

Heads and Teachers as Implementers of the Curriculum in Schools

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KEYWORDS Curriculum. Best Programme. Environmental Science. Teachers. Heads

ABSTRACT The major purpose of this research study was to find out perceptions of heads and teachers towards the implementation of the Better Environmental Science teaching (BEST) Programme in Chilimhanzi District in Zimbabwe. The study was carried out through the use of two self-administered questionnaires in the realm of the descriptive survey design. The two questionnaires, one for heads and another for teachers were concerned with providing answers to fourteen sub-problems. These questionnaires were given to a cluster random sample of twenty primary school heads and forty primary school teachers. Results from the study indicated substantive endorsements for the BEST programmes' in-service components and a positive support of the teaching of Environmental Science topics using BEST methodology. Heads and teachers also felt the time for implementing BEST was adequate. However, both heads and teachers felt the working conditions for implementing the programme were not satisfactory. It was also felt that BEST evaluation was not being utilized effectively. It is recommended that BEST evaluation reports be made available to the schools. It is also felt that further research could utilize other research designs in order to attain fuller and deeper picture on the implementing of BEST especially in areas where results were in conclusive.

BACKGROUND TO THE STUDY

To onlookers of Zimbabwe's educational system, as the independence era unfolded in 1980, perhaps the inevitability of educational reform was not much of a surprise. With a colonial education system replete with entrenched imbalances, serious deficiencies and glaring bottlenecks, the need to introduce reforms to redress these critical issues was generally expected. Maybe what could have been of concerned interest was the form and content of such a reform process. Indeed the first two decades of Zimbabwe's independence era have witnessed numerous and far-reaching educational reform programmes. The country's quantitative expansion programme has been quite spectacular. In his 20th independence anniversary speech to the nation as reported in *The Herald* (April 19 2000), the country's President pointed out that since 1980, primary schools increased from 2401 to over 4500, secondary schools rose from a mere 177 to 1548, teacher training colleges increased from 6 to 15 and universities rose from 1 to 7. Such an expansion has enabled the country to move close to universal primary education (U.P.E)

Arguably, it would appear that the quantitative aspect of Zimbabwe's educational reform process has been one of extraordinary progress. The researchers believe, however, that it would be highly flattering to view Zimbabwe's educational quality development process in the same vein. In a nationwide study on the capacity of the Ministry of Education, Sports and Culture, Delloite and Touche (1998) concluded that the ministry's capacity to deliver a qualitative service was very low. The report cited poor infrastructure, poor vision, inadequate utilization of staff, lack of a clear guiding policy and the absence of thorough stakeholder participation in decision-making as some indices of poor quality provision. To corroborate the above perception, Levine (1996) in a consultancy report pointed out that in terms of examination results, the Ministry's internal efficiency was generally wasteful characterized low student attainment.

The two consultancy reports in the foregoing paragraph seemingly depict a gloomy picture in terms of quality educational provision. Evidently, it must be acknowledged that multiplicities of factors are at play in determining the resultant quality. Using a systems approach, the quality of education appears to be determined by input, transformation, and output and feedback factors. The researchers hold firm view that the transformation sub-system (also referred to

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as the black box of education) holds sway in improving educational quality.

Curriculum implementation is at heart of the transformation stage, The Nziramasanga Commission of Inquiry into Education and Training (1999:234) noted that:

The curriculum is at the centre of education. Whatever is done to improve education through better training or enhanced management and improved facilities will be of little value if the curriculum is not appropriate to equip students' values and prepare them for high skills of the future.

The report evidently depicts the importance of curriculum reform. It would appear that the role of heads and teachers is critical in proposed curriculum reforms since they are located at the point of service delivery in the educational structure. The writers feel that support for heads and teachers at school level in the curriculum reform process have been low. In a study on the effectiveness of school effectiveness on pupil achievement, Riddell (1999) noted that unlike in industrialized countries, the teacher-learner interface has not been given sufficient thrust in developing countries like Zimbabwe.

The report by Deloitte and Touche (1998:31) agrees with the above view and suggests that:

Staff should be encouraged to put forward suggestions and propose innovations. Their opinions should be sought for and should be created where they can express a point of view. Opportunities should be created for talented individuals to join task forces and working parties to undertake, to engage in curriculum development work.

