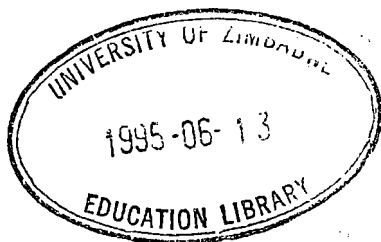


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Interorganizational Linkages And The Success Of Cooperative Educational Programmes In Zimbabwe

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ABSTRACT

The main purposes of this study were to examine the patterns of linkage of organizations involved in cooperative educational programmes, and to determine the relationship between interorganizational linkage patterns and the effectiveness of cooperative educational programmes. The relative resource investment and the symmetry of resource exchange among participating organizations emerged as the two most important linkage dimensions that accounted for much of the variation in the nature of interorganizational linkage patterns of the organizations studied. Secondly, the effectiveness of the cooperative programme appeared positively related to the pattern of interorganizational linkages. Programme effectiveness profile of the six cooperative educational programmes measured in terms of both student perception of programme effectiveness and student performance on the 1989 final examinations were consistent with the profiles of the linkage dimensions of the six programmes. Finally, several tentative generalizations were formulated concerning interorganizational linkage patterns and programme effectiveness dimensions.

Introduction

The traditional approach to the study of organizations and how they work has generally focused on variables internal to the organization. More recently, and with the help of open systems approach, the study of human service organizations including educational organizations has broadened and now gives prominence to all organizations that transact with and form a part of the task environment of the focal organization. The need to direct attention at and understand the nature of interorganizational relationships has received interest from several organizational theorists including Hall (1982), Hage (1980), Perrow (1979), Van de Ven (1976), Aldrich (1972) and Guetzkow (1966).

According to Van de Ven (1976), interorganizational linkage occurs where two or more organizations come together to transact resources in pursuit of common goals. Whether the transacting organizations are engaged in similar or dissimilar activities, or are in competition or not, the principal reason for them to link up is for the accomplishment of specific goals that are otherwise unachievable or difficult to attain if the organizations were acting independently. Thus, there are three main reasons why organizations link up. They may link up because they want to (a) solve common problems or attain common goals, (b) pool resources together to solve problems too complex to be solved by one organization, and (c) adjudicate in areas of conflict.

In post secondary educational institutions such as teachers' colleges, cooperation rather than competition generally characterizes the linkage that routinely develop. Teacher education programmes comprise of two distinct components: the theoretical or knowledge and research component which is offered at the college, and the practical component which is carried out in host schools. The success of teacher education programmes requires the services of cooperating schools which provide practical teaching skills that are otherwise not available in teachers' colleges. However, in Zimbabwe, as in most other countries, the success of teacher education programmes also depends on the input of other cooperating organizations in addition to schools.

In Zimbabwe, teacher education colleges are accredited to the University of Zimbabwe which monitors their standards and curriculum requirements and is also responsible for the certification process for those programmes. All accredited teachers' college programmes have same minimum entry requirements, and the curriculum followed must comply with certain specific standards of the University of Zimbabwe. In addition, all lecturers employed in teachers' colleges possess specified minimum qualifications while the general quality of the programmes is standardized and regularly monitored through the moderation of examinations, curriculum reviews, site visits and so on. Accordingly, University participation also guarantees the quality and overall success of these programmes. The cooperative efforts of the University, teachers' colleges, schools and the Ministries of Education are directed at making teacher education programmes as effective as possible. In this connection, the selection of accredited programmes was made in order to control for some of the variables (e.g. lecturers' qualifications, programme entry requirements, quality of curriculum, etc.) that affect the effectiveness of these programmes.

This paper reports on the findings of a study which investigated the nature of interorganizational linkages in six primary teacher education colleges in Zimbabwe. The main purposes of the study were, first, to examine the nature of interorganizational relationships concerning six primary teacher education programmes. Secondly, the study also investigated whether and how the effectiveness of these programmes was related to the nature of the linkages. This study was interested in investigating interorganizational linkages themselves, and not participating organizations, and how these affect the success of cooperative programmes.

