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The Role of Education in Achieving Equity, Cultural Diversity and National Unity in Multi-ethnic Societies

M. Kazim Bacchus

ABSTRACT

The paper advances the view that the achievement of equity and the maintenance of cultural diversity in multi-ethnic societies are not only goals in their own right but are also important for political unity, social stability and sustained socio-economic development in these societies. It lists the various models of socio-cultural integration adopted by different multi-ethnic societies and indicates the roles which schools can play in the achievement of these stated goals. The paper also draws attention to the limitations of schooling and suggests the need for a more comprehensive policy if equity, national unity and socio-cultural integration are to be effectively achieved in these societies.

There is enough evidence to support the view that the achievement of equity (real and perceived) and the maintenance of cultural diversity in multi-ethnic societies are not only desirable objectives in their own right but are also important pre-requisites for achieving social stability and sustained social and economic development of these societies. Ignoring these goals can lead to open ethnic conflict which is disruptive of development. Evidence of this can to some extent be seen in countries like Sri Lanka, Guyana, Nigeria, Cyprus, Uganda, Lebanon, USA, Belgium, Ireland and even the United Kingdom.

In recognition of this fact the governments of some countries with a multi-ethnic population have often officially mentioned as one of their national objectives the need for national unity through social cohesion and see education as an instrument which would be invaluable to them in their pursuit of such a goal. For example, Malaysia in its various national plans has continued to express the view that "national unity is an over-riding objective of the country" and therefore emphasized the importance of placing "greater emphasis" on social integration, as a major aspect of its development strategy.

There are however different views on how this objective might be achieved. In this paper an attempt will be made to look at the possible contribution which education can make and its limitations in helping to achieve these goals. In doing this it would be useful to begin by identifying and describing briefly the various models of socio-cultural integration which have been pursued by different multi-ethnic societies in their attempt to achieve greater national unity.

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among the various segments of their population.

(1) First there is the "Assimilationist Model" in which a dominant group attempts to impose its norms, values, beliefs, attitudes and even its folkways on all other cultural groups in the society. This was essentially the U.S. model — with its "melting pot" theory of social integration — in which the dominant group attempted to impose its White Anglo Saxon Protestant (WASP) views of the world and of society, on all other groups living within the same national boundaries. The common school in the U.S.A. with its single language policy played an important role in the achievement of this goal. Progress in this direction was usually assessed by such measures as the degree to which the population shared the values of the dominant group — values which came to be regarded as 'American' values. While this has aided socio-cultural integration in U.S. society it has virtually resulted in the cultural genocide of most of the subordinate groups.

(2) Second, there is the cultural dominance or cultural imperialistic model which was characteristic of colonized societies. It involved a dominant submissive relationship between the colonizer and the colonized. All ethnic groups in the society were taught to look upon the values of the dominant group as superior to their own and these values became the basis on which the normative patterns in the relationship between the 'superior' and the 'inferior' groups were established. This did not always imply a forcible attempt to get the dominated groups to abandon their culture in favour of that of the 'oppressor' because of the fact that such action was likely to lead to conflict which might have increased the cost and reduced the rate of return of the exploitation process. The outcome would have been contrary to the main purpose of the colonial enterprise. Changes in the local cultural practices were mainly attempted when they interfered with the success of the exploitation process itself; for example when there was the need to have the local population cultivate certain export crops rather than simply produce the traditional crops for their own consumption or to offer their labour for sale when this became necessary. However some colonizers seemed to have learnt earlier than others, the dangers of attacking or attempting to destroy the culture of the indigenous groups.

When efforts were made to change the cultural practices, attitudes and behaviours of the colonized, it was directed mainly at the indigenous elites, or the aspiring "comprador elites," and this was done partly through the educational system and was geared towards strengthening the hegemonic domination of the colonized. Therefore, in this context, conflict was suppressed by the dominant group:

(a) Attempting to socialize the local population into accepting voluntaristically its cultural superiority.

(b) Commandeering the help of selected prestigious local individuals to act as 'comprador elites' — by first getting them to believe in the right of the colonizer to his position of dominance and then to modify some of their own cultural values so that they would be more congruent with those of the dominant group. If and when these failed, the state control mechanisms were used by those in power to curb all signs of open conflict.

This model of cultural dominance is not only likely to be costly but its outcomes are not always predictable. However in some multi-ethnic societies it is a model which is still being used as a guide to socio-cultural integration or more correctly, socio-cultural domination. The most outstanding example today is South Africa and as we can see there, this approach can be very disruptive of development.

(3) Thirdly there is the reticulated or Structuralist/Functionalist (SF) model of cultural integration. It suggests that when various cultural groups live together in a society they normally develop over some period of time, mechanisms to cope with their problems. As a result they learn to make adjustments to their regular contacts with each other so as to reduce...
the possibility of social conflict — and increase the likelihood of harmony developing between them. The logic of an open competitive economic situation which often characterized these societies made such accommodation even more necessary. As a result the society develops over time a common mode of inter-group communication e.g. a local pidgin, and certain institutionalized ways of dealing with inter group conflict.

When common schools exist for these groups it is said that they help to extend the areas of understanding between them. This seems to be the Thatcher Government’s view of relationships between the different ethnic groups in British society. In some ways it is akin to a free market model of the economy which ignores the existing unequal distribution of power between various groups — a fact which makes it possible for those with more political and economic power to manipulate the distribution of the resources of the society in their own interest and to their own advantage.

(4) Fourthly there is the ‘plural’ society model which suggests that relationships between the different ethnic groups in a society are inherently conflictful. This is because the various groups are seen to be in constant competition for the limited resources of economic and political power which is said to have a zero-sum distribution. Hence, in the words of one of the chief proponents of this view “no peaceful change” or permanent harmonious relationship between them can be achieved because the various ethnic groups “have nothing in common except involvement in economic and political relations which are essentially antagonistic.”

There are a number of underlying assumptions which make it difficult for one to accept this view of social relationships between different ethnic groups in a society. First, economic power need not have a zero-sum distribution because the amount available is not fixed for all times and can be increased to the benefit of all. In other words different groups in a society can increase their economic resources simultaneously. The New Economic Policy for Malaysia recognized this possibility and stressed that its first line of attack on the issue of national unity was “to reduce and eventually eradicate poverty by raising income levels and increasing employment opportunities for all Malaysians, irrespective of race.”

Secondly, while it might seem that political power has a zero-sum distribution this need not be so. Political structures can be devised which give sub-groups some political control of their own lives, as Papua New Guinea has been trying to do when it developed its decentralized system of administration and which the Philippines was attempting to arrange with its so-called ‘Muslim rebels’.

(5) Fifthly, there is what can be referred to as the “multi-culturalism” model which, to some extent, characterizes the more recent approach of the federal governments of Canada and Australia and their provinces or states. The main features of this model are explained in the following paragraphs.

(a) The recognition that all ethnic groups in a society need to have a minimum core of shared values and beliefs along with the facility of communicating with each other. If these groups which are living side by side within a nation state have no such common institutions that transcend sectional interests to bring them together and create some degree of national unity, then ethnic polarization is likely to be further developed or strengthened. This even minimal level of consensus is also necessary if the various groups in the society are to acquire the realization that, even though they might be trying to achieve different goals, these can, in the long run be complementary, with each group in its own way contributing to the overall development of the nation.

These ‘cementing’ or integrative institutions, often known as “basic” “key” or “national institutions” should ideally be

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shared on a common basis by all the citizens, be cross-cutting in their membership and relate equally to all sections of the population. Therefore they cannot be simply developed by and in the interest of one group and then imposed on other groups in a multi-ethnic society. They need to arise out of a general consensus of the various groups concerned — if they are to be respected and adhered to by all.

(b) Acceptance of the need for institutional structures which allow for the different cultural groups to retain aspects of their own heritage in order to meet their own specific psycho-cultural needs. Such elements of culture include the religion, music, dances and other art forms, the language and other aspects of life among the different groups. These "local" institutions, which they often refer to, need to be encouraged because they give the members of the various groups a sense of "rootedness" and a feeling that they enjoy the respect and appreciation of other groups in the society.

(c) The recognition of the need that multi-ethnic societies, in attempting to provide for the vibrant development of these two types of institutions, must ensure that all groups have equality of access to the resources of the society which could both permit their equal treatment in the national institutions and, at the same time, facilitate the development of their own 'local' institutions.

This implies a need for the government of these societies to recognize that they must use their power to provide sanctions and rewards which would facilitate developments in these directions, ensuring that all groups in the society have equality of access to the available resources so that they can inculcate the feeling that they have been fairly treated in terms of its distribution. On this point the Malaysian Government also seemed to have recognized the need for a "more equitable distribution of income and opportunities" if the country is to achieve "national unity and progress."  

This makes the multi-culturalism model of society, at least in comparison to the others mentioned above, appear to be the one which is likely to be the most successful in achieving socio-cultural integration and overall national development — the one which is likely to develop effective and harmonious relationship, a sense of national unity and mutual respect by the various ethnic groups in the society for each other's culture.

Next an examination will be made of the ways by which schools, that are sometimes seen as important agencies in helping to develop an acceptance of a multi cultural society, can and do make a contribution towards the achievement of this goal. First there is the important role which schools play or could play as "broker" institutions helping to increase the degree of articulation between 'national' and 'local' institutions, by attempting to develop in the future citizens, irrespective of their particular ethnic membership:

(a) A common core of values which would provide support for the "key", "basic" or "national" institutions and the knowledge and skills which would assist them to participate more fully in these institutions — for example, by helping them to develop a sense of citizenship, and the skills needed for effective participation in the political process.

(b) Respect for and appreciation of the contribution which the various groups in the society are making towards national development and helping to cultivate a broad understanding of their cultural traditions.

Here it needs to be recognized that schools are more likely to be effective in performing the above roles if there is an essential congruence between the reality of how the overall national institutions work and how i) the various ethnic groups are perceived and treated in the society and, ii) what is taught to pupils about them.

Let us briefly look at what attempts are being made or can be made to achieve the above mentioned goals of "multiculturalism" through the work of the educational system. Schools and other educational institutions can and do use a variety of approaches in attempting to develop among future citizens a sense of national identity, national unity or common feeling of belongingness to a single nation state. For example students are often helped to understand the workings of these "key" or "national" institutions, by regular courses of

2 Govt. of Malaysia, Second Malaysia Plan op. cit., p. 1.
instruction in such areas as civics and history. They acquire the necessary skills, knowledge and dispositions to participate more fully in their operation by being involved in such activities as democratically run school councils and clubs. Finally, they are sometimes taught to recognize how these ‘national’ institutions operate with essential fairness to all — provided that they in fact do so.

There is evidence that one of the main outcomes of schooling is that it does succeed, at least to some extent, in passing on some of these universalistic values which can obviously contribute towards social integration and the development of a sense of national unity among the various ethnic groups in the population. One of the more well known strategies is through the use of a core curriculum which exposes all students to this common set of values and the “hidden curriculum” which further reinforces these values. But even here the educator needs to be careful because, quite often, the content of the common curriculum tends to emanate solely from and represent the culture of a dominant group or groups and treat as irrelevant the “structure of knowledge” shared by other groups in the society.

Another means is through the language policy which is often adopted in education. Despite the linguistic diversities which might exist in a multi-cultural society, there is usually an attempt to educate the younger generation in a common language which would better prepare them to communicate effectively with each other. A latent function of the ability of the citizens to understand and speak to each other in a common language is also to contribute to the development of a sense of unity and social cohesion or belongingness to a single nation state.

In addition to inculcating in children these universalistic values, schools in multi-cultural or multi-ethnic societies, do attempt to develop an awareness and sensitivity among all students to the more particularistic elements in the society as revealed in the culture of the various ethnic groups who are also members of the nation state. This would help to ensure that “local” institutions are not seen as separatist, mutually exclusive and potentially antagonistic or subversive to national unity but as essential elements in the social fabric of a culturally diverse society.

There are many ways in which schools can help to increase the degree of articulation between “local” and “national” institutions, which is necessary to maintain cultural diversity within a framework of national unity. For example, they might attempt to help their pupils acquire at least a basic understanding of the culture of the various groups in the society such as their beliefs and practices and not only that of the numerically or politically dominant ones. However, the specific aspects of say the religious practices of a group are usually taught in the “local” institutions which each cultural group might establish for this purpose such as madrassas and Sunday schools.

