

Factors in the development of indicators for accountability in education of Malaysia

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Akuantabiliti dalam pendidikan adalah berkenaan dengan konsep bertanggungjawab ke atas amanah yang diberi oleh masyarakat. Amanah ini adalah tentang beberapa aspek pendidikan yang saling berkaitan di antara satu sama lain iaitu:

- a) matlamat-matlamat yang ditetapkan untuk sistem pelajaran oleh masyarakat.
- b) darjah pencapaian sebenar penuntut.
- c) pihak-pihak yang bertanggungjawab ke atas pertalian di antara (a) dan (b).

Konsep akuantabiliti yang dianjur dan dipopularkan oleh L.M. Lessinger adalah terlalu terhad. Ini disebabkan Lessinger hanya meletakkan beban tanggungjawab untuk mencapai matlamat-matlamat pendidikan di atas bahu sekolah dan guru sahaja. Sepertimana yang kita tahu, proses dan kegiatan dalam bidang pendidikan adalah sangat kompleks. Bukan sekolah dan guru sahaja yang dipertanggungjawabkan, sebaliknya pihak-pihak dan faktor-faktor yang lain boleh mempengaruhi hasil-hasil pendidikan.

Lessinger juga menegaskan hasil-hasil pendidikan yang lahir dan **behavioral** sahaja. Ini akan mengerotkan pandangan seimbang terhadap pendidikan terutamanya di peringkat pelaksanaan. Ada banyak hasil-hasil pendidikan yang tidak boleh digolong dan digambarkan mengikut nilai tara **behavioral**.

Rencana ini bertujuan meluaskan konsep akuantabiliti. Tumpuan seharuslah diberi kepada petunjuk-petunjuk yang boleh mencerminkan semua peringkat dan aspek pendidikan. Petunjuk-petunjuk ini sepatutnya ditujukan kepada aspek-aspek matlamat, pelaburan wang, kemudahan, kurikulum, proses pengajaran-pembelajaran, penuntut, guru, kualiti persekitaran sekolah dan rumah, peranan ibu bapa, pihak-pihak berkuasa, dan faktor-faktor dan golongan yang mempunyai peranan dan pengaruh penting dalam pendidikan.

Akuantabiliti bukan untuk menuduh sahaja tetapi adalah untuk memahami masalah yang diharapi oleh sistem pelajaran. Dengan fahaman yang lebih mendalam dan luas maka kemungkinan untuk mengatasi masalah dan menepati pendidikan yang berkualiti adalah lebih besar. Akuantabiliti adalah satu katalisator yang boleh mengerakkan masyarakat untuk membuat perubahan dan pembetulan ke arah kemajuan.

Pressures towards accountability in education in Malaysia

Education has always claimed top priority in Government policy. This is reflected in the proportion of the budget allocated to it annually. Since Merdeka in 1957, education has consistently staked out a claim of 20% to 25% of the annual budget. This importance attached to education by the Government is indicative of the aspirations and expectations of the people. Education has traditionally been an important factor in the upward social mobility of the lower socio-economic status groups. It is an even more important channel now for the improvement of their socio-economic position because a far greater number of people from the lower socio-economic status groups are availing themselves of the widespread educational opportunities. These people from the lower income groups, especially from the rural areas, have successfully benefited from the expansion of educational facilities to hitherto remote areas. A significant number has improved its position in society as a consequence of this.

Consonant with this emphasis on education are the hopes that the educational system can perform wonders and can cure most of society's problems. There always exist symptoms of impatience for education to deliver more and solve more quickly our major problems. Associated with this type of restless impatience is the general tendency to overlook significant progress, both gradual and rapid, that have been made in the past. It is always far easier to focus on problems and short-comings in the educational system. However, what is needed is a more balanced evaluation taking into account both the achievements and faults in our educational system. The aim of such an evaluation exercise is to take stock of the strengths and weaknesses, and plan to consolidate and emphasize the strengths, and take steps to overcome the weaknesses. Such self-examination for improvement are considered healthy signs that we are conscientiously thoughtful of our responsibilities.