Dimensions Of Interorganizational Relations

Several approaches, which generally differ in their units of analysis, have been developed and used in studying the interacting of transacting organizations. In this connection, Hall (1982: 246) rightly observed that interorganizational analysis is a "complex and potentially confusing enterprise" because of lack of greater clarity concerning the level of analysis which, in turn, has resulted in researchers adopting different foci for their studies. Hall then suggested three units of analysis, namely; organizations, the environment and relationships. However, these units of analysis present problems regarding optimal ordering among the units of investigation because several ordering arrangements of these three units can be generated, each with a different possible assumption about causal ordering.

Van de Ven (1976:313) who views the nature of the relationship and behaviours of interacting organizations as a social action system argued that the study of interorganizational relationships should "examine dimensions of the overall structure and functioning of the social action system". Hence the approach proposed by Marrett (1971) following a thorough review of various methodological approaches used in the study of interorganizational relationships focuses on linkage dimensions. After identifying and analyzing five principal approaches, Marrett concluded that only the relational approach which uses interorganizational linkages as the unit of analysis is the most viable approach to the study of interacting organizations. The approach proposed by Marrett is strongly supported by Van de Ven and Ferry (1980) who see that the major advantages of the dimensional method of defining and studying interacting organizations as its inclusiveness and generality which is not found in other competing approaches. They further explained that because of the lack of synthesis

and non-cumulativeness of research on interorganizational linkages, the relational approach allows for drawing inferences from one study to the next.

Marrett (1971) suggested a conceptual framework for interorganizational analysis using the relational approach. Her conceptual framework comprises of four principal dimensions of formalization, intensity, reciprocity and standardization. But for the purposes of this study, only the first three dimensions were considered while standardization was treated as a measure of formalization in line with Van de Ven and Ferry's (1980) analysis.

Formalization

Marrett (1971) defines formalization as the extent to which interdependence among cooperating organizations receives official sanction from the parties involved, while Van de Ven (1976) and Van de Ven and Ferry (1980) view formalization as the extent to which rules, policies and procedures control interorganizational relations. According to Guetzkow (1966), the relations of interacting organizations are established through a variety of means ranging from loose and informal to highly formalized. Hall, Clark, Giordano, Johnson and Van Roekel (1977), on the other hand, reported that the bases of interagency interactions may be mandated (usually from outside the interacting parties) by laws or regulations, standardized by agreements or voluntary and informal. However, mandated relations may lead to conflict since organizations are forced to interact even against their wishes. Concerning mandated relations, Hall (1982) further explains that such relations do not only typically involve resource flow, but require some form of enforcement and monitoring mechanism to ensure compliance. Nevertheless, the basis of interorganizational relations is very important for interorganizational analysis.

The degree to which the behaviours and activities of interacting organizations are given official sanctions or recognition is an important measure of the extent of interagency contacts. Such official recognition may vary from tacit informal relations to explicit written agreements or legal mandates. Using this measure formalization becomes the degree to which rules, procedures and policies are used to regulate interorganizational relations and contacts. Formalization, therefore, increases as the agreement is verbalized, written down, contractual, and

mandatory. As formalization increases, organizational autonomy, innovation and change tend to decrease. On the other hand, Aiken and Hage (1970) observed that programmes that are based on formalized relations are relatively enduring and require more organizational interdependence, while Pfeffer (1972) argued that long term agreements serve to stabilize interagency relations by reducing environmental uncertainty. Finally, Hall et al. (1977) reported that the existence of a formal agreement between interacting organizations was more strongly related to the frequency and importance of interaction compared with other bases of interactions.

The other measure of formalization is the coordination mechanism in the interactions. Marrett (1971) sees the extent to which a coordinating mechanism operated to sustain agency interactions as a measure of structural formalization. However, Litwak and Hylton (1962) warned that highly formalized interagency contacts can result in conflict between the interacting organizations because such contacts may be perceived as threatening organizational autonomy. This is supported by Marrett who stated that highly formalized interactions tend to lead to operational problems.

The development of a coordinating mechanism is, therefore, seen as a way of reducing both the conflict between interacting organizations and the operational problems alluded to by Marrett (1971). Accordingly, a coordinating structure is likely to be found where an explicit agreement is in place than when interagency contacts are informal. In this connection, Guetzkow (1966;32) explained that the degree of coordination may vary from "minimal, tacit arrangements of coexistence to maximal highly explicit contractual arrangements of almost complete integration". However, Van de Ven and Ferry (1980) identified agendas, minutes, schedules, timetables, etc. used by the intervening/mediating committee as some of the important activities used in measuring the formalization dimension.