This observation, then, seems to underline the need for better human resources management in Zimbabwe's education system. An evaluation on the implementation of the AIDS/HIV programme by UNICEF (1996) also found that a majority of teachers lacked confidence in utilizing suggested methodology vindicating the need for improving teacher capacities. These findings are also consistent with observations made in a study on the state of Mathematics Education in Zimbabwe's primary schools by the Ministry of Education and University of Goteborg (1996) where the teaching learning environment was found to be ineffective in encouraging successful Mathematics learning.

Against this background of a perceived educational quality problem and a perceived poor utilization of the educational human resource base, the writers hold a strong feeling that a crit-

ical insight into how heads and teachers operate in an environment of curriculum change is absolutely vital in improving Zimbabwe's curriculum reform progress. What is even more critical appears to be what heads and teachers believe about their involvement in curriculum reform and implementation. Indeed Oldroyd and Hall (1991) see the relationship between behavioural change and changes in belief as being complicated. Hence an examination of heads and teacher attitudes towards curriculum change could unlock better avenues for successful staff development, utilization and management.

The study has been deliberately targeted at the Better Environmental Science teaching (BEST) programme. Targeting a specific reform programme was critical in focusing on specific curriculum issues being practiced at grass root level. The writers are also fully convinced that the BEST Programme, more than most curriculum reform programmes the writers have witnessed, holds immense challenges and opportunities for the future of curriculum reform in Zimbabwe's education system.

In terms of opportunities, since its inception in 1994, the BEST programme has been evaluated on an annual basis, hence providing valuable feedback for programme improvement. The BEST programme is not only concerned with Science learning, but also intends to improve learning in other primary school subjects as its secondary goal. In addition, the programme incorporates national, provincial and district structures hence affording the necessary coordination for such a large-scale programme. In terms of challenges, the writers have personally witnessed resistance from both heads and teachers towards some aspects of the programme. In fact in the evaluation and monitoring report of the BEST programme, Shumba (2000) found that some teachers and heads held the perception that BEST like other programmes they have witnessed before is a "passing fad" phenomenon indicating insufficient commitment. All in all, then, these challenges and opportunities present a fertile ground for analyzing the preparation of the heads and teachers towards their role in implementing curriculum change.

METHODOLOGY

The survey research design was adopted in this study. It must be noted that the survey design was chosen from among many other designs that could have been used. This design

was chosen since it was found to be relatively simple and convenient to conduct if one considers the limited financial, human and time resources available to researchers. The survey design used was the descriptive survey. Borg and Gall (1989) point out that descriptive research is concerned with the production of statistical information on educational aspects that interest policymakers and educators. This study as seen before would be of interest to policymakers in understanding how school level personnel view their role in curriculum development and implementation. A total of 60 subjects consisting of 20

school heads and 40 school teachers were used in the study using the cluster random sampling. The major instrument used to collect data was the self-administered questionnaire

RESULTS AND DISCUSSION

Results from Table 1 indicate that a huge majority of teachers (52.5%) endorsed BEST seminars and workshops as very useful and 28.5% of teachers show these to be useful. It is also interesting to note that the majority of teachers perceived all the items to be useful.

Table 1: Perceptions of heads and teachers on the usefulness of BEST seminars and workshops (N= 60)

Aspect	Did not attend		Very useful		Useful		Somehow useful		Not useful	
	N	%	N	%	N	%	N	%	N	%
Use of environment	6	7.7	25	4.81	8	1.54	1	0.19	0	0.0
Scheming to the syllabus	6	7.7	25	4.81	9	1.73	0	0.0	0	0.0
Varying methods of recording	6	7.7	25	4.81	8	1.54	1	0.19	0	0.0
Use of media	6	7.7	23	4.42	11	2.12	0	0.0	0	0.0
Syllabus interpretation	6	7.7	22	4.23	9	1.73	3	0.53	0	0.0
Use of equipment	6	7.7	21	4.04	11	2.12	1	0.19	1	0.19
Using teachers as facilitators	6	7.7	21	4.04	12	2.30	1	0.19	0	0.0
Best teaching methods	6	7.7	20	3.85	13	2.50	1	0.19	0	0.0
Concept analysis	6	7.7	20	3.85	13	2.50	1	0.19	0	0.0
Teachers identifying topics	6	7.7	19	3.65	15	2.88	0	0.0	0	0.0
Teachers identifying staff development needs	6	7.7	19	3.65	12	2.30	2	0.38	1	0.19
Use of BEST text books	6	7.7	17	3.27	12	2.30	2	0.38	3	0.58
Involvement of community	6	7.7	16	3.08	15	2.88	3	0.19	0	0.0
Total responses	78		273		148		16		5	
% Responses		15.00		52.50		28.46		3.1		0.9