Another example of how this articulation between ‘national’ and ‘local’ institutions might be strengthened is again through the language policies adopted for schools in multi-cultural societies. While, for the sake of national integration schools might be assigned the task of passing on a common language to all groups, so as to make it possible for them to communicate easily with each other, they also need to provide the opportunity for the various cultural groups, where their numbers make it possible, to learn their own languages because of their importance for their overall cultural survival. So while a single language might be an important nationally integrating force in a society, the languages of the other cultural groups cannot be ignored by the school system. Such a policy of bilingualism or multilingualism obviously regards language teaching in schools as a means, not only for national integration, but also to help maintain cultural diversity in a society. For example, Fiji offers or plans to offer the following examinable languages at its Secondary School examination — Hindi, Urdu, Tamil, Telegu, Arabic and Chinese as a recognition of this need.

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gence of such an educational policy often depends on the amount of political power or influence which these different groups can exert on the dominant group or groups in the society.

One of the other areas to which attention needs to be given is in the training of teachers to work in communities whose cultural systems might be quite different from their own. Teacher training has been increasingly focusing on the classroom performance of pupils, and the earlier efforts in teacher education programmes, at developing among trainees a recognition of the importance of the links between the school and its community, have, over the years, been gradually de-emphasized. But if schools are to play this ‘broker’ role effectively, it means that the teachers themselves would also need to develop a better understanding of the communities from which the schools draw their pupils. This would therefore involve a shift in the focus of most teacher programmes since teachers can only effectively work with various cultural groups in the successful education of their children if they themselves have a sound understanding and appreciation of the cultures of these communities.

But probably just as important or even more so, is the fact that, in addition to the knowledge, skills and attitudes which schools transmit, is the role they play in helping to distribute on a more equitable basis the “life chances” among different groups in these societies. This is likely to increase the chances for socio-economic improvement on a more equitable basis among all ethnic groups. It would also reduce the possibility that occupational differentiation in the society would remain on an ethnic basis, and eventually encourage various groups to develop common interests about their work - interests which transcend traditional ethnic boundaries. On this point some governments, for example, Malaysia, have indicated that they have realized the need to “eventually eliminate the identification of race with economic function” as a pre-requisite for achieving “national unity and progress.”

Further, for the economically more disadvantaged groups in the society education becomes an even more important instrument for their economic improvement, since, without capital resources, they usually have to depend more on their intellectual or human resources to reduce the economic gaps existing between themselves and the more affluent ethnic groups. Further, as Lorraine Corner has reminded us, the real cost of education is often much higher for the poor whose children are usually employed at an early age. This, in itself, would seem to justify the introduction of more innovative approaches to human resource development among the poor, especially those in the rural areas.

The point here is that equity is an important factor which can contribute to unity and social cohesion in a multi-ethnic society and education can, to some extent, aid in its achievement. But one always needs to be aware of the limitations of education and the challenges which it faces — if it is to make an effective contribution towards the achievement of this goal.

First, while education has been an important instrument in the upward social and economic mobility of children from the lower socio-economic groups in society, it has tended, by its very nature, to favour the better off sections, irrespective of their ethnicity. It therefore has been a potent force in helping to reproduce or create class-based social and economic inequalities in most societies — thereby leaving the poorest sections of all ethnic groups still disadvantaged. This phenomenon has become or is becoming even more marked, especially in some developing countries which have been producing more educated individuals than their economies can readily absorb. As this happens ascriptive factors such as class membership have again become increasingly important in occupational selection — even though they are now used in conjunction with educational attainment.

This increase in intra-group inequality lays the basis for further division of these societies, often both by ethnicity and class, and as this happens the more disadvantaged groups become increasingly frustrated with the exist-

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10 Govt. of Malaysia, Second Malaysia Plan op. cit. p. 1.

ing political and economic arrangements and acquire a greater predisposition to be influenced by the more fundamentalist social and religious beliefs. This, for example, can be seen among the blacks in the United States. While some, especially the middle class, have benefited somewhat from the various programmes of equal opportunity, the lowest socio-economic groups have not. Partly as a result of this, some of them such as the Black Muslims were, at one time demanding secession from the nation by requesting two states from the Union to set up their own society. In other cases these marginalized groups fall prey to and become active in the various religious cults which have been springing up in that country. To some extent such frustrations among the most disadvantaged groups seem to have developed in Fiji where recently the party in power since independence — Sir Kamisese Mara’s ruling Alliance—which was committed to ensuring special treatment for the indigenous population in general, has lost the elections to a more left leaning Labour Party which promised greater efforts to improve the position of the poorer socio-economic groups in the society, across ethnic lines. But there has since been a “back-lash” to such developments, influenced by powerful groups with vested interests in the maintenance of the status quo.

However, for greater degree of success to be achieved in bringing the marginalized groups more effectively within the ambit of the existing educational system, a few more innovative approaches might have to be used. For example, one of the factors contributing to the low academic performance of some students is not only their poor home background, both from an economic and an educational point of view, but also the irrelevance of the curriculum materials used in their instructional programmes. Another example is the lack of flexibility of our organizational arrangements in education and our unwillingness to adapt them to meet the special needs of various cultural groups for whom we might be trying to provide an education. To mention one example — I was in touch with two teachers, a husband and wife team — who, as part of the general efforts of the federal government in Canada to educational opportunities among the native population, were sent out to staff a school in the North West Territories. The parents were at first quite reluctant to send their children to school but eventually did so, as a “favour” to the new teachers, who seemed to them to be very friendly individuals. But, when the trapping season came the parents moved away to the trapping grounds, taking their children with them and leaving the teachers with their empty schools. Not to be outdone, the teachers packed up their motorised mobile home, followed the families and attempted to conduct classes during the day for the younger children and in the late afternoon and evening for the older ones, after their trapping duties for the day were completed.

But then they received a stern note from the Superintendent of Education informing them that they must return to their school forthwith since the regulations did not permit them to conduct classes away from the premises which were officially provided by the Government for the purpose. It was not simply a case of the Superintendent lacking an understanding or not being sympathetic to the educational needs of the native population. It was more an example of how inflexible organizations like Government Departments of Education can be in handling situations which do not exactly fit into the traditional administrative patterns.

For administrators, the safest line of action is usually to try to revert to the ‘normal’ situation in which the existing regulations would clearly apply. Even if there were no children in the school building, as happened in this particular case, the official regulations were not being infringed. This kind of reaction can also be seen when Ministries of Education are dealing with nomadic ethnic groups like the Masai in East Africa or even with more settled populations who, when the planting or the reaping seasons come along, are economically unable to send their children to school with any degree of regularity. Our school systems are usually not structured to cope with such situations. In fact, administrators have always tended to take existing organizational structures and sometimes even the current administrative arrangements as ‘given’ and expect the local population to re-organize their ways of living to fit in
with them. When the need arises, what educa-
tional administrators or policy-makers tend to
do, is to recommend the use of the state control
mechanism to produce from the population the
kind of behaviours which they expect, or con-
sider ‘normal.’ They are therefore, more likely
to see the answer to the problem of irregular
attendance as the introduction of a compulsory
education ordinance which allows them to
specify the hours and the times of the year when
schools would be open and expect the popula-
tion to adapt their life-styles in order to confirm
to these regulations. In contexts like these
administrators need to be prepared to modify
the ways according to which they expect orga-
nizations to work, by starting with a different
approach i.e. taking the people’s way of life as a
‘given’ and then structure the organizations
around this fact so as to make it possible for the
children to make use of the facilities at times
and in places which are most convenient to
them.

If equity in education is to be made a more
attainable goal among all groups in a society,
then administrators and policy makers have to
be prepared to be more flexible in the kind of
practices and organizational structures which
they develop in order to provide education,
especially for the marginalized ethnic groups.
In doing this they would need to take more fully
into consideration, the life styles and con-
straints which such groups might be facing in
their efforts to send their children to school.

However, as the cases cited above indicate,
equality in the provision of educational services
is not enough to ensure equity between the dif-
ferent groups in a multi-ethnic society. One
also needs to be concerned about equality in
terms of learning outcomes among these differ-
ent groups — especially when selection for fur-
ther education or for jobs is based on achieve-
ment criteria. Attempts are sometimes made to
overcome this problem by having educational
institutions or authorities lower the entrance
requirements demanded from the ‘disadvan-
taged’ groups to enter the higher level educa-
tional institutions, hoping that they would
reach the same level of academic performance
as those who entered with higher standards of
achievement. But this goal is often very difficult
for the disadvantaged groups to attain in the
absence of special help. Hence, institutions
sometimes resort to ‘massaging’ the evaluation
procedures so as to ensure the academic out-
comes appear comparable to those of other
groups in the society.

The dangers of these approaches are obvious
enough. While these procedures might benefit
the recipients of the education who tend to be
protected by the preferential treatment they
receive for jobs, especially those in which the
productivity outcomes are difficult to measure,
such as those in the public sector, they can
adversely affect the efficiency of the individuals
and the quality of their output. The Black
Studies programmes which developed in the
U.S.A. some years ago were examples of this
and were quickly abandoned when the quality
of the educational outcomes was considered
doubtful, and therefore likely to reduce their
efficiency in a highly competitive economy. In
other words, these approaches can adversely
affect the economic futures of the countries
which practise them — through their inability
to compete as effectively with other countries
that insist on higher levels of competence from
their trained manpower. The psychological
effects on the recipients who are likely to come
to expect the same level of rewards with lower
standards of performance are also obvious.

The alternative is not to abandon the efforts
to provide special help to the disadvantaged
groups in order to raise their standards of aca-
demic performance and hopefully the quality of
their output. This is particularly important also
because these groups, as was previously indi-
cated, tend not to have the capital resources to
enter into other areas of economic activity and
therefore their ability to achieve equity with
other groups in the society depend more on the
quality of their human resources.

On the assumption that all ethnic groups
have the same innate ability, the approach
would be to attempt to find appropriate instruc-
tional strategies which would improve the
learning outcomes of the ‘disadvantaged’
groups — without at the same time dulling
their creative abilities by trying to increase their
test scores through putting them into ‘cram
shops’ or diploma mills. For example, one
needs to question the relevance of some of the curriculum materials produced and based on the experiences of those with a typical urban background, for developing the full learning potential of say the more rural disadvantaged groups. This also brings up issues like the vexed question of what counts as "official" or "school" knowledge as against "public" or "community" knowledge and their respective claims for a place in the curriculum of schools. But the important point is that the special learning needs of the various groups in a multi-ethnic society have to be taken into account if efforts to achieve more equitable academic outcomes, in terms of the performance of students from the various ethnic groups, are to be effective.

For example, there might be certain structural factors such as the economic level of the parents and their ability to bear both the opportunity and the private costs of sending their children to school which might have to be addressed if the academic performance of the children of the more disadvantaged ethnic groups in a multi-ethnic society is to be improved. There might also be the question of the language of instruction used which might be adversely affecting the academic performance of the disadvantaged groups.

In these times of financial difficulties Governments are also apt to seek financial support from local communities to help defray the cost of the education services being provided. But here again, the better off groups in the society — which might also be associated with ethnicity — are likely to be able, because of their economic position, to provide better quality educational resources for their children's schools. The result is that the differential academic performance of their children would tend to be perpetuated. In such situations these poorer communities might be in need of special financial allocations for their schools.

Further, some ethnic groups might, because of economic or cultural factors, not be making the fullest use of the educational services which are available and these have to be identified so that the appropriate action can be taken to overcome them. For example, in Muslim societies such as Northern Nigeria where the enrolment and attendance of girls are usually lower than those for other groups, it was found that providing them with female teachers had a positive effect on their school attendance and academic performance. Transportation difficulties have also been found to affect students' performance, with the distance of a school from the local community being negatively correlated with their pupils' academic scores. Therefore, rather than efforts at manipulating the methods of measuring academic performance or ignoring its value in the selection for jobs or further educational opportunities, there are other more productive avenues which could be explored in trying to bring up the level of performance of the more disadvantaged ethnic groups so that they can be on par with that of others in the society.

Limitations:

Despite these various efforts to achieve a more equitable distribution of educational resources and comparable levels of academic performance between all groups in a multi-ethnic society it might not always be possible to come up with easy or instant solutions to these problems. As a transitional measure some societies have tried to overcome ethnic under-representation in educational and other institutions in the society through the quota system — in other words through the use of non-academic, ascriptive and often non-performance criteria for occupational selection.