Intensity

Intensity is defined by Van de Ven and Ferry (1980) as a measure of the strength of the interactions of participating organizations while Marrett (1971) further explained that intensity reflects on the degree of resource investment organizations put in an interorganizational relationship. According to Marrett, the higher the amount of resource commitment,

the greater the intensity of the relationship; and the greater the intensity, the greater the importance of the relationships for participating organizations. In this connection, Hall (1982) further explained that

The relationships that any organization has vary in their intensity, from the casual to the all consuming. The former makes little difference, while the latter has the potential to actually consume the organization if all of its efforts involve interorganizational relationships and if these relationships use up all of its resources. (p 256)

Two measures of intensity were identified by Marrett (1971) as the frequency of interaction of personnel as indicated by the number of memos, agendas, minutes, telephone conversations, etc. and the relative amount of resource investment. It is important to measure both indicators since the two are not mutually exclusive. According to Marrett, it is possible to find some exchange that involve few people (i.e. low on resource investment), and yet, taking up all their time (i.e. high on frequency of interactions).

Reciprocity

The third interorganizational dimension, reciprocity, refers to the degree of symmetry of resource flow (e.g. physical facilities, information, expertise, personnel, money, etc.) among transacting organizations. Interactions are symmetrical when resources flow to interacting organizations equally, and are asymmetrical when the flow is not balanced. Because not all interactions are symmetrical or mutually reciprocal, Hall (1982) and Guetzkow (1966) maintain that some parties to the exchange way be more influential in determining the terms and conditions of the interactions than others. Resource flow, therefore, closely reflect the power symmetry of transacting organizations.

In an interorganizational relationship the direction in which resources flow may be unilateral, reciprocal or joint. When resource exchange is reciprocal, the flow of resource is mutual, when the exchange is unilateral, one organization acts as resource recipient; while the flow in a joint exchange is directed at a third party. Parties in an interagency exchange will exert great influence on others when the resource flow is asymmetrical as in unilateral and joint resource flows. This is because power resides in an organization that has greater control over contingencies that are vital

to resource acquisition by a member of the interorganizational relationship (Benson, 1975). However, organizations generally tend to resist resource dependence because their autonomy is compromised.

Marrett (1971) identified two indicators of reciprocity as resource reciprocity and definitional reciprocity. Resource reciprocity is the degree to which resources are mutually transacted between interacting organizations, while definitional reciprocity refers to the degree to which the terms of the exchange are mutually agreed upon.

The conceptual framework for interorganizational analysis suggested by Marrett (1971) was adopted, with some minor modifications, as the basis for investigating the nature of the interorganizational linkages in six primary teacher education programmes in Zimbabwe. But since the primary objective of the organizations in the six teacher education programmes is the attainment of common goals that otherwise could not be attained by these organizations independently, the attainment of the goals would be affected by the nature of the relationships that link up these cooperating organizations. Consequently, an investigation of interorganizational linkages of the organizations associated with the delivery of the six teacher education programmes allowed for the determination of possible relationships between the nature of the linkage and the effectiveness of the programmes. Hence the major purpose of the study was to determine the relationship between interorganizational linkage patterns and the effectiveness of the cooperative teacher education programmes.

Methodology

Six primary teacher education programmes were selected for the main purposes of (a) investigating the nature of interorganizational linkages of cooperating organizations using three linkage dimensions (formalization, intensity and reciprocity) as the analytical framework, and (b) exploring whether a relationship exists between these linkages and programme effectiveness. Several indices of the three linkage dimensions were identified from the literature and incorporated into a questionnaire administered to faculty members. This questionnaire was administered to six college principals, twelve deputy principals and six principal lecturers in charge of teaching practice. Interviews were also carried out with seven

faculty members from the Department of Teacher Education of the University of Zimbabwe in addition to six college principals and heads of eighteen cooperating schools.

Intensity

The size of interagency resource commitment and frequency of interagency interactions were used as the two indicators of the intensity dimension. The relative resource of cooperating organizations was measured in terms of human and material resource commitment made on a regular and planned basis by the organizations involved in each of the six teacher education programmes. Frequency of interagency interaction was measured in terms of the number of letters exchanged between participating organizations, telephone calls made, face-to-face discussions, and formal interagency committee meetings held within a given period.