Table 2: Perceptions of heads on usefulness of best seminars and workshops (N = 20)

Aspect	Did not attend		Very useful		Useful		Somehow useful		Not useful	
	N	%	N	%	N	%	N	%	N	%
Use of environment	1	0.38	16	6.15	3	1.15	0	0.0	0	0.0
Varying methods of recording	1	0.38	16	6.15	3	1.15	0	0.0	0	0.0
Syllabus interpretation	1	0.38	15	5.77	4	1.54	0	0.0	0	0.0
Best teaching methods	1	0.38	15	5.77	4	1.54	4	0.0	0	0.0
Concept analysis	1	0.38	15	5.77	4	1.54	4	0.0	0	0.0
Scheming to the syllabus	1	0.38	15	5.77	4	1.54	0	0.0	0	0.0
Use of media	1	0.38	14	5.38	4	1.54	0	0.0	1	0.38
Teachers identifying staff development needs	1	0.38	12	4.62	6	2.31	0	0.0	1	0.38
Use of equipment	2	0.77	11	4.23	5	1.92	0	0.0	2	0.77
Using teachers as facilitators	1	0.38	11	4.23	6	2.31	0	0.0	2	0.77
Teachers identifying topics	1	0.38	10	3.85	6	2.31	1	0.38	2	0.77
Use of BEST text books	2	0.77	9	3.46	5	1.92	1	0.38	3	1.15
Involvement of community	1	0.38	7	2.69	8	3.07	3	1.15	1	0.38
Total responses	15		166		62		5		12	
% Responses		5.8		63.9		23.8		1.9		4.6

Results from Table 2 show that the perceptions of Heads towards BEST workshops did significantly differ from perceptions of teachers. The majority of Heads (63.9%) perceived BEST seminars and workshops as very useful with 23.8% of heads seeing these as useful. A small percentage of 4.6% perceived the workshops not useful. The majority of heads perceived all the items to be useful. What may be of interest to note is that the percentage of teachers who did not attend BEST seminars and workshops at 15% is a lot higher than that for heads. All in all, results from both heads and teachers overwhelmingly endorsed BEST seminars and workshops to be quite useful. In addition the majority of heads and teachers perceived all the items to be useful for BEST workshops.

In the second sub-problem on BEST seminars and workshops Table 1 and Table 2 clearly revealed that BEST INSET as a method of dissemination of new curriculum was endorsed by a large majority of both heads and teachers. As earlier noted in the review of literature, perhaps a unique quality of BEST workshop is the apparent derobing of headship or teachership roles as it were during such sessions. Furthermore the cascade mode of training trainers chosen from such workshops is selected on poor merit without regard to professional status at school level. Findings from the study also revealed that 15% of the teachers did not attend BEST seminars or workshops against a lesser percentage of heads (5.8%) who did not attend. From a personal experience, the writers believe that this is so since the initial inception of the programme. In each district targeted all heads and selected teachers were then tasked to pass on the training at school level. However the revelation by Shumba's (2000)

evaluation that school based training on BEST had stopped in 85% of schools in the Midlands would evidently account for the higher rate of teachers who did not attend. What is perhaps, pertinent is to revitalize school BEST INSET so that new teachers are initiated into the programme and teachers already in the system are refreshed from time to time.

Results from Table 3 show that a slim majority of teachers (51.2%) perceived the time for implementing BEST to be adequate or fairly adequate, 42.5% of the teachers felt that the time was not adequate. Analysis of individual items showed mixed results, 50% of the teachers felt that the time for holding workshops was not adequate while 47.5% felt it adequate or fairly adequate. On drawing up school syllabus a lot more teachers (52.5%) perceived the time to be inadequate while only 7.5% felt it was adequate. However on holding lessons 45% felt the time was adequate while 27.5% felt it was inadequate.

Table 4 indicates that about 60.6% of heads felt that the time for implementing BEST was adequate or fairly adequate while 37.5% felt it was inadequate. A look at the individual aspects revealed that on three items, that is, scheming BEST lessons, drawing up school syllabus and preparing media, more heads (45% each) felt the time provided for these aspects was inadequate compared with those who felt that time was adequate (25%, 25% and 30% respectively).