The Ministry of Education has from time to time been engaged in such exercises. Concern for and evaluation of current problems which demand attention are examples. The Director General of Education, Tan Sri Murad made public the findings of a research study on reading in Penang. He announced that out of 15,000 pupils in Standard 6 who were tested, about 40% could not read or read very poorly. (New Sunday Times, 30th April, 1978, p.6). The various newspapers joined in this concern and voiced the feelings of many parents (New Straits Times, 1st May, 1978, p.10). The former Minister of Education, Datuk Musa Hitam too had expressed a keen interest in the achievement of pupils in the basic skills of reading, arithmetic and writing. He directed the Curriculum Development Centre to carry out a comprehensive study to evaluate the problems of primary school children in these basic skills. The Curriculum Development Centre (1979) launched a massive study entitled "Kajian untuk menentukan taraf penguasaan dan kelemahan murid di dalam tiga kemahiran asas di sekolah rendah di Malaysia". This study covered all primary schools in Malaysia.

These two examples of self-examination into the performance and outcomes of our educational system are indicative that the sense of responsibility to the investment in education and to the expectations of the public exists. This sense of responsibility is expressed in the attempt to locate and evaluate the factors underlying these educational problems. Implicit in all these evaluation efforts is the desire to correct weaknesses, improve performance and finally deliver quality education which is proportionate to the investment in education and the aspirations of parents.

Accountability in education for Malaysia is basically related to this sense of responsibility to a trust, and to the need to live up to this trust in terms of performance and educational outcomes. Questions raised by accountability are often complex and fundamental issues pertaining to the role, functioning and products of our educational system. They have to do with what society has assigned to the educational system and the expectations that accompany such a delegation of tasks. In attempts to evaluate whether the "goods actually delivered" match the goals entrusted and expectations generated, two main areas of relationships emerge prominently, namely:

- (a) the wider and varied relationships resulting from the fact that the educational system is embedded in society. Its performance and functioning is to different degrees dependent on and affected by factors residing outside it but germane in the society. There are also the intricate interactions between the educational system and a number of overlapping components in the society which could have a significant bearing on the products of the schooling system;
- (b) the intra-relationships that are created by roles, functions, needs and inter-dependencies within the educational system. Any of these intra-relationships or within system factors can affect both the quantitative and qualitative outcomes of the schooling system.

In a democracy as found in Malaysia, the pressures for accountability in education

emanate from the fundamental relationship between the elected Government and the electorate. This relationship is concretized in a variety of responsibilities which have fallen on the shoulders of the elected leaders. Both the elected and the electorate could generate pressures individually, jointly or interactively. These pressures start a chain reaction leading to the scrutiny and evaluation of assigned responsibilities and the outcomes that issue. Accountability in this context is found in the relationships between parties, the responsibilities entrusted, the expectations created, and the system of evaluation built-in to gauge the match between accepted goals and actual outcomes. The analyses of the implications of this match or mismatch and the search for answers towards self-improvement in the educational system are all part of this concept and exercise of accountability in education for Malaysia.

Restrictive sense of accountability

The concept of accountability as made popular by L.M. Lessinger, (1970), however, is very restrictive. It focuses attention on the relationship between the school and the teacher, on one hand, and the pupils, on the other hand. In this specific relationship, the achievement of the pupils is measured against set goals. The school and teachers who have to deal directly with the pupils, are held responsible for the attainment or non-attainment of the goals.

To a large extent it represents a simplistic assignment of responsibilities to the attainment of educational goals, especially those in the basic skill areas. Besides this, Lessinger also sought to construct a simple and direct relationship between input and output. The principal agent is the school or teacher who manages the investment, and the recipients are the pupils in this investment - product link. The overwhelming concern is objectivity and focus on the concrete. In this search for objectivity. Lessinger has emphasized the following:

- (a) clear goals, preferably in behavioral terms;
- (b) objective measures of outcomes;
- (c) allocation of responsibility in the achievement of the match between (a) and (b) to the school or teachers.

In its most extreme form, this restrictive approach to accountability emphasizes that future investments are dependent on present outcomes. Implicit in this type of logic is the compulsive desire to identify a principal agent and hold it responsible for the output. This reduction of responsibilities to its simplest form would facilitate the application of pressure at this jugular point for greater efficiency and productivity.

This approach hopes to remove the fuzziness from education, and it represents an acute distrust of the subjective, intangible and complex. It is an impatient reaction to the serious problems in education. According to its adherents, too many children are lacking in the basic skills after all the investment and time spent on them. The major questions they are interested in are:

- (a) Who is responsible or should be held accountable?
- (b) Where do we start to improve performance?
- (c) Do we have objective data pertaining to the input and output relationships?