But while this has an immediate advantage of equalizing ethnic representation in the various institutions of a multi-ethnic society, and on those grounds can be defended as a temporary measure, societies need to guard against these practices becoming institutionalized and therefore difficult to reverse. In such cases it is likely to have adverse effects both on the economic development of the society and on the goal of greater socio-cultural or national integration. For example, the continued use of the practice would militate against the recognition that achievement and performance variables in occupational selection are necessary for increased national efficiency and possibly even for long term economic survival of the nation.
The groups that benefit from such preferential treatment in securing jobs are also likely to de-emphasize the importance of effort, drive or imagination for success and this can be psychologically damaging to them and to overall national efficiency. Finally, if these groups are the politically dominant ones, such as in Malaysia, there would be the tendency for them to use that power to ensure the continuation of this preferential treatment long after it has become necessary to facilitate their achievement of equality in their representation in the various occupations and economic sectors of the society.

This perceived abandonment of the meritocratic principle is eventually likely to lead to open resistance to the practice by the other ethnic groups in the society who would see themselves as oppressed — the situation of Sri Lanka comes to mind — and this would threaten the long term stability and economic development of such societies. The Government of Malaysia seems to be aware of the importance of this fact and this is probably why, in its New Economic Policy it indicated the need for a development strategy which would benefit all ethnic groups in such a way that "no particular group will experience any loss or feel any sense of deprivation."\(^\text{12}\)

In line with this view it is suggested that if the role of education in increasing equity, national integration and social stability in a multi-ethnic society is to be enhanced, there would be the need to examine more critically the deeper causes of this problem and eventually to come up with broader policy alternatives which are likely to be more effective than the present narrow solutions — such as the quota system in the allocation of jobs and places in educational institutions — that have been tried and are still being used in some societies.

**Need for a Comprehensive Programme**

Finally the success of the efforts aimed at encouraging cultural diversity and maintaining harmony between the various groups in a multi-ethnic society would depend very much on the formulation and concurrent implementation of a comprehensive set of national policies aimed at achieving greater equity in the society. This is because there are sometimes gross inequalities, both in terms of economic and educational opportunities, between the different cultural groups in these societies, and therefore if measures aimed at maintaining cultural diversity are to be successful, they cannot be separated from those needed to improve the socio-economic position of those groups which are currently disadvantaged. In other words, the goals of equity and cultural diversity are often inseparable and are most likely to be achieved if both are pursued together. Success with them is therefore inter-linked and would depend heavily on the support of the overall social, political and economic measures which are taken by the society as a whole.

\(^{12}\) Govt. of Malaysia Second Malaysia Plan op. cit.
Vocational Education and Training: Singapore and other Third World Initiatives*

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ABSTRACT

This paper examines the underlying reasons for the formulation of policies and practices to abate the growing problem of the 'educated' unemployed through the initiative of vocational education and training schemes. The paper outlines the main reasons why in Singapore there is a convergence between its vocational education and training strategy and work while this is not generally so for many other Third World countries. It then focusses its discussion on the reasons why there is a mismatch between vocational education and training and work in many Third World countries. The paper concludes by suggesting an alternative strategy for Third World countries through which they may be better able to interface education and work.

Introduction

In the years after the Second World War, more than in any earlier period in history, Third World countries (including Singapore) experienced an unprecedented and major socio-economic transformation. A significant policy initiative in these countries was the large-scale expansion of educational provision at all levels under state control and coordination. This unprecedented expansionist education policy was largely spurred on by urgent concerns for national unity, economic growth, manpower needs and fairer social justice through greater equality of educational opportunities. This initiative dramatically changed the education system from an elite-to a mass-based phenomenon and thus enhanced the access to educational opportunity for large sections of the school-going population, both boys and girls; remarkable strides were also made at the tertiary level. In terms of numbers in the Asia/Pacific region alone, growth in enrolment at all levels showed a phenomenal increase, from 263 million in 1960 to 522 million in 1982 — a doubling in 22 years. Of this increase, 61% was...
in primary education, 35% at the secondary level and 4% at the tertiary level (Raja Roy Singh, 1986:49). This accelerated educational expansion was in line with the views of the human capital theorists, who postulated the close connection between a nation’s productivity and its human resources in terms of the levels of skill, ability and education of its population (Bowman, 1966). It was assumed by the proponents of this theory that nations that failed to pursue an active “improvement in the quality of human resources” would be doomed to lower productivity, economic stagnation and unemployment (Bowman, 1966 and Berg, 1970).

This great surge in educational expansion gave rise to a revolution of rising aspirations and job expectations among school-leavers and their parents. However, the expectations in Third World countries were far too high and, therefore, not consistent with job opportunities available in many of these countries. This has brought about a number of highly complex and contentious issues in almost all these less-developed market economies. Since the mid-1950s, many Third World countries have seen the chronic and alarming problem of rapidly rising ‘educated’ unemployment and underemployment, particularly among school-leavers and tertiary institution graduates. The International Labour Organization’s (ILO) employment missions to Kenya, Sri Lanka, Columbia and the Philippines in the early 1970s, together with the various subsequent regional and country studies of the ILO’s World Employment Programme (WEP) and a current report from Indonesia which estimates that 2 million youths enter the labour market each year while the number of jobs created lags far behind (Straits Times, 21, October 1988:10) are testimony to this. For example, the Indonesian Minister of Manpower recently pointed out that in the next five years the country will see some 12 million people joining the labour force and most of them with sufficient schooling to demand urban jobs, preferably with the government (Straits Times, 21, October 1988:10). The most plausible explanation given for this pervasive and critical phenomenon was that there was a widespread mismatch between jobs in the labour market and the highly stratified academically-oriented schooling system. As Raja Roy Singh (1986:143) points out:

“...schooling has tended to make the educational process abstract, ‘bookish’, divorcing it from the needs, interests and problems of real life, and ... a hiatus is created between the world of work and the world of learning, which are otherwise essential parts of a seamless web.”

The Solution
Development pundits (Harbison, 1967:17-21) who studied the ills of formal education and economic growth in some of these countries emphasized that the only rational and pragmatic way to solve this disjunction between education and work was by relating education more closely to the economy. This required students to be trained with appropriate skills and attitudes to be more relevant for the jobs that are supposedly being offered in the rapidly developing, technologically-oriented, modern industrial and agricultural sectors of the economy in these countries. In short, the pervasively influential and growing philosophy of development planners and policy makers in these countries was to produce school leavers and graduates who were easily employable in the supposedly growing organized modern sectors.

The contention among policy makers, manpower planners, human capital theorists and aid agencies was that an investment in academically biased education, though prestigious, was inappropriate to the increasingly technologically-oriented world of agriculture, commerce and industry in these countries as well as to the large number of school-leavers and graduates in terms of their employability. This growing double-edged problem was thought to be a wastage of talents and a hidden cost to many of the resource-poor economies of the Third World.

To ameliorate this growing problem, the preferred solution was to introduce alternative forms of education that were more “practical and relevant” to the world of work, in other words, to interface education and the world of
work. It was perceived that investment in work-related education would have several benefits. Firstly, it would produce the skilled and semi-skilled manpower to man the nascent technologically-oriented industrial establishments. Secondly, it would enable school-leavers and tertiary graduates to be easily employable and thus create a relatively greater equality of opportunity within the population. Thirdly, it would contribute to greater industrial development and productivity and thus economic growth. For example, the Kenyan Education Commission Report of 1964 emphasized that the training of technicians and skilled craftsmen was a sure way to industrial development in Kenya (Commonwealth Secretariat, 1987b:Box 2).

In capital-abundant and technologically-oriented Western industrial countries, with the inception of the industrial revolution in the mid-19th century, a growing proportion of education was vocationally and professionally oriented. This was further accelerated by the continuous growth and expansion of varied forms of industry, commerce, navigation and the service industry. There has thus been a legitimate shift towards work-related education at all levels (see Sum, 1985:112-3). The proliferation of this type of formal vocationally-oriented education was both general and occupational and it gradually edged out the institution of apprenticeships. Though this form of education in many instances did not bear any direct relationship to particular occupations, the employability of the products of this type of education was not a serious issue in the industrial countries except during economic depressions and after 1973. This was largely because, with the rapid creation of viable jobs in the ever-expanding Western industrial market economies, there was continuous demand for skilled and semi-skilled workers. Therefore, employers were willing and able to substitute workers with less qualifications (Williams, 1985:183).

Vocationally-Oriented Education

Since academically-oriented education was increasingly shown to be counter-productive in terms of its inability to prepare school dropouts and leavers with 'job-related' skills (see Chapman and Windham, 1985:279), Third World country policy makers, planners and educators were persuaded to pursue a practical-materialist approach as an alternative education system. As the Conference of Ministers of Education and Ministers responsible for Economic Planning of Member States in Asia and the Pacific in the early 1960s pointed out:

"The need is for diversification of education by enlarging and strengthening vocational and technical education at the second and third level in line with the developing capacity of the economy to utilize trained skills (Unesco, 1966:21)."

In Singapore, in 1960, the Minister of Education pointed out:

"Academic type of education alone is not adequate in the present day context of vast scientific and technological advance. Hence our desire to see that our children should hereafter receive more education in Science, Mathematics and Technical subjects ... Vocational and technical education will be our main-stay for the future (quoted in Loh Ai, 1982:10)."

Therefore, from the 1960s onwards one of the chief educational priorities in many Third World countries was the diversification of their educational provisions as 'an attempt to adapt the content of secondary education to the expected job needs of those leaving school' (World Bank, 1980:44). This policy was pursued through the introduction of varying forms of 'practical or occupational subjects relevant to the requirements of the labour market into an otherwise completely academic programme' (World Bank, 1980:44). It resulted in the development of two distinct education routes at the school level — namely academic/general and technical/vocational streams. In most of the countries, vocationally-oriented education was relegated to full-time vocational and practical subjects in order to provide introductory skills and thus produce semi-skilled graduates for the employment market. This form of formal school-based vocational education was further sponsored
and supplemented in various fragmented forms in a number of countries by other government ministries and agencies, non-government organizations, voluntary sectarian and non-sectarian charitable bodies, private profit-seeking training institutions and commercial/industrial organizations. This dual model in effect divorced academic/general curriculum from work experience.

As the tertiary graduate job market too was fast deteriorating in the '60s and '70s, particularly for arts and humanities graduates in many of these countries, tertiary institutions were encouraged to take the initiative to orientate their various courses of studies more narrowly towards the world of work with emphasis on engineering, business, commerce and agriculture. The contention was that the relationship between post-secondary and vocationally-oriented education and the high-level labour market was relatively more specific and direct. Therefore graduates with different tertiary qualifications could not be easily substituted for one another, particularly in the supposedly expanding vocationally-oriented high-level occupations in industry, commerce and agriculture of these developing countries.

However, the form of vocational education that was introduced in a number countries, particularly at the school level, was essentially to teach pupils useful skills and attitudes as well as prevent them from developing negative attitudes towards manual labour. It was to equip and give students an opportunity — to meet the minimum requirements of work in their society at the expense of the three R's. Attempts to introduce this form of vocationally-oriented education were not something new. Historical evidence show that, without exception, the aim of producing "a good type of sturdy literate peasantry" (Wyndham, 1933:62) has been a subject of major reports and recommendations related to educational development in almost all Third World countries during the colonial and post-colonial era. Thus, based upon these reports, throughout the present century various short-lived "successful" attempts were made to introduce vocationally-oriented education in a number of Third World countries (see Bude, 1981).

The Singapore Initiative

The island Republic of Singapore on the eve of self-government in 1959, like many other Third World countries, did not have either an industrial base and tradition nor an established vocationally-oriented education and training scheme. Although strategically located in South-east Asia, the very nature of its small physical size, precisely 620.2 square kilometres; deprived it of having a viable natural resource base. Accompanying these handicaps, was a massive unemployment problem of 13.2% and a high population growth rate of 3.6% per annum. In order to ameliorate the unemployment problem, Singapore, at the recommendation of the United Nations Industrial Survey Mission, embarked upon a policy of economic diversification in order to accelerate economic growth. The emphasis of this diversification strategy was radical — from a traditional, low value added and vulnerable entrepot trading as the mainstay of its economy to a labour-intensive export-oriented economy.