Overall, more heads (60.6%) than teachers (51.2%) felt the time for implementing BEST was adequate or fairly adequate. As the analysis for individual activities revealed for heads and teachers' assessment, the results on the adequate of time for implementing the BEST programme was mixed.

Table 3: Teachers' assessment of the adequacy of time for implementing best (N = 40)

Activity	More than adequate		Adequate		Fairly adequate		Not sure		Not adequate	
	N	%	N	%	N	%	N	%	N	%
Holding lessons	0	0.0	18	7.80	8	3.33	3	1.25	11	4.58
Preparation of media	0	0.0	12	5.00	11	4.58	1	0.42	16	6.67
Maintaining teaching records	0	0.0	11	4.58	9	3.75	4	1.07	16	6.67
Scheming BEST lessons	0	0.0	10	4.17	11	4.58	1	0.42	18	7.50
Holding staff development workshops	0	0.0	5	2.08	14	5.83	1	0.42	20	8.8
Drawing up school syllabus	0	0.0	3	1.25	11	4.58	5	2.08	21	8.75
Total responses	0	0.0	59		64		15		102	
% of responses	0	0.0		24.5		26.7		6.3		42.5

Table 4: Heads assessment of the adequacy of time for implementing best (N = 20)

Activity	More than adequate		Adequate		Fairly adequate		Not sure		Not adequate	
	N	%	N	%	N	%	N	%	N	%
Holding lessons	0		12	10.0	4	3.33	0	0.0	4	3.33
Holding staff development workshops	0	0.0	8	6.67	5	4.17	0	0.0	7	5.83
Maintaining teaching records	0	0.0	8	6.67	5	4.17	0	0.0	7	5.83
Preparation of media	0	0.0	6	5.00	4	3.33	0	0.83	9	7.50
Scheming BEST lessons	0	0.0	5	5.17	6	5.00	0	0.0	9	7.50
Drawing up school syllabus	0	0.0	5	5.17	5	4.17	1	0.83	9	7.50
Total responses	0	0.0	59		64		15		102	
% of responses	0	0.0		24.5		26.7		6.3		42.5

A slim majority of teachers (51.2%) and a larger portion of heads (60.6%) felt that time for implementing the BEST programme was adequate in response to the third sub-programme of this study. While this appears as an endorsement of time utilization in the BEST programme, however this becomes questionable if when considering that 42.5% of teacher and 37.5% of heads felt the time was inadequate. In a study on the management of change Kendall (1999) pointed out that any change of significance must be given time for preparation, discussion, monitoring and checking. While this is evidently a poignant observation, the issue becomes problematic at least in terms of the findings of this study where heads believed time management to be alright but opposed by teachers who felt it was ineffec-

tive. Unfortunately, as Welch (1995) observed in a study on Science education, teacher influences appears minimal where school management decisions are made. The apparent inattention to the teacher – learner interface as pointed out in the literature review widens the gap between curriculum as proposed and curriculum as taught, an issue Stenhouse (1995) stresses. As an example 52.5% of the teacher (Table 3) believed the time for drawing up school syllabus was inadequate. This is quite revealing if one considers the fact that the interpretation of national syllabus into a usable document at school level strikes at the very core of curriculum implementation.

Results from Table 5 show that 35.7% of teachers frequently used BEST methodologies while slightly lower percentage of the teachers

Table 5: Teachers perceptions on the use of best methodologies

Methodology	Frequency		Occasionally		Not cure		Rarely		Never	
	N	%	N	%	N	%	N	%	N	%
Experiments	6	0.88	17	2.50	1	0.15	12	1.76	4	0.57
Work from text books	19	2.79	16	2.35	0	0.0	4	0.59	1	0.15
Games	6	0.88	16	2.35	0	0.0	13	1.91	5	0.74
Practical activities	15	2.21	15	2.21	0	0.0	7	1.03	3	0.44
Simulation	8	1.18	13	1.91	0	0.0	15	2.21	4	0.57
Field trips	7	1.03	12	1.76	0	0.0	16	2.35	5	0.74
Music	6	0.88	12	1.76	0	0.15	15	2.21	7	1.03
Pupils asking questions	14	2.06	11	1.62	1	0.15	10	1.47	4	0.57
Drama	6	0.88	11	1.62	1	0.15	15	3.21	7	1.03
Lecture	19	2.79	10	1.47	0	0.0	11	1.62	0	0.0
Question and answer	29	4.26	10	1.47	0	0.0	1	0.15	0	0.0
Individual work	23	3.38	10	1.47	0	0.0	5	0.74	2	1.03
Poetry	4	0.56	9	1.32	0	0.0	20	2.29	7	1.03
Story telling	8	1.18	9	1.32	2	0.29	15	2.21	6	0.88
Teacher demonstration	25	3.68	6	0.88	0	0.0	7	1.03	2	0.29
Group work	30	4.41	5	0.74	0	0.0	3	0.44	2	0.29
Using environment as laboratory	18	2.65	5		0	0.0	5		2	
Total responses	243		197		5		174		61	
% of responses		35.7		29		0.7		25.6		8.87