Formalization

The indices used to measure the *formalization* linkage dimension include;

- 1) Formal agreements or related documents which define the nature of the relationship between participants and participating organizations,
- 2) Interagency programme advisory committee,
- 3) Standing sub-committee such as examinations committees,
- 4) Programme coordinator, and
- 5) Formalized coordination procedures.

Reciprocity

Two indices were used to measure the linkage dimension *reciprocity*. These were resource reciprocity which is the degree to which resources are transacted between the organizations participating in the teacher

education programmes, and definitional reciprocity which is the extent to which the terms of the interactions were mutually agreed upon by the participating organizations.

Programme Effectiveness

Since one of the main purposes of the study was to determine whether there was a relationship between the effectiveness of the six teacher education programmes and the nature of the linkage of the cooperating organizations, the *programme effectiveness* variable was measured in terms of student achievement scores on the 1989 final year examinations and student perceptions concerning specific broad programme components. Final year examination results were considered a more valid and objective measure of programme effectiveness because it is a direct measure of both cognitive and professional dimensions of programme products representing the relative effectiveness of the programmes undergone by teacher trainees during their four years of training. These results were obtained from the University of Zimbabwe's Department of Teacher Education which accredits all programmes.

The perceptions of students concerning programme effectiveness were measured using a twelve item questionnaire calibrated on a six-point scale ranging from 1 (very poor), 2 (poor), 3 (fair), 4 (good), 5 (very good), and 6 (excellent). The questionnaire solicited information concerning programme effectiveness on broad programme components such as quality of professional foundation courses, micro teaching, teaching practice, distance education materials, instruction, curriculum relevance, and overall effectiveness of the programmes. The instrument was pilot tested and reliability and validity coefficients of 0.98 and 0.87, respectively, were obtained. The questionnaire was administered to a sample of 252 final year students, 42 randomly selected from each programme.

Data Collection

Data was collected using questionnaires, interviews and document analysis. Document analysis was carried out during on - site visits when interview data was being gathered. Two questionnaires were to collect data on linkage dimensions from faculty members and perceptual data on programme effectiveness from students. Personal and demographic data

on students and faculty members was obtained and cross tabulated and a chi (X^2) square analysis performed to determine whether there were significant differences among the six programmes on the following selected personal and demographic variables: age, gender, qualifications and experience. No significant differences existed among the programmes in terms of these variables for both students and faculty members.

Findings and Discussion

Linkage Dimensions

The profiles of interagency programme linkage variables which appear in table 1 show several interesting characteristics. According to table 1, all six programmes exhibited high, but asymmetrical, resource investments and commitments among the cooperating organizations. However, the frequency of interagency interactions was moderate in terms of all four frequency of interaction indices measured. This shows that there was general consensus among respondents that the rate at which letters were exchanged between participating organizations, face - to - face discussions, telephone calls, and interagency committee meetings occurred was generally moderate.

Findings on the formalization dimension show that the interagency relations were highly formalized in all six programmes in terms of formalized agreements, existence of coordination structures such as standing committees, programme coordinators as well as procedural standardization. Table 1 further shows that definitional reciprocity was unilateral for three of the four indices investigated while resource reciprocity was moderate for all the six programmes.

The findings of this study provide support for Marrett's (1971:97) proposition that highly formalized, standardized, reciprocal and intense interorganizational relations are unlikely to exist among cooperating organizations because this "involves the kinds of investments and commitments organizations may not be inclined to make". Secondly, it also emerged from the findings of this study that not only were some of the variables more highly interrelated than others as previously reported by Marrett, but that some of these variables appeared more important in determining the final nature of interagency relations than others. For example, the asymmetrical nature of the interagency relative resource investment appeared to affect definitional reciprocity since the