For any labour-intensive industrial strategy to be viable, it is crucial for a country to have a vocationally-and technical-oriented and trained workforce. Though Singapore was then endowed with a large enough human resource supply, it was an untrained and thus unskilled one. The country also inherited a fragmented and highly academic-oriented education system which lacked the orientation and infrastructure to adequately train its human resource to meet the anticipated manpower needs. Therefore, in order to ensure that her industrialization strategy would not be hampered as a result of a shortage of appropriately educated and trained manpower, the Government in 1960 appointed a Commission of inquiry into Vocational and Technical Education in Singapore (State of Singapore, 1961). Among the major recommendations of the report was the proposal for a new education structure comprising of academic, commercial, technical and vocational schools. It recommended that primary school-leavers should be channelled in the proportion of 20%, 8%, 7% and 65% respectively into their proposed secondary school structure (State of Singapore, 1961:39 and 63). Using the broad framework of
this report, Singapore from the early 1960s
gave top priority towards evolving and formal-
izing a well-structured, coordinated and effec-
tive vocationally-oriented education and training
system. It was anticipated that this system
would respond to the skilled manpower needs
of its industrialization strategy. Though educa-
tion was not compulsory, the country’s educa-
tion system, the springboard for vocational
training, was expanded and its provisions
continuously upgraded. An Adult Education
Board (AEB) was established in 1960 to provide
education and training on a part-time basis to
those who had left school.

Between 1961 and 1968, there was signi-
ificant growth in the number of secondary,
vocational and technical schools as well as in
student numbers. Secondary vocational schools
increased from five to twelve and secondary
technical schools from two to nine. Enrolment
in both types of schools rose from 1257 in 1960
to 1800 in 1967 (Loh Ai, 1983: 15). In spite of
this phenomenal growth in terms of numbers in
vocational and technical education, there was a
preponderance of school-leavers with a purely
academic education. In 1968, out of every 100
successful primary school-leavers who pro-
cceeded to secondary schools, the numbers that
proceeded to academic, technical and voca-
tional streams were in the proportion of 73,
12 and 15 respectively. At the secondary level,
out of every 100 school-leavers, 92 were from
the academic stream, 2 from the commercial
stream and 6 from the technical stream (MOE,
n.d.:3). The authorities in Singapore:
“... felt that such preponderance of school
leavers with a purely academic education was
not in harmony with the Government policy
of creating jobs through industrialization. In
order to ensure that Singapore’s industrializa-
tion programme would not be retarded by the
shortage of skilled manpower, it was con-
sidered necessary to expand the training facili-
ties already available in the state.” (MOE,
n.d.:3)

To give greater focus and to effectively de-
velop such a policy in the shortest possible time,
the Government formed a National Industrial
Training Council (NITC) in April 1968 to
oversee the overall development of the coun-
try’s vocational and technical education pro-
gramme. In order to enable the Council to
achieve greater coordination and efficiency, its
composition was made up of the Ministers for
Education (Chairman), Finance and Labour,
and the Parliamentary Secretary for Educa-
tion. At the level of implementation of the
education system within the Ministry of Educa-
tion, major structural reforms were introduced.
Two departments were established — the
General Education and the Technical Educa-
tion Departments. Under the latter’s adminis-
trative purview came the bilateral and tech-
nical schools, industrial training institutions
and the technical department of the country’s
Teachers’ Training College (MOE, n.d.:4).
Except for three vocational schools which were
converted into vocational institutes, the rest
were amalgamated with adjacent academic
schools to become bilateral schools. Vocational
schools as such were phased out for two
reasons. Firstly, they had been unpopular both
with parents and pupils “because they had
been used as dumping grounds for pupils who
had failed to gain entrance to secondary
schools”. Secondly, they had failed to endow
their graduates with the relevant marketable
skills (MOE, n.d.:4). In addition, the respon-
sibility for apprenticeship training which was,
till 1968, under the aegis of the Labour Depart-
ment was brought under the purview of the new
Technical Education Department.

Under this new education system, every
pupil in the first two years of secondary educa-
tion underwent a common course of studies.
This was made up of general subjects and tech-
nical drawing. In addition, all boys and 50% of
the girls had to undergo once-a-week workshop
practice which was outside the normal school
hours. The rest of the girls had to take home
Economics. This change in structure and curri-
cula at the lower secondary level had a double
edged aim. It enabled students to acquire
literacy, numeracy and the ability to deal with
concepts and at the same time introduced them
to manual skills.

A major change also took place in the
channelling of pupils into the different streams
of secondary education. Firstly, early channel-
ling of pupils into the different streams was done away with and this was deferred till secondary three, i.e. when pupils had reached the age of 13 or 14. Secondly, this channelling was based on greater objectivity, i.e. through periodic assessment and aptitude tests. Lastly, an approximate ratio of 3 to 1 between academic and technical streams was planned to be implemented in stages (MOE, n.d.:5). This was achieved by 1972 and was reflected in the enrolment numbers of students in secondary four between 1968 and 1972. In 1968, there were only 1600 students in the technical stream. However, this number increased to over 7000 by 1972 (MOE, n.d.:6).

In the field of industrial training it was found that the graduates of the vocational institutes were in great demand (Loh Ai, 1983:17). Therefore six more vocational institutes were added by the year 1972 to the existing three. This made a total of nine vocational institutes operating at almost full capacity, producing over 4000 full-time graduates in various skills that were required by a rapidly expanding industrializing economy. By comparison in 1968, a mere 324 full-time graduates were trained. These impressive achievements were materialized "with minimum cost, by using and modifying existing facilities wherever possible, by the retraining of general education teachers and by streamlining the industrial training sytem" (MOE, n.d.:6).

Anticipating the increasing usage of more sophisticated machinery and equipment by a growing number of industries, the NITC took steps to upgrade the technical and practical skills of shop-floor supervisory personnel. The Singapore Technical Institute was established in 1969, in order to bridge the gap between the trade courses offered by the vocational institutes and the 3-year technician diploma courses offered by the Singapore Polytechnic and the Ngee Ann Technical College. The graduates of the Singapore Technical Institute were not only to be the source of supply for teaching positions in the vocational and technical institutes but also to upgrade the technical skills and knowledge of the teachers and instructors of these institutes.

The achievements, thus far outlined in vocational and technical education and training were achieved despite the fact that there prevailed in Singapore a strong prejudice against blue collar jobs and in a country which pursued a voluntary system of education. The Government embarked upon an effective programme of reorientation of the basic attitudes of parents and school-leavers towards blue collar occupations. This was done through pamphleteering, distributing career literature in schools, and publicising vocational guidance programmes through the radio, television and career masters in the schools. In addition, talks and workshop discussions, by experts from various trades and industries were organized for potential school-leavers (Loh Ai, 1983:24–25).

In April 1973, the Government established an Industrial Training Board (ITB) to further centralize and coordinate industrial training, thus giving it even greater intensity and focus (Law, 1984:4). This move separated vocational training from technical education. Through this restructuring and centralized coordination, it was intended to make vocational education and training more attuned to the needs of the country's expanding service and industrial economy, in particular the tourist industry, shipbuilding and ship-repairing industry, and oil-prospecting and processing industry. The authorities realized that the growing demand for skilled manpower and the upgrading of the existing semi-skilled and skilled workforce could only be effectively undertaken if education and training were carried out within the vocational institutes and in-plant. Therefore, a greater and closer link between employers and the ITB was considered to be vital in the provision of relevantly trained manpower needs for the country's expanding industries (Loh Ai, 1983:30). This was further reinforced through dialogues, visits, consultations and joint examinations of manpower requirements between the Board and employers (Loh Ai, 1983:31). The Board's institutes provided full-time and part-time training courses at three levels technicians, tradesmen and artisans. A national Testing Certificate System was introduced in late 1973 to uniformly grade the
various industrial skills at their appropriate levels. In addition, in collaboration with industry, various apprenticeship training schemes were launched, and courses were tailor-made and conducted for industry as and when such requests were made by them. Singapore by the end of 1978 had an infrastructure with educational and training facilities to effectively promote the training of various skills at different levels in a wide range of vocationally-oriented trades.

Towards the late 1970s, major changes were again undertaken in the vocational education and training system in order to further refine its provisions. In April 1979 the ITB and the AEB, which was by now offering more and more vocationally-oriented education and training programmes (Law Song Seng, 1984c:4-5), were merged into a single national statutory body under the provisions of the Vocational and Industrial Training Board Act, 1979. This new body was called the Vocational and Industrial Training Board (VITB) and come under the purview of the Ministry of Education. This was done to rationalize the functions and resources of the ITB and AEB for greater effectiveness. Under this new structure, the VITB thus become:

"... the single national authority and agency for the development, provision and regulation of the vocational and industrial training in Singapore, with comittant responsibility for continuing education. It is concerned with vocational preparation for work in commerce or industry at the skilled level, embracing the spectrum from artisan, junior technician and advanced craftsman to sub-professional. VITB is also the national authority for the registration and regulation of apprenticeship training." (Law Song Seng, 1984c:10-11)

In its undertaking of the above activities, the VITB takes its directions from the Council on Professional and Technical Education (CPTE), a national body chaired by the Minister for Trade and Industry, that oversees the national manpower strategy and sets the targets for post-school institutional education and training at all levels (Pillay, 1985:2). The VITB between 1980 and 1987 expanded its full-time enrolment capacity from 10,000 to 23,572 (Pillay, 1985:10). The VITB has also taken on the task of developing and administering a Basic Education For Skills Training (BEST) programme. This programme hopes to upgrade the English Language and Mathematics competencies of about 300,000 adult workers (Law Song Seng, 1984a:13).

In addition to the VITB training centres, the Economic Development Board (EDB) too is involved in industrial training. Under its Joint Industrial Training Scheme, the EDB has established a number of industrial training centres. These centres are targeted for Multi-National Company’s (MNC’s) industries. Between 1972 and 1979, the EDB and the MNC’s such as TATA, Philips and Rollei, and the Japanese government have jointly set up training centres to meet the required skilled manpower needs of the MNC’s. To these existing training centres were added two more institutes, a German/Singapore and a French/Singapore institute. To date, the EDB operates three institutes of technology, one technical institute, three training centres and five specialized automation training units (Ng Ah Seng, 1986:7).

Besides the state-sponsored and coordinated vocational centres, there are a number of private institutions offering vocational courses. Their particular orientation and course offerings are in commercial studies, office skills and various service trades, such as hairdressing and dressmaking. In recent years the VITB too has begun to provide training programmes in areas which were previously served only by the private sector (Pillay, 1985:3).

To financially facilitate the task of industrial skill upgrading, a financial incentive scheme under the Skills Development Fund (SDF) was initiated and established in 1979. Employers were imposed a 1% levy on all their employees earning less than S$750 per month. Under this scheme, industries were encouraged to upgrade their workers’ skills through in-plant training. In particular, under this incentive scheme industry and trade associations are encouraged to set up permanent training facilities. For example, the Singapore Hotel Association.
Training and Educational Centre and the Electronics Industry Training Centre are cases in point. In other words, Singapore’s new initiative is to encourage the growth of a “second front” in skills training, namely employer-based (Pillay, 1988:1).

In the 1960s and 1970s, by developing to the fullest its human resource potential, Singapore evolved itself from a low-wage, low-skilled economy into one that was based on high value added industrial output and skills. This was accompanied by a near full employment situation by the mid-1970s and a declining population growth rate. In other words, within a matter of two decades the scenario has changed; Singapore has moved from a labour surplus to a labour shortage economy. In spite of these successes, Singapore’s high growth open economy faced new challenges for the future. In the 1980s, Singapore realized that in order to maintain its economic success and competitive edge it had to move away from the growth industries of the 1960s and 1970s into the fast emerging new generation of high-tech intensive industries, which are the growth industries of the 1980s and beyond. Therefore, Singapore’s emphasis since 1980 has been placed on high technology accompanied by a high-wage policy and productivity. The objective of this high-wage policy and productivity has been to encourage industries to economize the use of scarce manpower (Pillay, 1985:7). In particular, emphasis has been placed on such emerging high-tech industries as information technology, biotechnology, robotics and artificial intelligence, micro-electronics, laser technology and optics, and computer technology. All these new technologies are predicted to have a significant impact on the industrial structure of the future.