(34.6%) did not use BEST methodologies. Examination of individual items showed that group work (75%) question and answer (72%) teacher demonstration (62.5) and individual work (57.5) were the methods perceived as the most frequently used. The least used method were poetry (67.5%) drama and music (all at 52.5%).

Table 6 shows that 35.9% of heads felt teachers rarely used BEST methodologies while 27.1% felt these methods were used frequently. 5.6% of the heads felt that teachers used the methods only occasionally. Results here do indicate that the heads' perceptions of teachers' use of BEST methods were mixed. On individual items the most frequently used were questions and answer (at 80% of heads' perceptions) lecture (60%) teacher demonstration (60%) and work from textbook (55%). The methods perceived as least used or never used were pupils asking questions (70%) simulations (60%) field trips (60%) drama and experiments (all at 55%).

On the fifth sub- problem on the use of the BEST method, the differences between teachers who used the methods frequently (at 35.7%) and those who use the method infrequently or never used them at all (at 34.6%) was very tiny to draw any substantive conclusion. The researchers however feel that one observation is clear. Analysis made for both Table 8 and Table 9 showed the traditional methods of lecture, teacher dem-

onstration question and answer and group work dominated the most frequently used methods. On the other hand, the recommended interactive methodologies such as pupils asking questions, field trips, drama, poetry, simulation and experiments were seen as rarely or never used at all. Shumba's (2000) BEST evaluation report also noted that teachers lacked confidence in using no one traditional learning opportunities. The Ministry of Education and UNICEF's (1996) evaluation of Grade 7 HIV/AIDS Booklet also revealed a general tendency by teachers in failing to utilize participatory methodology that was being introduced for HIV/AIDS Education Programme. As noted earlier in the discussion there is need to revamp and reutilize school INSET programmes. Indeed in the evaluation of the then Environmental and Agricultural Science Syllabus (EAS) Bajah (1991) noted that 34% of the teachers suggested that in service programmes use more practical demonstrations. What is needed then are school staff development programmes that offer immediate solutions to classroom problems met.

Table 7 shows that a majority of teachers (59.75%) felt that it was easy or very easy to scheme Environmental Science using the BEST format. On individual items, relating topics to seasons (at 85%) and identifying lesson activities (77.5%) perceived to be the easiest. Break-

Table 6: Heads perceptions on teachers' use of BEST methodologies

Methodology	Frequency		Occasionally		Not cure		Rarely		Never	
	N	%	N	%	N	%	N	%	N	%
Practical activities	3	0.88	11	2.14	3	0.88	11	2.04	0	0.0
Group work	10	2.94	8	2.35	0	0.0	4	1.18	1	0.0
Drama	1	0.29	8	2.35	0	0.0	11	1.18	0	0.0
Using environment as laboratory	5	1.47	8	2.35	0	0.0	6	1.76	1	0.29
Field trips	1	0.29	7	2.06	0	0.0	11	3.24	0	0.0
Music	2	0.59	7	4.04	1	0.29	8	3.24	2	0.59
Games	2	0.59	7	2.04	2	0.59	7	1.18	0	0.0
Simulation	1	0.29	7	2.04	1	0.29	7	2.65	0	0.0
Individual work	7	2.04	6	1.76	0	0.0	11	0.29	0	0.0
Experiments	3	0.88	6	1.76	0	0.0	11	3.24	3	
Work from text books	11	2.94	5	1.47	0	0.0	1	0.29	0	0.0
Poetry	0	0.0	5	1.47	1	0.29	5	2.35	1	0.29
Pupils asking questions	2	0.59	4	1.18	0	0.0	7	2.04	0	0.0
Teacher demonstration	2	0.59	4	1.18	0	0.0	12	3.35	0	0.0
Story telling	4	1.18	4	1.18	2	0.59	7	3.59	3	0.88
Question and answer	16	4.71	3	0.88	0	0.0	5	1.49	0	0.0
Lecture	12	1.14	3	0.88	0	0.0	5	2.35	0	0.0
Total responses	92		103		4		122		19	
% of responses		27.0		30.29		1.18		35.8		5.89