It is especially attractive to those who want quick solutions. The application of business techniques in relating input to output would cut down wastage, and lead to a greater emphasis in using objective measures of performance in evaluating success or failure. Consequently, concepts of payment by results; contracting for achievement of specified goals; and

the voucher system of rewards for the attainment of targets, are associated with accountability. They give a picture of rigour and discipline of production - line methods of management. It becomes very convincing when it is associated with scientific terminology and the scientific method of inquiry and measurement. There is also an all pervading sense of urgency and priority in this type of exercise. The adherents seem to know very definitely what they want; what steps they should take; how they should do them; and where they are heading for. This objectivity, certainty and immediacy of concern and actions appear to be very persuasive.

Dangers in the restrictive sense of accountability

According to L.M. Lessinger's definition of accountability, the party or agent most commonly held accountable for the level of achievement of the pupils is the school or the teachers. If the goals have been set and operationalized in behavioral terms, and if the school or teachers are the principal agents involved in the teaching-learning process for the attainment of the goals, then failure or success in terms of pupil achievement is the responsibility of the school or teachers. Failure or success is suitably accompanied by sanctions or rewards. These provisions for penalties or rewards by implication will persuade the school or teachers to ensure that the goals are achieved in future situations.

This restrictive application of the concept of accountability invariably leads to bitterness. The school or teachers feel victimized. They resent being made scapegoats and held solely responsible for the products of very complex societal processes and factors, especially if these outcomes reflect on them negatively.

There are complex reasons for the school or teachers feeling that they have been unfairly held responsible for the failure to meet the goals. The major ground is that L.M. Lessinger and his supporters have over-simplified the responsibilities in the educative process. In their haste to overcome complex educational problems, they have only identified one of the many possible causes and assigned all the responsibility to it alone. This is a naive representation of all the factors, processes and agents involved in the educative processes. The school and teachers can only be held solely responsible if they are in complete control of the input-output link, and the factors and processes affecting it. Sole responsibility and full control of the situation are concepts which go together. The former without the latter presents a lopsided picture. The school and teachers would argue that they are far from having full control of all educational factors.

A host of factors and processes outside the control of the school or teachers could have significant effects on the pupils' achievements. The socio-economic status of the parents and the home environments could be the predominant influences in many cases in Malaysia. In other instances, the cumulative weaknesses or strengths of the pupils could decide the outcome of a programme of lesson units. It is, therefore, important that in our search for the outcomes, our view of the educative process be balanced and more encompassing. We need to clarify the multifarious foci of responsibilities and the intricate web of interacting inter-relationships. There is a need to develop a comprehensive set of indicators to measure and reflect this complex matrix of relationships of factors, processes and agents. A balanced view of accountability must begin with this matrix of inter-relationships. Research and evaluation efforts will use these indicators to measure relative effects of factors and identify underlying causes. Only then can we assign relative weights of respective responsibilities in any exercise of accountability in education.

Wider concept of accountability in education for Malaysia

Educational goals. Central to the concept of accountability in education are goals and the degrees to which they are achieved. Accountability stresses responsibility towards the attainment of educational goals. However, for this responsibility to be meaningful, the goals must be accepted by all, especially teachers and pupils. The goals must be within reach of the pupils. If the goals are considered, for example, out of reach of the pupils by teachers, then accountability is a futile exercise of only apportioning blame.

In Malaysia, the advantages of a centralized educational system with clear common goals can complicate the task of accountability. The common goals as specifically seen in the syllabus and public examinations imply a generally uniform pace for all. Our system of automatic promotion also serves to reinforce to a large extent this factor of common goals and uniform pace. When we take into account the large range of individual differences that exists, the problem of holding on to Lessinger's restrictive concept of accountability becomes clear. The range of individual differences has increased with the Government's policy of universal primary and lower secondary education. Even in forms four and five, the annual generosity of the Ministry of Education in reconsidering and allowing weak Category B students in the L.C.E. or S.R.P. to be promoted, has contributed to this increase in the range of individual differences. In such a situation, common goals in the syllabuses and public examinations are meaningless and far too academic for many. The ideal is to tailor our goals to this large range of individual differences and aptitudes. Unless we make this adjustment, accountability would be almost impossible at the later stages because the cumulative weaknesses of a significant number would condemn them to failure in the terminal public examinations. Many teachers in form three and form five could testify to the fact that the chances of these pupils with a long history of weaknesses in being able to achieve the goals as exemplified in the syllabuses and public examinations, are too remote or well-nigh nonexistent.