Table 1
Profiles of Programme Linkage Dimensions

Linkage Dimension	1	2	3	4	5	6
Intensity						
Level of resource commitment	High Asymmetrical	High Asymmetrical	High Asymmetrical	High Asymmetrical	High Asymmetrical	High Asymmetrical
Frequency of interaction	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
<u>Formalization</u>						
Formal agreements	High	High	High	High	High	High
Coordination	High	High	High	High	High	High
Procedural standardization	High	High	High	High	High	High
<u>Reciprocity</u>						
Definational reciprocity	Unilateral	Unilateral	Unilateral	Unilateral	Unilateral	Unilateral
Resource reciprocity	Low	Low	Low	Low	Low	Low

organization that provided most resources for all six programmes dominated most of the activities related to definitional reciprocity, much in keeping with the old adage: "He who pays the piper calls the tune". Furthermore, the asymmetrical relationship observed in all programmes was highly related to resource reciprocity which was characterized by low ratings, indicating that there was no mutual flow of resources among the transacting organizations. Thus, if resource reciprocity had been high, then it is highly unlikely that the level of relative resource commitment among the cooperating agencies would be asymmetrical, neither would definitional reciprocity remain unilateral since there would be more resource interdependence among the agencies. Accordingly, the following proposition was formulated:

Cooperative programmes that are characterized by high asymmetrical relative resource investment are likely to be characterized by both unilateral definitional reciprocity and low resource reciprocity.

The degree of resource investment among the participating organizations in all six programmes was characterized by a great outflow of money from one organization which appeared to be the major source of funds for the other organizations. This resulted in asymmetrical relations. This suggests that other organizations may be more dependent on this particular organization especially if, as pointed out by Hall (1982), the organization in this position was the only source of funds. However, any organization in such a position would be less likely to commit large resources especially where there is nothing explicitly stated and acknowledged concerning operational procedures. Accordingly, formal agreements, explicit coordination structures and procedural standardization would be demanded. In this connection, Van de Ven (1976) and Van de Ven and Ferry (1980:316) explained that the effect of increasing "formalization by developing a set of policies and standardized reporting procedures for integrating and maintaining the higher level of resource flow" is to reduce the frequency of interaction by cutting down on personal contacts and committee meetings which absorb a lot of time and effort. The findings of this study (Table 1) appear to support this explanation since the frequency of interaction emerged as very moderate. In this respect, the formulation of a possible relationship linking resource symmetry, level of resource commitment, frequency of interaction, and formalization may help provide more understanding of the nature of interorganizational relationships. Hence, the following generalization was made from the discussion of the above findings:

A cooperative programme which is characterized by a high degree of resource investment is likely to be characterized by high formalization and procedural standardization, and moderate frequency of interaction.

Finally, a third generalization based on inductive analysis of the above findings was formulated. However, all three generalizations should be subjected to further research to test their relevance and validity. According to the third generalization:

A cooperative programme which is characterized by a symmetrical relative resource investment with a low level of resource exchange is likely to be characterized by low formalization and procedural standardization.

The above findings and propositions highlight the importance of the degree of resource investment and the symmetry of resource exchange as the two most important linkage dimensions that are key to predicting the nature of interorganizational relations in cooperative educational programmes. Finally, the discussions of the findings of this study also provide support for Marrett's (1971) contention that some linkage variables are more highly interrelated than others.

Programme Effectiveness

The selection of the accredited programmes for investigation in this study is justified in that several variables that could affect the effectiveness of the programmes were controlled for through uniform requirements of the six programmes demanded by the accreditation board. However, there are also other variables that had some impact on programme effectiveness but would not be controlled for through the accreditation process. These include personal traits of both faculty and students as well as leadership qualities of college administrators. Hence, these and related variables posed a major limitation in attempts to determine the relationship between interorganizational linkage patterns and the effectiveness of the six cooperative programmes. Secondly, since programme effectiveness is difficult to measure directly, a second limitation was the determination of the most suitable proxy of programme effectiveness. Two proxies were subsequently selected and used in this investigation, namely; student perceptions of programme effectiveness and the 1989 final year examination results.

Perceptions of Students Concerning Programme Effectiveness

Students' perceptions concerning the effectiveness of the six programmes appear in table 2 below. An examination of the programme effectiveness means appearing in table 2 shows that no single programme was perceived as more effective than the other five programmes on all twelve programme dimensions on the questionnaire. However, when data was rank ordered in terms of the number of times a given programme effectiveness mean was greater than at least one other programme, several differences were identified among the six programmes. It is evident from table 2 that programme 5 had the largest overall mean (4.36) and hence more effective than others, followed by programme 6 (4.24) and then programmes 1,2,3 and 4 with overall effectiveness means of 4.17, 4.10, 4.04 and 3.81, respectively.