Table 7: Ability to scheme environmental science (N = 40)

<i>Aspects</i>	<i>Easy</i>		<i>Not sure</i>		<i>Difficult</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Relating topics to seasons	31	8.50	2	0.50	4	1.00
Identifying media	34	8.00	0	0.00	8	2.00
Identifying lesson activities	31	7.75	0	0.00	9	2.25
Drawing up lessons from syllabus	30	7.50	0	0.00	10	2.50
Evaluating lessons	30	7.50	0	0.00	10	2.50
Identifying skills	29	7.25	1	0.25	10	2.50
Integrating E.S with other subjects	28	7.00	0	0.00	12	3.00
Drawing up termly aims	27	6.75	0	0.00	13	3.25
Breaking down key concepts into sub concepts	26	6.50	0	0.00	14	3.50
Phrasing objectives	26	6.50	1	0.25	13	3.25
Total responses	239		4		103	
% of responses		59.75		1.00		25.75

ing down key concepts was the aspect perceived as the most difficult by 35% of the teachers.

Table 7 also revealed that a large majority of teachers (73.2%) perceived ES as easy to teach in response to the sub-problem number 7. Indeed Sumba's (2000) evaluation of ES showed that more than 75% of teachers took up practical activities suggested in ES syllabus and textbooks. In most aspect relating to teaching as shown in Table 7, teachers found these to be easy. However 35% of the teachers had difficulties with concept analysis. This is a critical component of curriculum implementation since lesson units are derived from this process and hence its impact on the rest Science teaching and learning is quite substantial.

PERCEPTIONS OF TEACHERS ON THEIR ABILITY TO SCHEME OTHER SUBJECTS USING THE BEST FORMAT

Results from Table 8 shows a big portion of teachers (69.7%) perceiving the scheming of oth-

er subjects using the BEST format was easy or easy while 28.5% of the teachers felt the scheming of these subjects was difficult or very difficult. In most of the aspects most teachers found the scheming as easy or very easy. However on breaking down key concepts into sub concept 57.5% of the teachers perceived this aspect to be very difficult or difficult. In most of the aspects, a majority of teachers found the scheming as easy or very. However on breaking down key concepts into sub- concepts, 57.5% of the teachers see this aspect to be very difficult or difficult.

Results for the eighth sub-problem indicated that a majority of teachers (69.7%) were able to scheme other subjects using the BEST format. It must be remembered that a secondary objective of the BEST programme is to improve the teaching and learning of other subjects besides ES. Hence these results are critical indicators on the achievement of such an objective. These results however, were quite surprising for the writer to say the least. Teachers did admit that other syllabuses would need to be changed if the BEST

Table 8: Ability to scheme other subjects using the BEST format (N = 40)

<i>Aspects</i>	<i>Easy</i>		<i>Not sure</i>		<i>Difficult</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Identifying media	34	8.50	0	0.00	6	1.50
Identifying lesson activities	33	8.25	1	0.25	6	1.50
Relating topics to seasons	31	7.75	1	0.25	8	2.00
Drawing up lessons from syllabus	29	7.25	2	0.50	9	2.25
Identifying skills	28	7.00	2	0.50	10	2.5
Phrasing objectives	28	7.00	0	0.00	12	3.00
Integrating E.S with other subjects	28	7.00	0	0.00	12	3.00
Evaluating lessons	28	7.00	0	0.00	12	3.00
Drawing up termly aims	28	6.00	0	0.00	16	4
Breaking down key concepts into sub concepts	16	4.00	1	0.25	23	5.75
Total responses	279		7		114	
% of responses		69.75		1.75		28.5

format as in ES was to be effective. Shumba's (2000) BEST evaluation also corroborates this experience by stating that the transfer of interactive methodologies to other subjects has really been minimal. Be that as it may, Table 8 shows that the breakdown of key concepts into sub-concepts was a problem as in ES considering that 57.5% of the teachers declared it to be so. The writer believes that BEST regional coordinators need to revisit the concept of district wide workshops as done initially but this time an aim to revamp school based INSET deliberately targeting difficult areas such as the one just referred to.