Public examinations in Malaysia have been commonly used as yardsticks to accord praise or arouse displeasure. The level of performance in them are taken to measure the attainment of our educational goals. This is, however, far from satisfactory because two concepts are intertwined in these public examinations, namely:

- (a) Competition between individuals for limited places and prizes. The emphasis is on variability in performance to discriminate between candidates. Examiners, therefore, pick questions and design the test so as to produce variance in test scores. The major concern, though not solely, is the relative standing or positions of individuals in a group.
- (b) Attainment of goals as seen in the achievement of each individual. The competitive element is not between individuals but between the goals and each individual. The picture emerges is the achievement of the individual as against the skills, knowledge and attributes embodied in the goals.

Our public examinations lean more heavily towards (a) with a predominant emphasis on competition. Although element (b) is included, the results from these public examinations do not depict clearly the levels of skills and knowledge attained as set against our educational goals.

Public examinations do not reflect accurately educational goals in their entirety. They only focus on limited common goals. Their use in exercises of accountability in education is, therefore, severely restricted. Their over-riding focus on competition between individuals makes them less suitable as measures for accountability in the achievement of educational

goals. What is needed is an examination with a system of reporting that reflects more fully educational goals, and the actual achievement levels of each individual as measured against desired goal levels. Criterion-referenced testing with its emphasis on levels of individual attainment in a variety of educational areas, would meet such a need to a large extent. The results from criterion-referenced tests would be pertinent to the questions addressed by accountability pertaining to the attainment of educational goals.

It would be much easier to apply the concepts of accountability in education to the area attainment of basic skills. These goals are more circumscribed and are more easily measured. However, even in the areas of basic skills in reading, writing and counting, the goals have to be evaluated in a framework of:

- (a) actual time and resources allocated to these basic skills;
- (b) range of individual differences;
- (c) examination and syllabus pressures;
- (d) a host of curricular and non-curricular factors that could affect the viability of these goals. Examples are the variety of competing pulls that could distract attention from efforts to achieve these basic goals.

Those who set goals as seen in syllabuses and examinations are, therefore, accountable too. The viability and practicality of the goals delineated must be examined in the total context of factors operating in the school and outside the school. This evaluation of the context of schooling and societal factors has relevance to the formulation of sound educational goals and their successful attainment. More importantly, it could have a serious bearing on important issues like the mental health of teachers and pupils who have to live with these goals. Hence, panels for syllabuses, and examiners in the public examination system are also to a significant extent accountable or responsible for what they have formulated, in so far as the nature of goals could have an important bearing on their attainment by pupils.

Different parties and environment. The major short-coming in Lessinger's restrictive concept of accountability is in his failure to realize and emphasize that education is an activity and a process that is inextricably embedded in society with all its complex network of interacting relationships. Education involves directly and less directly many inter-related parties, all of which have varying degrees of effects on the attainment of educational goals. It would be gross simplicity to identify only one locus of responsibility. Besides holding unjustly to an excessive extent one party responsible for the educational outcomes, such a restrictive view in magnifying the role of that party is distorting the complex relationships and processes that are associated with education.

Some of the other parties which are also accountable in the attainment of educational goals are:

- (a) Teachers and those responsible for the quality of the school environment;
- (b) Parents and home environment;
- (c) Public in general with its values, expectations, concern for education (as seen in provision for libraries; recreational facilities; T.V. programmes, etc.);
- (d) Administrators (school and Ministry);

- (e) Politicians;
- (f) Socio-economic planners and implementors (affecting the national economy, and the socio-economic status and well-being of parents);
- (g) Educationalists, curriculum developers, text-book writers, and many others who have a more direct or less direct impact on education.

