	651	2
U.KENTUCKY FOUNDATION	80	61	92	-- *	125	106	464	3

EVALUATORS

BL= BARBARA LUCAS, NATIONAL SCIENCE FOUNDATION

RG= ROBERT GELLERMAN, INTER-AMERICAN DEVELOPMENT BANK

RB= RICHARD BLUE, AID/PPC/E

RB= BJORN WELLENUS, THE WORLD BANK

LF= LAWRENCE FRYMIRE, AID/DS/ED

RS= ROBERT SCHENKKAN, AID/DS/ED

* MR. WELLENUS DID NOT REVIEW U.KENTUCKY FOUNDATION PROPOSAL. HOWEVER, HAD HE DONE SO AND AWARDED A MAXIMUM OF 125 POINTS, UK WOULD HAVE RECEIVED A SCORE OF 589, THUS RETAINING THIRD PLACE.

LF/DS/ED

L.F.F.

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
 AGENCY FOR INTERNATIONAL DEVELOPMENT
 WASHINGTON, D.C. 20523

MAY 28, 1981

RURAL SATELLITE PROGRAM

R. J. J.

EVALUATION MANAGEMENT PROPOSAL REVIEW COMMITTEE

(Scores= 0-125) Ranking=1-10points)

PROPOSAL	EVALUATORS						RANKING
	BL	RG	BW****	RB	LF	RS	
ABT	103	109	****	101	116	113	10
ANNENBERG	99	56	****	99	120	116	11
A I R	99	90	****	113	106	110	15
U. KENTUCKY	65	61		96	125	96	22
U R C	55	55		71	83	106	28
PURDUE	71	48		115	77	95	30
EXPERIENCE	38	55		82	93	98	31
D R I	61	56		78	83	95	33
U. WISCONSIN	24	74		80	68	78	37

Evaluators

BL-Barbara Lucas, National Science Foundation

RG=Robert Gellerman, Inter-American Development Bank

BW=Bjorn Willenius, World Bank****Substituted for Robert Saunders and only reviewed four proposals. He placed Abt, Annenberg & AIR in top rank. as indicated above.

RB=Richard Blue, AID/PPC/E

LF=Lawrence Frymire, AID/DS/ED

RS=Robert Schenkan, AID/DS/ED

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON

May 27, 1981

MEMORANDUM

TO: BOB WARE, SER/CM

FROM: LARRY FRYMIRE, DS/ED

RE: REEVALUATION REVIEW COMMITTEE SCORES

<u>COMPANY</u>	<u>EVALUATION SCORE</u>
ABT	10
ANNENBERG(U.Pa.)	11
AMERICAN INSTITUTES FOR RESEARCH	15
U.KENTUCKY RESEARCH FOUNDATION	22
UNIVERSITY RESEARCH CORP.	28
PURDUE UNIVERSITY	30
EXPERIENCE INCORPORATED	31
DENVER RESEARCH INSTITUTE	33
UNIVERSITY OF WISCONSIN	37