An item-by-item analysis of the twelve programme dimensions was carried out in order to determine whether there were any significant differences in perceived effectiveness among the six programmes. This was achieved by computing a one way analysis of variance (ANOVA). In order to make pairwise comparison among the six programme effectiveness means for each of the twelve student questionnaire items, Tukey's (1953) HSD (honestly significant difference) test that utilizes only those ANOVA with significant F-ratios was used. According to Tukey's HSD test, the difference between any two means at a given alpha level ($\alpha = 0.05$ was used in this analysis) is significant only if the difference equals or is greater than the corresponding HSD value. The results which appear in table 2 show that only five of the twelve programme dimensions produced significant differences among the programmes. The five programme dimensions where significant differences in perceived programme effectiveness were noted show that programme 5 was perceived as the most significantly different and hence most effective on three items when compared to other programmes. The programme that was perceived as least effective was programme 4 which emerged as significantly less effective than the other five programmes in all the five items where significant differences were noted.

A closer examination of table 2 also shows that the areas of greater significant differences in perceived programme effectiveness were related to the practical component which is carried out in host schools away from the colleges. Both the quality and adequacy of the amount of distance

		x	4.32	4.19	4.08	4.09	4.61	4.40	2.03	0.58	NS
Overall how would you rate the quality of instruction you received during your entire teacher training programme?	s		0.94	0.95	0.87	1.06	0.83	0.93			
How well did the teacher training programme prepare you for competently handling your own class as a practising professional?	x		4.61	4.53	4.56	4.36	4.66	4.60	0.69	0.56	NS
	s		0.83	0.97	0.82	0.96	0.79	0.90			
How would you rate the quality of supervision you received during the two teaching practice sessions?	x		3.88	4.03	3.82	3.43	4.50	4.13	5.34	0.65	5-4, 5-3
	s		1.10	1.18	0.91	1.17	0.89	0.94			
In general, how would you rate the overall effectiveness of the teacher training programme you underwent?	x		4.68	4.36	4.59	4.34	4.67	4.78	1.63	0.58	NS
	s		0.88	0.93	0.91	1.04	0.90	0.86			

p=0.05

$p=0.05$

education material and teaching practice supervision provided by college lecturers received the largest number of significant differences among the six programmes. Programme 5 was perceived as the most effective in the practical component, while programme 4 emerged as the least effective. However, there was generally no significant difference perceived concerning the theoretical component of the six programmes as well as the overall effectiveness of the programmes. In addition, the effectiveness of teaching practice supervision carried out by host school personnel was not significantly different among the six primary teacher education programmes, according to the perceptions of student teachers in the research sample.

1989 Final Examination Results

The results of the 1989 final year examinations for the four major programme components for the six programmes appear in Table 3 below. These show that Programme 5 was the most effective followed by

Table 3
Results of the 1989 Final Examinations

Programmes	Applied Education Examination Results			Teaching Subject Examination Results		Theory of Education Examination Results		Teaching Practice Results	
	n	x	s	x	s	x	s	x	s
5.	206	63	8.46	59	12.20	57	10.50	63	72.40
2.	380	60	8.95	59	8.75	57	6.69	57	6.69
3.	216	56	6.38	59	12.21	56	8.13	60	10.29
6.	308	58	7.42	59	9.88	55	8.43	57	8.84
1.	341	54	10.91	57	11.24	57	11.26	58	12.07
4.	459	56	5.86	56	11.60	54	8.41	43	11.32

programmes 2, 3, 6, 1 and 4. Programme 4 was the least effective overall as well as on three of the four programme components. However, there was no statistically significant difference in the effectiveness of the six programmes in terms of student performance on the 1989 final year examinations.

Discussion of Findings on Programme Effectiveness Dimension

An examination of tables 2 and 3 shows that programme 4 which was rated by students as least effective also emerged from the analysis of the 1989 examination results as the least effective in terms of student performance. Programme 5 which emerged as the most effective programme according to students' perceptions also produced the best overall 1989 student examination results as well as best results on all four programme components.

The findings on programme effectiveness obtained from the two measures of programme effectiveness (student perceptions and examination results) show considerable agreement regarding areas of programme effectiveness. For example, student perceptions show that the teaching practice component of the programmes studied emerged as the area of greater variability in programme effectiveness among the six programmes. According to students' perceptions, the areas of greater significant differences in perceived programme effectiveness were concerned with teaching practice. This is corroborated by the findings of the 1989 examination results where the profile of the means of the various programme components among the programmes shows greatest variability in the teaching practice components with a range of 20 points whereas the means of the other components had a range of between 3 and 9. Accordingly, programme effectiveness is most evident in the area of teaching practice than in the other three programme components.