Each party has a direct contribution to the attainment of goals. Other effects result from the interaction between parties. An example is the interaction effect of parents, socio-economic planners and implementors in FELDA land schemes. In some cases, the factors are important moderator variable in the input-output link. The effects of educational programmes are, for example, moderated by socio-economic factors in the home. The dynamic and total societal environment with all its interacting components could also have direct effects or could modify and work through other factors.

Recipients in the schooling process. The pupils and their characteristics at every phase in the schooling process relate to and interact with goals to affect their achievement. Examples are the values, attitudes, motivation, habits, skills, knowledge and emotional patterns that they bring to every learning task. Consequently, the pupils, if they are seen as dynamic beings possessing free-will, are also accountable for the attainment of educational goals.

Accountability in many situations where the pupils have difficulties in competing and achieving is complex. Pupils in a democratic framework have the right to ask about the provisions made for them in their special circumstances to compete and achieve. Disadvantaged children, for example, may need compensatory strategies to translate the goals so that they are within their reach. Unless there are these provisions, these disadvantaged children cannot be held fully accountable for the attainment of goals which do not appear to be in their life space. Such issues are related to the provision of equal opportunities for possibilities of equal outcomes. Equal outcomes in these instances are seen in the attainment of the specified goals. Accountability in the cases of disadvantaged children and those with special needs must be weighed in the context of what society, in particular the school system, had done to ensure that the goals are meaningful and are not hopelessly beyond them.

Accountability and stages in the education process

The attainment of goals and the exercise of accountability must be seen in the different stages associated with the educative process. The main stages are:

- (a) input stage;
- (b) process stage;
- (c) output stage.

At each stage, there are both unique and common factors that have to be considered in evaluating accountability. In the input stage, what are important are the following clusters of factors taken in the light of the demarcated goals:

- (a) reasonable and sufficient provisions in terms of resources and facilities to achieve the goals;

- (b) planning to cater for special circumstances that may arise as a result of the range of individual differences;
- (c) adequate evaluation of the viability of goals in the context of (a), (b) and entering characteristics of pupils.

At the process stage, the main concern is with implementation, in particular the curriculum strategies employed. Here again, a number of questions are directed to the match or mismatch between:

- (a) goals;
- (b) pupils;
- (c) curriculum strategies.

These question which are often overlooked at this stage concern provisions to adjust curriculum strategies for those who are encountering difficulties in the achievement of the goals. This emphasizes dynamic and continuous evaluation; consequent changes and adaptations of plans and strategies to meet the challenges of problems faced in the attainment of goals.

At the output stage, the main responsibility is in the measurement of all the outcomes associated with the goals. The predominant danger is focussing on easily measurable objective and concrete outcomes. Important but less tangible outcomes in education, though stressed frequently, are not reflected in the measures commonly used in the output stage. This narrowing down to a few behavioral and objective measures often serves to influence teachers and implementors at the process stage. In reality, the practices in the process stage may be overly channeled to the limited goals as seen in examinations. What is important to teachers and pupils are the operational goals focussed on in examinations. These are what are effectively used in short-term or immediate accountability exercises. However, when serious problems occur in our society which are related to the less tangible goals, the school and teachers are still held responsible. Examples are moral and disciplinary problems.

In addition to the above issues at the output stage, accountability also applies to those responsible for:

- (a) the form of examinations and evaluation efforts to measure attainment of goals;
- (b) the influence and effects of examinations on actual curriculum and school practice, and on the mental health, attitudes, values, motivation and habits of pupils;
- (c) the wider influence and effects of examinations on society in general. Examples are societal values, and system of incentives and rewards;
- (d) the effects of examinations in the distortion of goals. This is seen in the goals which are really operational in the schools.

Accountability and levels in the educative process

In Malaysia, the traditional emphasis has always been on performance in the terminal public examinations. Success or failure is measured by grades obtained in these public examinations. Though there has been marked changes since Merdeka to de-emphasize examinations and competition through educational arrangements like automatic promotion, the traditional inheritance of stress on final outcomes in national examinations is too ingrained. Moreover, with the Government policy of broadening the base of educational op-

portunities for all, certain problems have grown to proportions of urgency. Too many pupils cannot attain successfully a large portion of the goals embodied in the national examinations. In such a situation, accountability cannot be limited to the levels defined by public examinations. There are signs to show that our decision-makers are increasingly concerned with accountability at lower levels in the educative process. The Minister of Education's concern for the attainment of basic skills in education, as seen in the massive research project he commissioned in this area, is a clear example. Basic skills and knowledge are seen as mandatory goals. With this, accountability at the lower levels of education assumes new dimensions of importance and gravity.