Singapore’s planners and policy makers took cognizance of the fact that if their initiative to move into the new era of high technology, greater automation and productivity is to succeed, then the industrial knowledge and skills too have to be upgraded. In other words, low-tech education and training skills are not compatible with a high-tech industrial strategy and productivity. Therefore, a comprehensive package of measures were introduced to train school-leavers at all levels in vocationally-oriented courses as well as to up-grade and retrain workers. In this total strategy of high-quality human resource development, the various public supported institutions and Boards were directed to orientate and upgrade their training to meet the demand for new technical and industrial skills at the different levels by industry. In other words, high-quality and new technologically-oriented skills at professional, sub-professional and lower levels were beefed up.

In the promotion of these efforts, for example at the tertiary level, a separate institution, namely the Nanyang Technological Institute (NTI) was established in July 1982 to train practice-oriented engineers to complement the academic-oriented engineers the National University of Singapore (NUS) was producing. Both these NTI and NUS now train 1000 engineers yearly. In computer studies, an Institute of System Science (ISS) was set up within the NUS. The main focus of ISS is to transfer the latest state-of-the-art in information technology from overseas to local industry (Law Song Seng, 1984c:16). At the sub-professional level, a Japan-Singapore Institute of Software Technology (JSIST) was set up for the training of computer personnel in order to encourage the establishment of software companies in Singapore. In addition, both the Singapore and the Ngee Ann Polytechnics, apart from offering full-time and part-time courses in their traditional fields of engineering, also offer courses in the new technologies such as robotics, digital process control system, micro-processor engineering and computer-aided design and drafting.

The Singapore experience demonstrates to us that any successful vocationally-oriented education and training strategy has to be a total one. This total strategy has encompassed and linked vocationally-oriented education and training to a dynamic constellation of internal and external factors — namely, the rapidly changing and highly competitive and protected market economy, technology, industry and the education system. This and its constant struggle and concerted effort to survive, compete and prosper in a world capitalist market
system has enabled Singapore not only to emerge as one of the Newly Industrialized Countries (NIC) with South Korea, Hong Kong and Taiwan but to be competitive and prosper.

The Third World Scenario

Many Third World countries have also emulated and adopted various models of Western-patterned vocationally-oriented education and training, in many cases with externally devised and linked qualifications without recognizing their relevance, efficiency and feasibility within their socio-cultural and economic environment, level of technological development, resource endowment and demographic structure. This uncritical adoption of Western models was largely because of the fact that adaptation to local situations required considerable extra resources in terms of indigenous intellectual skill, experience and material and human resources. These were not readily available in many Third World countries. Furthermore, the political urgency of the problem called for quick solutions, even though the cost of providing a vocationally-oriented education and training for a student is about four to six times that of a traditional ‘chalk and talk’ method of academic/general education. Therefore, Western models of vocationally-oriented education were readily adopted in most instances without recognizing their efficacy.

In the long run, many Third World countries have found these models, accompanied by their educational hardware and software, costly to sustain and upgrade in the light of the rapidly changing work technology. For example, a Brazilian case study pointed out that one of the major problems that Brazil faces is just the maintenance and operation on a continuing basis of the vocationally-oriented schools that had been established with aid from institutions such as the World Bank and Interamerican Bank of Development (Tavares, 1986:142). It would be more difficult, if she had to upgrade these schools in order to keep abreast with technological development. They have also been detrimental to the development of an indigenously oriented vocational education and training system that would enable vocational graduates to effectively participate in the country’s organized and unorganized developmental process. Thus, vocationally-oriented education can only be effective if it is promoted within the context of the total development background of a country as has been demonstrated by the Singapore case. For example, even the European Economic Community (EEC), recognizing the vast cultural and economic differences among its member nations, has abandoned attempts to create a common vocational education and training pattern among member states (Twining, 1987:14).

The optimistic proponents of vocationally-oriented education in many Third World countries in the past decade have come to realize that its outcome did not match its expectations. This form of “anticipatory investment” in vocational education and training has also not been as successful a policy as had been expected in Third World countries, except in the expanding economies of the Newly Industrialized Countries (NIC) — the ‘Four Little Dragons’ — Hong Kong, South Korea, Singapore and the Republic of China (Taiwan). Again, with the exception of the NIC’s, this form of intensive capital and recurrent cost education has not acted as a cure for unemployment. At the same time it has not helped to increase the relevant skills that are necessary for the working of a viable indigenous economy. The world economic crisis of the mid-1970s and 1980s accompanied by a big fall in the prices of primary commodities, has further exacerbated the growing “educated” unemployed in most of the Third World.

This has been largely because the proponents of the vocationally-oriented school of thought did not have the foresight to perceive the fact that the creation of vocationally-oriented education in itself will not be a magic key to jobs for those who graduate with a vocationally-oriented qualification. As in Singapore’s case, the demand for the specialized skills of these graduates had to manifest itself by the growth of a viable and technologically and employment generating economy. In other words, the realities of the society’s skill-oriented job market system have to be taken into consideration.
before a country decides to move into vocationally-oriented education. As Athar Hussain (1976:419) emphasizes:

“Educational qualifications serve as bases of selection for occupations: but it is not the educational system which actually channels [students] into occupations. The volume, categories and the terms of employment are determined not inside but outside the educational system.”

The inability on the part of many Third World policy makers and planners to perceive this cardinal point has resulted in, as Coombs (1968:76) points out:

“...many sad stories whose common plot tells of technical training schemes, embraced by all parties with good intentions, yet rendered irrelevant in their application. One African country, for example, with outside help, has been training cabinet makers in compliance with established European standards. Right now, however, that country does not need cabinet makers.”

This explicitly points out the fact that if the goods a particular skill training produces is not marketable then such a skill is irrelevant to the country.

Therefore, it is imperative in an interdependent world economic system for Third World countries to ascertain the relevance, feasibility and cost-effectiveness of vocationally-oriented education in terms of employability within a rapidly changing industrial technology and a volatile world economy before they embark upon it. This will help them to use their scarce as well as dwindling resources more effectively, particularly in a world of ever-increasing inflation and expanding and thus competing social services. As we have seen earlier the cost of vocationally-oriented education is considerably higher than that of academic/general education, and therefore education policymakers in any society have to justify the cost of vocationally-oriented education.

Many Third World policy makers, planners and educationists find it difficult to anticipate the type of rapid and immense changes that their economic, social and industrial environment will be subjected to within a world capitalist system. World commodity and oil prices might slump, as they have. Foreign industries, in order to be cost effective in a highly competitive capitalist system, might fold-up and relocate themselves in countries which are more cost-effective in terms of wages, skills, productivity and overheads. As Musson (1982:25) cogently puts it:

“Multinational companies simply adjust to the facts of international economic life, with the aim of maximizing production and distribution at the lowest costs; if manpower in one country is obstinately obstructive to new technology, workers and governments elsewhere may be more receptive in the national interest of maintaining or increasing their competitive industrial power and employments.”

On the other hand, if conditions are favourable for them to stay on, they may want to go for greater automation of their plants, thus changing the content of their labour requirements as the Singapore experience tells us.

In such fluid situations, many vocational skills become obsolete overnight and new ones emerge. In this type of situation of occupational redundancy, skills are not readily transferable. The link between education and work is rather loose, particularly in a world of rapid technological change, except in the established vocationally-oriented traditional professions such as medicine, pharmacy, accountancy and law, where acquired training and its intensity are important. Therefore, the precise relationship between vocationally-oriented education and the world of work is a matter of continuous debate. The marketability of graduates of vocationally-oriented courses is vulnerable as it is at the mercy of the employers’ demand. Who is to be employed and who is not to be employed in the productive process is an employer’s prerogative and not that of a country’s vocationally-oriented education and training system. The vocationally-oriented education system can only be effective if it has the flexibility of responding to the changing manpower
needs of employers. For example, the vocational education and training system in Singapore does exactly this (Law Song Seng, 1984c:2).

Various studies conducted on vocational education in selected Third World and developed countries have shown considerable amount of skepticism on the relevance, effectiveness and feasibility of this form of education (see Chapman & Windham, 1985; Psacharopoulos, 1987; Commonwealth Secretariat, 1987c). These studies too have demonstrated that countries have experienced different forms of dissatisfaction with vocationally-oriented education. However, broadly, there seems to be agreement that vocationally-oriented education is cost-ineffective, it has a curriculum that is too narrow, too out-of-date and irrelevant to the present-day needs of some Third World countries. In particular, on economic grounds it has not given the extra benefits that were expected to be accrued from it. As Psacharopoulos (1987:194) puts it:

"The extra cost of vocational or pre-vocational subjects at the secondary level could be justified if society derived correspondingly extra benefits from such investment. Yet the existing evidence does not substantiate this hope. Several evaluations of this programme both in the advanced and developing countries, have typically concluded that the extra benefits are not there."

However, the largest and most important resource Third World countries are endowed with are human beings who have been tied into a work culture. Therefore, the vast majority of them aspire for a life-long vocational destiny. They should be able to maximize their vocational contribution to the development and modernization of their economies. Education for people in these countries should not, therefore, be so narrowly focused that it forecloses further education or training options. Instead, its orientation should enable them to acquire literacy and communication skills and numeracy which have a broad range of applications in both the organized and unorganized sectors of the economy. Even in the rural sectors of Third World countries, as agriculture moves into greater use of technology in the form of mechanization, tubewells and irrigation, fertilizers and high yielding varieties, farmers need a sound general education with basic science and technology knowledge to cope with the sophistication that goes along with this form of production and management techniques (see Psacharopoulos, 1987:192). Education should also be able to cope with the unforeseen and with the unforeseeable change, in other words, with the not yet "invented" techniques and the fast developing new information technologies. In our fast developing societies, all types of occupations, both in the present and future, would need greater mental and skill ability. This will make the preparation for the present and future world of work more practically effective.

**Alternative Strategies for the Third World**

There seems to be an urgent necessity for resource-scarce Third World countries to reorientate their education and training policies in order to achieve greater social and economic effectiveness. This may be necessary in the light of the fact that the narrow vocational/technical educational models that many Third World countries have adopted have been slow to respond to the world of work in general and the labour market signals in particular. Even in an advanced technologically and industrially-oriented country like the United States of America, a recent study points out:

"Corporate insistence on vocational education in high schools has now been dropped in favour of a broad based academic education, with vocational programmes now being emphasized at the community college and four-year college level instead. The push for secondary students to learn communication science and mathematics skills along with problem-solving abilities and an aptitude for ‘learning to learn’ has replaced earlier corporate concerns with narrow vocational skills training, which is now inappropriate in such a rapidly changing work environment."


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2 The ideas as in this and subsequent sections are taken from an earlier article of mine entitled "Limits of Vocationally-Oriented Education in the Third World" International Journal of Educational Development Vol. 8, No 2, 1988. pp. 120-143.
Therefore, we need a radical rethink of the structure, content and process of both formal and non-formal educational systems in Third World countries. What is needed is a shift away from the present emphasis on the nature of education and of its link with the acquisition of specific skills for particular occupations (see Dore, 1980:60). This shift in the approach to education should be towards an integrated double-edged strategy. When implemented, it will hopefully enable individuals to have a sound general education which will help to develop their all-round skills and thus prepare them to participate more effectively in the design and operation of cultural, political and economic activities of their societies at the national, regional and local levels.

In addition, the rapid and pervasive technological advances that affect not only the world of work but every spectrum of human life, call for a constant cultivation and upgrading of an individual’s full range of mental and critical skills, aptitudes and talents. This form of educational perspective has to be conceived and implemented under one overall formal and non-formal educational policy like in Singapore and not in a fragmented and hierarchically stratified and dichotomized way. In other words, we need a comprehensive general educational policy which aims to integrate and interlink in a coherent fashion institutions and agencies that provide education and training within a country interfaced with the country’s economy. In order to achieve this, each country should undertake a comprehensive inventory of all the formal and informal vocational programmes offered within the country by the various government agencies, private institutions, industries and the various non-government organizations. In the light of this inventory, each country should try to integrate and interlink the various vocational training facilities that may exist within the county. In doing so, each country must mould its educational system to its own economic environment as well as its own social, cultural and related social organizations. In this pursuit, excellence should be the guiding principle for all. In particular, every effort should be made to help all schools and every pupil in their pursuit towards life-long education. In such a situation every parent knows that his or her son or daughter has an equal chance to move up the social ladder.