Results from Table 9 indicate that most heads (68.9%) perceived their teachers as being able or very to teach E.S topics while 27.8% of the heads felt their teachers were rarely able or unable at all. However heads perceived that teachers were rarely able or unable to teach Energy and Fuels (55% of heads), Weather (50%), Materials and Technology (45%) and Landforms and Maps (40%).

An overall picture from Tables 8 and 9 showed that both heads (68.9%) perceived their teachers (75.3%) felt teachers were able to teach environmental science (E.S). topic comfortably. However, most teachers and heads were agreed that topics such as Weather, Landforms and Maps, Energy and Fuels as well as Material and Technology were difficult or very difficult for teachers. In response to the tenth sub-problem results shown in Table 8 showed a large majority of teachers (75.3%) were quite comfortable in teaching ES topics. These results corroborate findings by Shumba (2000) in which the evaluation found out that 80% of schemes were based

on the BEST – suggested structures in ES. However results from Table 8 did show that topics like Materials and Technology as well as Landforms and Maps proved difficult to handle. What this entails is that school based INSET should be selective when staff development programmes are planned and address these weak areas. It was quite interesting to note that head's perception of their teachers ability to teach ES topic endorsed teachers' sentiments too as shown by Table 9. The problem topics were also perceived likewise by heads.

Overall it was quite clear that a big majority of both heads (85%) and teachers (75.5%) were not actively involved in the BEST national evaluations as results from Table 10 depicted. Table 10 also showed results for the thirteenth sub-problem where 72.5% of the teachers and 85% of the heads indicated they had not been actively involved in the BEST evaluations. An overwhelming majority of heads and teachers also showed that reports on evaluation were not made available and were neither discussed at school level. These findings appear significant if one considers that Shumba (2000) explained that the case study was used involving ten schools per region and so used non-probability sampling. This design does not involve wide coverage but it is interesting in depth of issues to be studied. The writers, however, in consideration of the results from Table 10 believe it is pertinent for having district evaluation teams that can provide a wider cross sectional view of the implementation process. Russel and Willinsky (1997) pointed out that in Australian schools evaluation responsibilities have been delegated from the central level to school level and so enhancing eval-

Table 9: Teachers' ability to teach environmental science topics (N = 20)

Topic	Able		Not sure		Not able	
	N	%	N	%	N	%
a) Water	19	10.56	0	0.00	1	0.56
b) Soil grass and grazing	19	10.56	0	0.00	1	0.56
c) Trees and forestry	19	10.56	0	0.00	1	0.56
d) Crop plant and animals	16	8.89	0	0.00	4	2.22
e) Health and pollution	14	7.79	1	0.56	5	2.78
f) Landforms and maps	11	6.11	1	0.56	8	4.44
g) Material and technology	10	5.56	1	0.56	9	5.00
h) Weather	9	5.00	1	0.56	10	5.56
i) Energy and fuels	7	3.89	2	1.11	11	6.11
Total responses	124		6		50	
% of responses		68.89		3.33		R27.78

Table 10: Perceptions of head on their involvement in BEST national evaluations (N = 20)

<i>Aspect</i>	<i>Involved</i>		<i>Slightly involved</i>		<i>Not sure</i>		<i>Not involved</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Taking part in BEST evaluation by programme co-ordinators	1	1.67	0	0.00	1	1.67	18	30.00
Obtaining reports of BEST evaluations	0	0.00	0	0.00	1	1.67	18	30.00
Discussing reports at school level	0	0.00	0	0.00	2	3.33	15	25.00
Total responses	1		0		4		51	
% of responses		1.67		0.00		6.67		85.00

uation use in the process. From the results established in this study, evaluation use in BEST appears to be for central planners only. The writers believe the results of the evaluation by teachers and heads since they are significant stakeholders. As Borg and Gall (1996) agree, ignoring stakeholders trivializes usage of evaluation findings.