The provision for vocational and technical education can also be seen as drawing emphasis away from the traditional emphasis on accountability geared to the very academic public examinations. Another crucial fact indicating the diversification of the concept of accountability to new areas is the attempt to adjust curriculum strategies to different aptitudes and the varied needs of learners. The importance attached to remedial education by the Ministry of Education is one such example. The special needs of the disadvantaged, in particular those from the lower socio-economic status groups, have also challenged our educational planners to adapt our curriculum strategies and make appropriate and adequate provisions for them. All these areas of emerging challenges must also be accompanied by the concept of accountability at the levels of planners; implementors and recipients.

One could also develop the idea of accountability at different levels of the educative process to include the usual division of education into primary, secondary and tertiary sectors. Besides those traditionally important sectors in Malaysia, pre-school education is an area that is attracting more attention for a variety of reasons. The importance of the early years emphasized by J. Piaget, (1964); B. Bloom, (1965) and others is a factor causing this. Another reason is the belief that a "laissez faire" policy towards the growth and development of pre-schools will lead to the increase of the range of individual differences among entering primary one children to the disadvantage of lower socio-economic status children. This is because the poorer groups cannot afford pre-school. There is growing realization that the correction of socio-economic imbalances and the expressions of concern for equal opportunities and equal outcomes must also begin at the pre-school level. All these growing centres of attention illustrate that accountability in Malaysia is not limited to the narrow perspective of emphasis on performance in academic examinations, but has and should increasingly broaden its spectrum of application to other facets of educational needs and endeavour in Malaysia.

Accountability and the totality of education

Accountability in education is most meaningful when it is related to the nature, scope and varied aspects of education in Malaysia. Education as a field of human endeavour involves a complex network of interacting factors and interrelationships. There are more stable components as well as more dynamic aspects which develop and change with time in the larger context of societal changes. The concept and ramifications of accountability through its application in education must be as far-ranging, complex and dynamic as the field of education. Any attempt to reduce it to simplicities will always encounter the risks and dangers of distortion and omission. Achieving balance and isomorphism in accountability for education can never be easy.

Difficulties in developing the concept of accountability

The concept of accountability is intimately related to the need for measures to gauge the degrees of attainment of educational goals. In Lessinger's restrictive concept of accountability, there is the pre-occupation with objective and quantifiable measures which can be

easily associated with a narrow segment of educational goals. The striving towards objectivity and rigour through behavioral measures whilst successful for that narrow portion of educational goals, may result in undesirable distortions in the concept of accountability. This is because Lessinger only permits "output, product or outcome" measures. He has an uneasy distrust of variables which reflect resources and processes involved in education. This completely pragmatic emphasis on observable and measurable results has its virtues. However, the extreme manner Lessinger has stated his case for a restrictive concept of accountability can only result in the exclusion of important facets of education in this exercise of accountability. He seems to have overlooked the gamut of educational goals, their complexities and interrelatedness.

There is failure to realize the limitations of measurement techniques in gauging all the outcomes of educational activities in the school. The demand for "product reliability" in terms of objective measures of student performance can be met only in certain areas in education. However, there are large areas in our educational goals which do not lend themselves so easily to these objective and direct techniques of measurement. Attempts have been made through the use of indirect techniques and a variety of proxy variable to measure to more intangible aspects of educational goals. All these techniques are fallible and do not have high co-efficients of validity and reliability. The net effect is the concentration on available techniques and measures which are more valid and reliable. This immediately narrows down the goals and outcomes taken into account in accountability exercises.

What is perhaps more disturbing is the neglect of the measurement of a variety of factors in their contribution to the attainment of educational goals. Accountability cannot only focus on products without relating them to causal and contributing factors. The essence of accountability appears to be in this search for the underlying causes of results in the educational process. Anything less than this understanding of relationships of contributory factors and the appropriate assignment of responsibilities for the outcomes would not achieve an accountability exercise which is just and useful.