In order to achieve above-mentioned aims at the formal school level, there should be a total integration between a sound general education and the world of work. For every individual, the interface between education and the world of work should start from the primary level and systematically progress towards the secondary and even tertiary levels. In this interface between education and work, the major thrust of the school curriculum should not be to raise the overall level of vocational skills at the expense of a sound general education. The relationship between a sound general education and vocational skills should be asymmetrical. In an integrated educational system of this nature pupils when they leave school can have the option of either seeking employment or continuing their academic or vocational education. As Bacchus (1987:4) suggests:

"While ‘practical activities’ can be very usefully included in the educational programmes offered at these levels, they should be an intrinsic part of general education, primarily ‘focused on improving the overall quality of instruction rather than be seen as an attempt at providing skills.’"

Since this form of integrated education, unlike ‘diversified curriculum and technical/vocational schooling, initiates all students from young, irrespective of the socio-economic background to a variety of work-related programmes, it may help to reduce the deep-rooted social and economic inequalities within Third World countries.

In particular, in Third World countries at the primary level, it will be educationally more beneficial and economically more rewarding if pupils are given or ‘have instilled into them’ a sound general education which ensures that they undertake a broad, balanced range of subjects. However, their compulsory core curriculum should emphasize the 3Rs and basic sciences and relevant concepts of technology. This form of education should be linked to
appropriate practical oriented knowledge and skills in the wider world of the work environment in the community. In this model of education there is a continuous and growing interdependence between the pupil, the school and the wider world of the work environment in which the school is situated. The intensity of this interdependence should accelerate as the pupil progresses through his or her first-level educational cycle. This type of education will provide pre-vocational skills and thus avoid the harmful effects of early vocational specialization.

At the level of the second cycle too, the broad general education should be continued and a greater emphasis on a core curriculum which pertains to literacy, numeracy, basic science and technology should be continued. As in the first cycle, the second cycle too should integrate within its core curriculum work-related practice with greater intensity. Australia’s recent policy on secondary education may be relevant for the Third World as well. According to this policy:

"Secondary education should provide young people with a sound general education on which further, more specific education and training can build. Secondary education can best meet the needs of employers and the vocational needs of young people by imparting a higher order of knowledge and skills which are generally useful and widely applicable and which create the cultural preconditions favourable to economic and technological change."

(Commonwealth Secretariat, 1987 c: Vol.II, Aus I)

The alternative strategy suggested in the above discussion recommends a broad general education with a combination of a cluster of practical skills, rather than an early specialization in a specific vocation for Third World countries. This form of integrated education could give an individual an all-round training, minimize the long-established dichotomy between academic/general and technical/vocational education, check the growing educational stratification, be cost-effective and prepare individuals in Third World countries to come to terms with their essentially agricultural resource base as well as with their rapidly changing technological and industrial scene. In particular, in a changing technological scenario, a workforce with a sound broad general education can easily upgrade their skills and equip themselves for jobs in the new industries as old ones are phase out.

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Instructional Research in Reading Comprehension: a Preliminary Observation Study of Reading Comprehension Classes Taught by IE Student Teachers*

Goh Soo Tian

ABSTRACT

Developments in reading research in the last two decades have led to a fuller understanding of the reading process and enabled researchers and practitioners to address the issue of how to improve the teaching of reading comprehension. This paper reviews some of the studies in general classroom instructional research and reading comprehension instruction. It then reports an observation study of reading comprehension instruction carried out by IE student teachers. The findings of the study are discussed in the light of similar studies reviewed in the earlier section of the paper, and implications for classroom practice and further research are suggested.

Introduction

That the ability to read and comprehend written texts directly affects academic achievement in school is beyond doubt. This realisation has led reading researchers and practitioners alike in the last two decades to seriously address the fundamental question of how to improve the teaching of reading comprehension in the classroom. In the UK, the findings of the Bullock Report (1975) on the state of reading instruction in the school system were widely publicised, and the general dissatisfaction with the prevailing situation is perhaps best summed up by this simple observation: "In secondary schools there is very little teaching of reading." (Marland, 1978). However, the recommendations of the Bullock Report were taken up in numerous follow-up studies and projects aimed at improvement, among which was a major Schools’ Council Project based in Nottingham under the leadership of Lunzer and Gardner. The study was subsequently reported in the influential book The Effective Use of Reading (1979) which marked a turning point in applied reading research in the UK.

Across the Atlantic, public and professional sentiments regarding the unsatisfactory state of reading instruction at the secondary school level seemed strikingly similar. Pearson (1985), a reading specialist who worked closely with teachers, administrators and committees from school districts concluded:

"We must be doing a good job of teaching decoding skills that characterize the primary grades and a mediocre job of teaching the comprehension skills that characterize the intermediate grades." (p 725)

Data from the National Assessment of Education Progress Project (NAEP, 1981) certainly confirmed Pearson’s conclusion:

"During the 70s American reading education
made excellent progress for 9-year-olds; however, we did not fare well in helping 13-year-olds or 17-year-olds, particularly in test items requiring inferential and interpretive comprehension.’’ (p. 725)

What did the reading research community do to address the issue? Since reading comprehension instruction functions within the context of general instructional principles, possible solutions could be expected from the broader field of education research. This is in fact the case, as there are certain generally accepted instructional principles in the literature drawn from recent research which can be confidently stated. Some of these principles are (Tierney and Cunningham, 1982):

- Students achieve less in classrooms in which there is a strong emphasis on students working individually. (Stevens and Rosenshine, 1981)
- Teachers should have students read easy material and perform comprehension tasks they can complete with high success. (Cunningham, 1982)
- The more time students are engaged with academic materials or activities, the greater their achievement. (Berliner, 1981)
- For each particular group of students reading a particular set of materials in a particular allocated time, there is a pace of content coverage that will maximize student achievement. (Barr, 1982)

While empirical support for these general instructional principles is strong, translating them into practice still presents substantial problems.

Classroom Observation Research

Turning to classroom research specifically related to reading comprehension instruction, the picture is even less encouraging. One study that has particular relevance to this discussion is that of Durkin (1978–1979). Though fairly well known to reading researchers and educators, its findings bear repetition here. Durkin and her team observed reading and (to a lesser degree) social studies lessons taught by some 40 intermediate grade teachers throughout a school year for a total of 17,997 minutes. They classified what they observed into several categories of teacher and/or student behaviour, some of which include: assessment (the teacher tests students’ understanding of a selection read by asking a question), comprehension instruction (the teacher offers students some advice or direction about how to understand a text segment longer than a word) and assignment giving (the teacher gives an assignment — usually a worksheet or a page from a workbook — but stops short of offering any advice on how to complete the task), practice (students complete a workbook page or a worksheet on their own), and application (asking students to apply a skill just taught to a new example).

Durkin found that fewer than 50 of the 17,997 minutes of observation (.25%) contained any comprehension instruction. The most commonly observed teacher behaviour was assessment (17.65%) followed by assignment giving (14.35%). Application was not observed at all. From the point of view of student behaviour, the highest percentage of time was taken up by practice in doing comprehension assignments (about 9%), responding to teacher probes on assessment (about 6%), and listening to others answer questions (3%). In a subsequent study, Durkin (1981) turned her attention from classroom instruction to instructional material — teacher’s manuals accompanying basal reading programs. Using a similar scheme for analyzing what the manuals directed the teachers to do when working with students on the reading passages or on the reading skills to be taught, she found that the teacher’s manuals did a slightly better job than did the classroom teachers on the percentage of time devoted to the explicit teaching of comprehension skills. However, the instructional approach was still characterized by (1) plenty of questions for students to answer about the selections they have read and (2) lots of worksheets and assignment from the workbook for the students to practice independently. Even when instruction was provided, Durkin noted that it was usually very brief, confined to a single directive.

The lesson to be derived from Durkin’s two studies seems clear: there is too much testing and not enough explicit teaching of reading
comprehension, and there is too much individual seat work with students practising answering of comprehension questions individually. To what extent are Durkin’s research findings reflected in classroom practice today? It is more than a decade since Durkin’s first study, and new insights from theoretical research into the reading process together with knowledge of general instructional principles from educational research (Rosenshine, Berliner et al quoted above) have enabled reading researchers and practitioners to examine and investigate the reading comprehension instruction issue in a new perspective. Barr (1986), reviewing the reports and articles published in Reading Research Quarterly from 1980 through 1985, noted that only about a quarter focussed on reading comprehension instruction. Of these, roughly eighty percent were experimental in design, comparing the results of alternative teaching approaches. The experimental design invariably involves some form of teacher intervention in the instructional process, and though this does allow a useful means for testing theories about the cognitive processes underlying reading, this work has certain limitations as reading instructional research. Barr was of the opinion that there could be a greater balance struck between experimental and naturalistic approaches — in the form of descriptive/observational studies — in reading research.

What is the relevance of the foregoing discussion to local reading comprehension instruction? A literature search of research undertaken on reading instruction indicates that the majority of work done tends to focus on the primary school (eg Ng Seok Moi, 1980, 1984) or tertiary institution levels. Of the studies involving the secondary school level, almost all of them are not devoted to reading alone, but are addressed more globally to language learning or teaching, with reading constituting one strand or component (eg Ho Wah Kam, 1988). Moreover, most of these studies are on-going thus ruling out any generalisable or conclusive results for consideration. Working in this area of reading comprehension instruction in Singapore, then, one has to depend on research done in the US and UK and select and/or extrapolate what is relevant to the local context, relying in good measure on the conventional wisdom, ‘personal communication’ and one’s own intuition and understanding of the situation rather than purely on formal published research (at least in the immediate future). What follows is a brief description of an attempt at answering the same question that had prompted Durkin: “What do teachers actually do when teaching reading comprehension in the classroom?”

The Present Study

Barr’s comments on the validity of classroom observation research, quoted earlier, was a useful starting point. Her further point that intervention or innovation “should follow careful study of the existing system” and that “a useful methodology for this is one that involves descriptive documentation” seemed almost common sensical. And since reading comprehension instruction at the secondary school level in the context of teacher education appeared an unresearched area, the idea of documenting what IE student teachers did when teaching reading comprehension during teaching practice seemed a good one for providing some baseline data. A further likely trade-off was the possible linking of theory and practice in such an undertaking. Roger Bowers (1986) writing on English language teaching, observed:

“This is where I take substantial comfort from the growing interest in observational research. For perhaps in the argument between theory and practice, it is observational research which is the intermediary. In twenty years’ time the major advances in our understanding of ELT will . . . be seen as coming not from the psycholinguistic end of our profession . . . but from the sociologically inspired sphere of investigation — the scientific study of what actually happens in classrooms.” (p 92)

These then became the objectives of the study: (1) to document how IE student teachers taught reading comprehension; (2) to compare the resulting data with Durkin’s findings; and (3) to see if there is any theory-practice linkage (whether the student teachers teach according to what they learn from their training at IE).
Procedure

The observation form was distributed to lecturers who supervised the Diploma-in-Education students who taught English Language during their Teaching Practice. The observations were conducted over a period from 15 Jan to 14 Mar, 1987. A total of 22 lecturers returned their completed forms, but because of incomplete data and exclusion of student teachers teaching the General Paper in Junior Colleges, only the observations of 12 lecturers were used. The data used for final analysis comprised 3470 minutes of classroom instruction in Reading Comprehension, involving 12 observers (lecturer-supervisors) observing 100 lessons taught by 42 Diploma-in-Education student teachers in 30 secondary schools in Singapore. The levels of the classes observed ranged from Secondary One to Secondary Four, and comprised both Express and Normal stream classes. Each lesson was of 35 minutes duration, but excluding class time spent on non-instructional activities (making announcements, dealing with discipline matters etc) the actual instructional time observed and recorded was 3470 minutes.

The observation Form used was based on the Assessment of Performance in Teaching (APT) instrument with which IE supervisors were familiar. As the focus of observation was on teacher behaviour and student activity during a lesson, the category “Planning” in the APT was deleted, and the category “Student Activity” was added. The observation form thus had five categories: Inducting, Explaining and Modelling, Questioning and Responding, Giving Instructions and Evaluating, and Student Activity. Each category in the form is broken down into smaller units of behaviour/activity which form an instructional sequence. For example, the category Inducting is subdivided into four separate items: (1) Arousing interest, (2) Providing background information, (3) Activating students’ prior knowledge/experience, and (4) Stimulating thinking.