It is evident from the profile of student achievement on the 1989 final year examinations that both overall student attainment as well as student achievement on a programme component basis did not vary significantly from one programme to the other. How then can this general similarity in programme effectiveness be explained in terms of programme linkage dimensions?

The nature of the interagency linkages (table 1) shows uniformity among the six programmes on all three linkage dimensions investigated. According to interview data, all six programmes were highly structured with the colleges playing major roles concerning most aspects of the programmes. All six programmes ran over four years, two of which were college based while the other two (1st and 4th years) were field based and hosted in cooperating schools where students received a monthly stipend for service rendered during teaching practice. Although the students did not return to the colleges during this period, the colleges still had full control of this component of the programme.

The interagency linkages were highly formalized with some of the relations mandated. All programmes were also characterized by high coordination and procedural standardization and high relative resource investment. Thus, if the nature of programme linkages is related to programme effectiveness as suggested earlier in this study, then the above observations on the nature of programme linkage patterns of the six programmes should produce correspondingly uniform programme effectiveness profiles in terms of both student perception and examination results. Therefore, the findings on the programme effectiveness dimension which show general uniformity in programme effectiveness among the six programmes studied are consistent with those on the nature of the linkage dimensions which also show general uniformity for all the six programmes studied. But if the nature of the interagency linkage dimension explains for much of the profile of the programme effectiveness dimension, what is the source of the minimal variation in programme effectiveness observed in both tables 2 and 3?

As indicated earlier, the accreditation process associated with the six programmes studied could not account for all the variables that affect programme effectiveness. For example, although student entry requirements, lecturer qualifications, curriculum and examination quality were controlled through accreditation requirements demanded by the accreditation process, other variables such as motivation and leadership style could not be controlled through the accreditation process. One such variable that appears to have a significant contribution to the observed variance in programme effectiveness among the six programmes was the size of student enrolment in the six colleges.

A closer examination of table 3 shows that programme effectiveness general varied with student enrolment especially on the teaching practice component where colleges with smaller enrolments did better than those

with large enrolments. Although this pattern did not emerge as clearly in the other three programme components, the overall examination results evidently reflect the enrolment sizes of the programmes studied. From the above observations the following tentative generalization may be made:

Cooperative programmes that are characterized by high formalization, high relative resource commitment, and procedural standardization are likely to account for most of the variance in programme effectiveness than those characterized by low formalization, low standardization, and low relative resources investment.

Conclusions

Although the variability of programme effectiveness in respect of programme linkage dimension was not easily established in this study, perhaps due to uniform profiles of the linkage dimensions of the six programmes, it was evident that programme effectiveness was closely related to the nature of the linkages of the programmes. Thus, uniform programme linkage profiles produced correspondingly uniform programme effectiveness profiles among the six programmes. However, programmes with smaller enrolments tended to produce better results on the programme effectiveness dimension than those with larger enrolments, especially on the teaching practice component. This may suggest that lecturers are able to make better follow-ups of their students during teaching practice if the numbers involved are smaller.

Although the study was mainly a case study of six primary teacher education programmes, of which the results are not easily generalizable, the findings of the study justify further investigations involving a variety of educational settings where organizations are involved in interorganizational interactions. Future studies should also include other variables such as enrolment size and leadership styles that may have impact on programme effectiveness regardless of the nature of the linkages between cooperating organizations. This approach will allow for the determination of the size of the contribution of interorganizational linkage patterns to programme effectiveness.

Finally, interorganizational linkage patterns of the six cooperative programmes investigated in this study produced uniform profiles for all programmes that, in turn, were closely related to similar profiles on the

effectiveness dimension, both in terms of subjective assessments of satisfaction with programme effectiveness and objective measures of programme performance. Hence these findings together with the tentative generalizations developed deserve further research. In fact, some of the conclusions and generalizations/propositions which have been made in this study might form hypotheses for further research. The study also has some practical implications especially concerning organizational design in order to ensure that both responsibility and accountability are explicitly defined among cooperating organizations. Another implication is the need for diagnosis for improving linkages as a means of enhancing programme effectiveness.

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