The development of a balanced concept of accountability has to a significant extent been hindered by the limitations of measurement techniques in the outcome areas of education. The need for a wide range of measures to reflect more fully the whole spectrum of educational goals, factors and relationships seems pressing. The danger is to lapse into a narrow and restrictive exercise in accountability through this sole reliance and zeal for behavioral measures of outcomes. Unless we can break away from the constraints imposed by concentration on outcomes only, we will always face the difficulty of developing a balanced concept of accountability.

The indicators needed to reflect a more encompassing view of accountability fall into the following groups:

- (a) Output indicators both in the more tangible and less tangible areas of educational goals.
- (b) Indicators relating to the provision of educational resources in different areas which are pertinent to the attainment of educational goals. These indicators reflect the responsibilities of those concerned with the planning and implementation of education. The factor of provision of educational resources cannot be separated from the issues of outcomes.
- (c) Indicators reflecting quality of processes. These reflect mainly the responsibilities of those in the management of teaching and learning. These indicators should also include educational processes which occur outside the school or classrooms. The variety of indicators in this category should preferably be anchored to nodes of responsibilities. Examples are teachers, school administrators and parents.

The indicators for processes are relevant because the quality of the processes has a bearing on the outcomes.

- (d) Indicators reflecting factors pertaining to the learners. Examples are their motivation, perseverance and individual differences. The entering characteristics of the pupils are aspects which should be encapsulated in some of these indicators, as they relate to the attainment of educational goals.
- (e) Indicators reflecting the viability of goals. These indicators should also show the configuration of all educational goals and the saliency of certain goals. There must be some evaluation of the effects of this configuration and saliency of goals on the attainment of educational goals in general, and the side-effects generated. These indicators clarify the responsibilities of those entrusted with the formulation of educational goals.

Accountability needs specific time frames to evaluate output and contributory factors, and assign responsibilities. One could imagine a series of progressive time frames for accountability in education from the early years to points where there are critical evaluations of the attainment of educational goals.

Some of the considerations which should enter into the exercise of accountability are explained in Section 4, "Wider concept of accountability in education for Malaysia." They are also pertinent for the development of indicators.

Finally, a variety of research techniques can be used to relate the output measures and the indicators reflecting the multitude for foci of responsibilities. An example of a technique that may clarify the respective roles of the factors delineated is the multiple regression analysis could be used in a variety of ways to assign responsibilities, and clarify relationships and interactions. Hopefully, the resultant picture would present a more balanced view of accountability in education.

Conclusion and perspective for accountability

Accountability in education is complex. There are no simple ways of deriving answers. For it to be balanced, it must take into account the many foci of responsibilities, relationships and interactions. These are tasks which only well-planned research and evaluation efforts can attempt to unravel. If the history of educational research and evaluation has taught us anything, it is that over-simplification and quick answer are almost always never satisfying. We have to live with and accept these complexities, and locate our research and evaluation efforts in such a context. Attempts to isolate our concerns and reduce them to simple relationships are doomed to unsatisfactory results which do not correspond to the complex realities existing in education.

The main aim of accountability is not to seek scapegoats. Even if this were our main aim, the complexities of educational relationships and processes will not allow us to reach to simple type of answers we seek in trying to establish scapegoats. Consequently, accountability seen in perspective in the total educational context seeks to:

- (a) clarify nexuses of responsibilities, relationships and interactions;
- (b) re-examine our goals critically and continuously against standards of viability found in the society;
- (c) clarify problems and processes in the planning, management and implementation of educational resources;

- (d) provide feedback pertaining to degrees of attainment of educational goals and their implications for future actions;
- (e) relate education in its entirety more relevantly and meaningfully to the needs and demands of society.

The absence of accountability as a result of a laissez faire approach has clearly undesirable effects. Both continuously, and especially from time to time, we want those involved in and concerned for education to take stock, and galvanize into constructive action.

The stress on accountability is, therefore, to provide the impetus towards this constructive action. The thrust of accountability should also lead to greater vigilance in what we plan, do and reap in education. More specifically, it should lead to the following:

- (a) improving over past short-comings through changes, re-orientation or consolidation;
- (b) working towards a more effective, productive and efficient educational system;
- (c) delivering quality education at all levels.

These are all inter-related concerns. The meaning and purpose of accountability is finally to be found in the more encompassing meaning and purpose of education in society. Accountability in education is a catalyst in such a relationship. Hopefully, it is a constructive catalyst leading to fruitful results.

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