Data Presentation and Analysis

The results of the observation are presented in Table 1 and Table 2. Table 1 shows the distribution of the total observed time among the five categories. Table 2 provides a detailed breakdown into sub-categories within each category.

<table>
<thead>
<tr>
<th>Category</th>
<th>MIN.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inducting</td>
<td>446</td>
<td>12.85</td>
</tr>
<tr>
<td>Explaining and Modelling</td>
<td>641</td>
<td>18.47</td>
</tr>
<tr>
<td>Questioning &amp; Responding</td>
<td>869</td>
<td>25.04</td>
</tr>
<tr>
<td>Giving instructions &amp; Evaluating</td>
<td>318</td>
<td>9.16</td>
</tr>
<tr>
<td>Student Activity</td>
<td>1196</td>
<td>34.47</td>
</tr>
<tr>
<td>Total</td>
<td>3470</td>
<td>99.99</td>
</tr>
</tbody>
</table>

Comments and Discussion

In general terms, Table 1 shows that roughly 35% of total observed time was taken up by student activities and roughly 65% used by teachers. Of the four categories of teacher behaviour, the largest percentage of time was spent on Questioning and Responding (25%). The category ‘Explaining and Modelling’ has to do with explicit instruction of reading comprehension and it receives only some 18% of the total time. However, this figure certainly looks encouraging when compared to the .25% reported in the Durkin study. It appears that there is an awareness of the role of pre-reading activities as some 13% of the total time was spent on inducting, involving a variety of activities like showing a picture or telling a joke or anecdote related to the reading passage and activating students prior knowledge and experience.

The broad category ‘Explaining and Modelling’ warrants close examination as this is the category reflecting explicit instruction. Of the 641 minutes recorded, the highest percentage of the time (35%) was spent on explaining vocabulary in context. This rather high figure seems to correlate with the finding of the FOLL Project that the ‘ability to deduce the meanings of words in context’ was a difficult one for most Secondary 4 Normal pupils and for about half of the sample of Secondary 4 Ex-
TABLE 2: DETAILED DISTRIBUTION OF OBSERVED TIME WITHIN EACH CATEGORY OF BEHAVIOR/ACTIVITY

<table>
<thead>
<tr>
<th>Category</th>
<th>MIN.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inducing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arousing interest</td>
<td>230</td>
<td>51.57</td>
</tr>
<tr>
<td>Providing background information</td>
<td>78</td>
<td>17.49</td>
</tr>
<tr>
<td>Activating prior knowledge</td>
<td>43</td>
<td>9.64</td>
</tr>
<tr>
<td>Stimulating thinking</td>
<td>95</td>
<td>21.30</td>
</tr>
<tr>
<td></td>
<td>446</td>
<td>100.00</td>
</tr>
<tr>
<td>Explaining &amp; Modelling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehension skills/subskills</td>
<td>129</td>
<td>20.13</td>
</tr>
<tr>
<td>Structural organisation of passages</td>
<td>79</td>
<td>12.32</td>
</tr>
<tr>
<td>Text cohesion</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vocabulary in context</td>
<td>243</td>
<td>37.91</td>
</tr>
<tr>
<td>Concepts/Ideas</td>
<td>180</td>
<td>28.80</td>
</tr>
<tr>
<td>Summarizing Skills</td>
<td>10</td>
<td>1.56</td>
</tr>
<tr>
<td></td>
<td>641</td>
<td>100.00</td>
</tr>
<tr>
<td>Questioning &amp; Responding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factual questions on content</td>
<td>402</td>
<td>46.26</td>
</tr>
<tr>
<td>Inferential questions</td>
<td>119</td>
<td>13.69</td>
</tr>
<tr>
<td>Critical questions</td>
<td>98</td>
<td>11.28</td>
</tr>
<tr>
<td>Structural questions</td>
<td>53</td>
<td>6.10</td>
</tr>
<tr>
<td>Vocabulary questions</td>
<td>197</td>
<td>22.67</td>
</tr>
<tr>
<td></td>
<td>869</td>
<td>100.00</td>
</tr>
<tr>
<td>Giving instructions &amp; Evaluating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting written work</td>
<td>101</td>
<td>31.76</td>
</tr>
<tr>
<td>Setting up communicative activities</td>
<td>67</td>
<td>21.07</td>
</tr>
<tr>
<td>Returning marked exercises &amp; going through the answers</td>
<td>42</td>
<td>13.21</td>
</tr>
<tr>
<td>Asking questions to test overall comprehension</td>
<td>108</td>
<td>33.96</td>
</tr>
<tr>
<td></td>
<td>318</td>
<td>100.00</td>
</tr>
<tr>
<td>Student Activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading passage aloud</td>
<td>57</td>
<td>4.77</td>
</tr>
<tr>
<td>Silent reading</td>
<td>242</td>
<td>20.23</td>
</tr>
<tr>
<td>Doing written work</td>
<td>343</td>
<td>28.68</td>
</tr>
<tr>
<td>Writing summaries</td>
<td>36</td>
<td>3.01</td>
</tr>
<tr>
<td>Engaging in communicative activities</td>
<td>336</td>
<td>28.09</td>
</tr>
<tr>
<td>Making presentations</td>
<td>127</td>
<td>10.62</td>
</tr>
<tr>
<td>Asking questions for clarification</td>
<td>55</td>
<td>4.60</td>
</tr>
<tr>
<td></td>
<td>3470</td>
<td>100.00</td>
</tr>
</tbody>
</table>

One surprising finding is that only some 20% of the explicit instruction time was spent on teaching and modelling the sub-skills (skimming, scanning, reading for main ideas, etc). Judging from the instructional material used, where the subskill approach to the teaching of reading comprehension is still much in evidence, one would have expected a higher figure than the 20%. The debate on subskills versus holistic approaches in teaching reading remains unresolved, and to date there appears no conclusive available evidence supporting any one definitive list of subskills. Jenkins and Pany (1981) drew attention to the inherent weaknesses of the subskills approach to teaching reading comprehension:

"... it appears that students can acquire specific comprehension skills if they receive carefully designed instruction. A question that is yet unresolved is whether mastery of specific subskills affects overall comprehension. A serious void in the comprehension sub-skill research to date is the failure of researchers to assess transfer effects to other reading comprehension skills and to more general measures of comprehension." (p 181)

One prominent strand in current reading research is on the textual aspects, in particular, discourse structure (Kintsch and van Dijk, 1983; Meyer, 1975, 1977) and this has been translated into instructional strategies that deal with the microstructure (ie cohesive features at intra and inter-sentence levels) and macrostructure (ie top-level organizational patterns like cause-effect, problem-solution and comparison-contrast). While 12% of the time was spent on the macrostructure no time was recorded for the microstructure aspect. This is rather baffling since the teaching of discourse markers following the work of Halliday and focussed on teaching generic skills/strategies which students can apply in reading other passages, the teacher cannot, at the same time, ignore the content of the reading passage under study, for it is often the ideas/concepts contained in the passage, and the response generated in the students that sustain the interest in the lesson. The 180 minutes (or 28.8%) spent on dealing with concepts/ideas thus seem reasonable.
Hasan (1976) on features of text cohesion has become fairly common practice, further strengthened by the fact that questions on anaphora, pronouns and other features of reference have been regularly included in the Cambridge ‘O’ Level English Language Paper. One possible reason of its absence could be that text cohesion was taught during Grammar and/or Writing lessons and thus not repeated in reading comprehension lessons.

The most striking feature of the category ‘Questioning and Responding’ is the rather high percentage of time spent on asking factual questions on the content of the reading passage (46%). The literature on questioning and types of question has repeatedly shown that merely asking pupils recall and factual questions does not prepare them to cope with their reading intelligently as would the inclusion of higher-level questions involving inference and more critical reading. The percentage for inferential questions is only 14% and for critical questions 11%. Considering that more than 60% of the total 100 lessons observed were at the Upper Secondary level, the rather high percentage of time spent on factual questions in comparison with inferential questions is rather disturbing.

Moving from teacher behaviour to student behaviour, one notes a striking feature: the class time spent by students on doing written work (comprehension exercises) and engaging in communicative activities (reading comprehension tasks involving small group interaction) was about the same: 26.68% and 28.09% respectively. If the time spent by students on making presentations (this is usually the last stage in a communicative teaching strategy where students, after small group discussion, report back to the whole class), the total for communicative activities will be 38%. Over the last ten years, Communicative Language Teaching (CLT) has become widely accepted, and more recently, the communicative approach has also been applied to reading comprehension instruction. Casanave (1988), in an article “Adding Communication to the ESL Reading Class” explains the theoretical justification for a more communicative approach to teaching reading comprehension:

“Including communicative activities in the ESL reading class will change the nature of the reading class . . . it will be one into which reading fits into an integrated programme for larger communication and language acquisition purposes. Reading will be understood to be more than a discrete language skill that must be taught in and of itself; rather, reading will be taught as what readers do with what they read — think about it in relation to something else, talk about it with friends, struggle with ideas and content in order to increase knowledge . . .” (p 21-22)

One possible objection that could be advanced against an indiscriminate use of the communicative approach in reading comprehension lessons is that students now spend more time talking and interacting and are not sufficiently engaged in actual reading of the texts. To ensure that this does not happen, the teacher must ensure that provisions are made for students to actually read and process the stimulus text, not just skim or scan, before the interactive communication phase. Looking at the data, one notes 20% of the time devoted to silent reading. This can be taken as evidence that in the lessons observed, communicative activities did not lead to a reduction of time for students to read the texts individually.

Traditionally, in the local situation, doing written work during reading comprehension lessons is somewhat standard practice. The quota of pieces of written work students are expected to do per term and the usual provision of double-period comprehension lessons on the time-table mean that a good amount of class time is given to written work. The 343 minutes recorded (roughly 10% of total observed time) is actually lower than one would expect, and is comparable to the 9% in the Durkin study.

Conclusions
Before drawing some general conclusions from the data gathered in the observation study, it is pertinent to point out certain limitations in the study. First, the sample size (3470 minutes of observation involving 42 teachers teaching in 30 schools), though not small, could have been larger. Second, the observers in the study were IE lecturers on their regular supervision and
were not specially trained to undertake the observation. Related to this, it is customary for supervisors to inform supervisees of their visits in advance. This might have an effect on the type of lessons the student-teachers chose to teach and the actual instructional strategies used. Because the observers were not the lecturers who taught the reading comprehension component of the English methodology course, one of the objectives of the study, that is, the linkage between theory and practice in the sense of matching observed teacher behaviour with what was taught in the course, was not possible to achieve.

The limitations notwithstanding, a few general conclusions could perhaps be drawn from the data and information obtained.

1. The student teachers in the study did spend a satisfactory amount of lesson time (13%) on Inducting, showing a realisation of the importance of pre-reading activities like activating schemata before the actual reading of text.

2. There is evidence of active teacher input in the form of explicit instruction (18%) and questioning/responding (25%).

3. There is no evidence that more time was spent on testing than teaching reading comprehension (.03% of total observed time was spent on asking questions to test understanding, compared to the 17.65% in the Durkin study).

4. A sizeable portion of lesson time was devoted to communicative activities (13%).

5. Pupils did not spend an inordinate amount of lesson time doing written work (10%).

6. Vocabulary work took up a fairly large amount of lesson time (12.6%).

Finally, a few suggestions for further work in instructional research in reading comprehension. As the present study is confined to IE student teachers, the generalisability of its tentative findings is limited. First, studies involving qualified teachers with variable factors such as age, sex, years of teaching experience and whether trained to teach reading could provide valuable information for teacher educators, administrators and textbook writers involved in reading education. Second, as the transition from primary to secondary school has important implications for reading instruction, observation studies comparing how reading comprehension is taught at Primary Six and at Secondary One could also provide useful information. Third, observation studies can be extended to include social studies lessons (as Durkin has done) and even Science and Mathematics lessons, since the teaching of reading should be across the curriculum and not confined to reading lessons alone.

Acknowledgments

The author wishes to thank his IE colleagues for their participation in the classroom observations.

*Copies of the observation form are available from the author.