Results for open-ended questions for sub problem 14 were quite revealing. It would appear that BEST, as a curricular reform strategy, was largely perceived as useful if one considers that 75% of teachers and 85% of heads deemed it necessary. In addition 53% of teachers and 60% of heads as shown in table 6 felt they had been actively involved in the programme. It would seem heads are more positive about the programme than teachers. Overall, those respondents who felt the programme was necessary pointed out that the programme was innovative in offering new approaches to Science learning that recognized the paucity of resources and how to deal with this problem through use hailed the programme for charting a new course for rewriting of the Primary School syllabus. Indeed new syllabi being churned out such as the Home Economics and Physical Education syllabuses are following in the footsteps of ES syllabus. The report also notes with glowing approval on how it has in-serviced teachers, heads, DEOs, Eos, lecturers and student teachers. These sentiments were echoed by heads and teachers who felt they had been actively involved in the programme. These respondents acknowledged BEST INSET as a model that provides meaningful and effective training all levels from the school to cluster, district, and provincial and up to national levels.

Comments from respondents who perceived BEST as an unnecessary programme dwelt a lot on the fact that it was too demanding and laborious by placing burdens on the teachers through

detailed schemes of work. The issue of work overload has been argued strongly in the literature review. The writers' own experience has shown that those personnel intending to fulfil all the requirements of BEST have to be fully committed. These sentiments, it would appear, are critical for curriculum planners in that new programmes can only succeed if they are not perceived as adding more burden to an already overworked manpower. In this light, one can only appreciate Zvobgo's (1998:204) poignant remarks that "...pressure from society for education to achieve more than is possible ... will only erode its functions and effectiveness as a tool social and economic change."

For those who felt they were not involved sufficiently in the programme, the overriding issue from comments seemed to be that consultations should be made on decisions that affect heads and teachers. The writer is fully convinced that the programme has now settled down and its major tenets appear to be appreciated by the generally of heads and teachers and so it should now allow for local flavours to filter in so that implementating personnel can feel some ownership of the programme's progress. In a nutshell, the form and content of the educational reform process in Zimbabwe should be indelibly marked by effective two-way communication between policy makers and practitioners.

CONCLUSION

It was found in the study that an overwhelming majority of both heads and teachers perceived the BEST workshops and seminars as very useful. The study also revealed that the topics and techniques used in the workshops were all perceived to be useful. While both heads and teachers were agreed that the time for implanting BEST activities was adequate, however the per-

centage of teachers who did that was a very slim majority. The portion of teachers who perceived the time for implementing BEST to be inadequate was comparatively large. It would appear that while the results for heads was quite emphatic, that for teachers was inconclusive. A slim majority of both heads and teachers felt that the working conditions for implementing BEST were not satisfactory. If one considers that both heads and teachers perceived outright that nine out of the sixteen conditions were not satisfactory, it appears clear that both heads and teachers are not happy with their working conditions.

Results showed that the number of teachers and heads perceived that BEST methods were frequently used just slightly more than those who felt the methods were not used frequently. What appeared clear from the results was that both heads and teachers felt that the usual traditional methods were used for more frequently than the interactive methodologies preferred in the BEST programme. The study indicated that an overwhelming majority of heads and teachers were not actively involved in a national evaluation of the BEST programme. Both heads and teachers felt that reports of evaluation were never made available and neither were the discussions of these held at school level. Findings from the individual to the free response question showed that the majority of heads and teachers felt that overall the BEST programme was useful in that it had offered new approaches to Science learning as well as other subject. Results indicated that school heads were far more positive in endorsing the programme than teachers. Findings from those who felt the programme was not useful indicated that the programme was laborious and did not make full consultations before implementation.

RECOMMENDATIONS

For enhancing further the effective usage of BEST methodology, it is suggested that school-based INSET be strengthened by providing both heads and teachers with skills to run effective staff development programmes at school level. Hence BEST programme coordinators need to revisit district and mount workshops to provide school personnel with skills to handle problems brought by such new changes and able to mount school programmes to address these problems. This is intended to buttress the gains realized

and in the process prevent the setting in of "a passing fad" phenomenon as a perception from implementers.

It is also recommended that the annual reports on evaluation and monitoring of the BEST programme be made available to schools. It is believed that these reports should form part of the agenda or INSET activities at school, cluster and district levels. It is further suggested that evaluation committees be set up at cluster levels. These personnel should be trained in evaluation techniques. It is believed that these committees can provide continuous feedback that will result in the improvement of dialogue between curriculum planners and curriculum implementers. These evaluation committees can help supplement evaluation from the national panel and so provide readily usable data.

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