REFERENCES


Singapore Colloquial English and Standard English*

Anthea Fraser Gupta

ABSTRACT

Singapore English can be described as *diglossic*, that is, most of the proficient adult users of English in Singapore use two grammatically distinct varieties of English: (1) Singapore Colloquial English, which is used with close friends, to children, and informally in general and (2) Standard English, which is used in writing, in formal situations, and is associated with education. Singapore Colloquial English is informally learnt, while the teaching of Standard English is a primary responsibility of the school.

Students at the National University of Singapore, and especially those taking courses in the Department of English Language and Literature, can be expected to show the highest attainment levels in Standard English of those coming from the education system. The oral skills of these students are generally very good, both in comprehension and production. Their control of vocabulary is outstanding. While some students still have problems producing Standard English (especially in the area of tenses) most students make few grammatical errors. However, they do have problems with the organisation of material, report writing, and techniques of argumentation. Students also tend to write in a uniformly journalistic style, having little control over the use of different styles for different types of writing. Awareness of the functions of English in Singapore may help teachers to understand the importance of stylistic appropriacy.

**Diglossia**

This paper is motivated by three areas of my work:

(1) research on the idea of a standard English special to Singapore (Tay and Gupta 1981, Gupta 1986);

(2) my current research, which is a small-scale study of a handful of Singaporean children who are acquiring English as one of their native languages, i.e. pre-school (Gupta 1985). At the moment I have made recordings of two families using English, over a period of four years. The four children of

* This paper is the written version of a talk given on 5 September 1987 at the Seminar for Senior English Teachers: the secondary English Language Syllabus, held at RELC. I would like to thank colleagues at the National University of Singapore, and Loh Siew Kwi of the Ministry of Education, who discussed the paper with me before presentation, and also the participants at the Seminar for their warm and lively discussion.
my study have ranged from 1.09 months to 8 years 9 months. They are Chinese Singa-
poreans, who speak principally English at home, alongside two or three varieties of
Chinese; and
(3) my experiences in teaching Singapore undergraduates since 1975.

What my work in (1) and (2) has made me conclude is that we can think of there being two
grammatically distinct varieties of English in Singapore, both of which are used by proficient
speakers of English. There are, of course, at the same time differing levels of proficiency in
English — but I would like to distinguish the scale of proficiency from this use of two dif-
ferent varieties by the same speaker. Proficient adult speakers of English in Singapore use two
sharply different kinds of English depending on the circumstances: I refer to these two varieties
as (a) Singapore Colloquial English (SCE) and (b) Standard English (StdE). The pattern of
usage shown by SCE and StdE is much like similar patterns for Arabic and Greek described
by Ferguson (1959) and can be referred to as diglossic.

Singapore Colloquial English

Some scholars who have written about Singa-
pore English (Sing E) have suggested that this is
the same as the kind of English spoken by non-
proficient users of English in Singapore (e.g.
Platt and Weber 1980:113); others (e.g.
Bradshaw, personal communication; Lim
1986: 200), with whom I am in agreement, feel
that while the informal style of proficient
speakers is in some respects similar to the lan-
guage of speakers (of English) of low pro-
ficiency, it is not precisely the same. SCE is
used with close friends, within the family, to
small children, and in many informal situa-
tions.

Grammatical features:
(1) Use of pragmatic particles. These are mostly
loans from Southern varieties of Chinese.
They often, but not always are in sentence
final position, and serve to indicate the atti-
dude of speakers to what they say. For
example, a, ho, and ha may indicate doubt,
ask for agreement, or question, while la
generally indicates that the speaker is
asserting something or commanding (also
na), and ma and what show that the speaker
is contradicting something that has been
said.

Example (particles italicised)
You go to school ha? (mother to child)
If you don’t press a, you don’t change. (6
year old to AFG)
Her price is too high for me la. (adult on
phone to semi-stranger)
I never ever draw what. (Nearly 5 year old
child to younger sister, who has accused
her of drawing on a book)
You cannot go out. Dirty na! (mother to
child)

(2) Verb groups without subjects.
Example (^ indicates where the subject
would be)
^ Go where? (6 year old to adult)
^ Still got fever? (father to child)
^ Don’t want. (everybody)

(3) Conditional clauses without subordinating con-
junction.
Example (^ indicates where the sub-
ordinating conjunction would be)
^ You put there, then how to go up?
(mother to child)
^ I sit here talk, can hear also. (father to
child)
^ I big like my friend then I no need to [go
swimming lesson] (6 year old)

(4) Subject + -ing and Subject + Complement,
where StdE would have a part of the verb TO
BE.
Examples (^ indicates where BE would be)
He ^scared. (6 year old)
She ^ so naughty. (10 year old)
Today I ^ going swimming. (6 year old)
Flower ^ there a. (mother to child)

Standard English

To be regarded as a proficient English-user by
this community, an adult has to be able to
speak and write Singapore Standard English.
Proficient users do this in formal situations,
in writing, and in pedagogic situations.
Grammatical features:

(5) **Aux + Subj in interrogatives**
*Examples* (/ is used between the inverted subject and object)*
What do / you want? (mother to child)
Would / you like one? (mother to AFG)

(6) **Verb endings for past tense, 3rd person singular present tense and past participle**
*Examples* (inflected verb italicised)*
The colour has / sort of changed too.
(mother to AFG)
My mother bought / for me. (6 year old to AFG)
She loves going there (mother to AFG)

(7) **Plural and possessive endings on nouns**
*Examples* (inflected noun italicised)*
I give teacher a teacher day’s card. (6 year old)
The children have got no money with them. (mother to child)
She’s learnt a lot of hymns. (mother to AFG)
Two years old is babies. (4 year old)

(8) **Certain complex verb groups**
*Examples* (italicised)*
She’s been going there for three years now.
(mother to AFG)
This kind may not last though. (mother to AFG)
We had people coming, so we didn’t go.
(mother to AFG)
I going to take one paper and draw one butterfly. (4 year old)

**Usage of Singapore Colloquial English**

The adults in my study, as you can see from even these few examples, consistently use StdE to me (AFG), while to their own children they sometimes use SCE, and sometimes StdE, depending on how conscious they are of me and my taperecorder, and depending on the topic. If they are talking about schoolwork they are more likely to use StdE to their children. The older children begin to distinguish StdE from SCE around 5 or 6 years, approximately coinciding with their first experiences of formal education. The children I am quoting here still make errors (like “teacher day’s card”). I call them errors only because I can assume that their target is the behaviour of the adults around them. If they do not behave like the adults around them, then the discrepancy can be described as a developmental error. But when SCE is appropriate, the SCE features, whether from children or adults, are not errors, because I have evidence that highly educated adults choose to use this kind of grammer — they don’t fall into it by error.

My work has suggested to me that Singapore Standard English is not very much different from other Standard varieties of English. There are a few special words (**wet market, void deck, jaga, alphabet**, as used in MinEd entry in telephone directory) and some minor grammatical features which are not shared by British or American Standard English, such as different use of will/would, and of continuous verb groups. These are all very minor and marginal (Gupta 1986). One example of Singapore Standard English speech is the use of the invariable *is it* tag:

You really want to learn, *is it*? (Mother to AFG)

Neither this nor its equivalent in other standard varieties of English:
You really want to learn, *do you*?

are appropriate in formal written usage: as all users know, they are used only in speech.

These varieties of English will be learnt in different ways. Singapore Colloquial English is learnt informally at home or in the playground. Some children will learn it from their parents, others from brothers and sisters or playmates. Standard English however is normally learnt formally, in the classroom. Only a tiny minority of very high prestige families use Standard English as a domestic language: few pre-school children in Singapore, including those from English-speaking homes, are likely to speak Standard English. Thus the teaching of Standard English is a primary responsibility of the school.

**Singapore Colloquial English and Standard English in the Schools**

The present focus in schools is rightly on StdE, and everyone who gets to Secondary School should be capable of learning to use acceptable
StdE. If you are capable of learning one language you are capable of learning another. The classroom environment should create a situation where StdE is expected, and teachers should be encouraged to identify the differences between StdE and SCE, so that they can aim to use StdE in the classroom.

However, oral ability in SCE also matters in this community. Furthermore, the use of SCE, which shares a common vocabulary with StdE, and has some similarities in grammar, helps to develop skill in StdE. The school can create an English speaking environment, without undue concern whether the English outside the classroom is StdE or SCE. If English (i.e. SCE) is not being used in the playground it can be encouraged: the use of English helps different racial and linguistic groups to mix, while conversely, encouraging such mixing will help ensure the use of English (which will be SCE). The school thus provides two English-speaking environments: a StdE environment in the classroom, and an SCE environment in the playground. Some students who make poor progress in StdE may also make poor progress in SCE. For these students it may be necessary to ensure that they are mixing with those from whom they will learn SCE, so that when they leave school they are proficient in at least one variety of English.

My discussion so far has already made clear that I do not think that the school should try to eradicate SCE. The features of SCE I have listed above, cannot be called mistakes: the adult speakers are highly educated people who do speak in StdE when they choose to. In some social situations they are choosing SCE. Language teaching will not be successful where it has to run against the prejudices of learners. Many young people (and older ones) in Singapore would resist, perhaps unconsciously, the idea that they should speak StdE in informal situations. If StdE is being presented to them as a replacement for SCE, this could cause them to reject StdE as a model even outside colloquial situations. The problem for the teacher and the syllabus designer therefore is that situations for teaching of English should as far as possible be restricted to situations where StdE can reasonably be expected. This is especially difficult for young people who, outside school, are not in many situations where StdE can be expected. If SCE is recognised as a valid variety of English in its place, the issue of where StdE is appropriate and where SCE is appropriate can be explicitly addressed, and actually discussed, in areas such as drama, or other types of role play. In writing too, if students are representing dialogue SCE could be appropriate, and its use in dialogue can show students that it has to contrast with StdE elsewhere in writing.

**English in the University**

The students who come to the National University of Singapore are the success of the educational system. In particular, the students who are admitted to courses in English Language and Literature are the success of the English Language syllabus. Over twelve years of teaching these students, I have reached my own conclusions about their areas of strength and weakness. It will be apparent to the reader that the weaknesses I identify in these students definitely do not result from the presence or use of SCE in Singapore. The syntax of SCE is sharply different from the syntax of StdE, but members of the English-speaking community learn to separate them. I even have data showing a child of 4;09 separating SCE and (her version of) StdE.

**Particular Strengths**

1. The control of educated vocabulary of the average National University of Singapore (NUS) student is excellent. This sometimes leads to an overuse of unusual vocabulary, especially literary or formal vocabulary (e.g. from *The Ridge* 20 July 1987).

   There will also be a section *whereby* personal compositions of poetry, music songs and essays will be printed and shared with *one and all*.

   (*whereby* is formal (Longman’s), the general style of passage is informal: *one and all* is a cliche)

2. Comprehension of reading especially of oral material presents little problem for most of...
the students. Students coming into NUS are faced with lecturers from all over the world, who use a wide variety of accents. The ability of the students to cope with understanding oral delivery in lectures and in small group discussions shows a very considerable level.

3. On the whole the better students show an excellent control of standard English. In English Language and Literature an entrance test ensures that only those students who have such a control are admitted. Other departments however do encounter students who have not mastered the bones of the language. Remaining problems include areas of the language which are easily taught, especially subject-verb concord and present/past tense distinction. The other major problem, rather harder to correct, is in connecting clauses correctly. Again, my examples are from the student newspaper (The Ridge, 20 July 1987).

Some examples of serious nonstandardisms:
(a) This society has long be looked upon … (has been)
(b) … they were also afraid that members of the public may take photographs and complained. (may complain — context gives meaning)
(c) … the hallowed halls of Kent Ridge is filled with dramatic opportunities. (are filled)

4. Over my years in NUS I have seen a steady increase in the willingness of students to engage in discussion, ask questions and even (with encouragement) argue with their teachers. Indeed in many students, oral skills are far ahead of writing skills.

Weaknesses

1. The major area of weakness is to do with content rather than form. This affects both reading and writing skills. In reading, few students have an ability to scan a text quickly and pick out the main points. They use techniques of reading which rely on highlighting key sentences in a xerox, sometimes identifying up to half the article as ‘key’! Too much material, in particular too much detail, is memorized. They should be encouraged to read an entire article and then make brief notes, rather than always working from a complete text. Techniques of reading which give equal attention to every sentence create ‘woods and trees’ problems. The current secondary syllabus (p. 9) mentions skimming and sifting as a valuable reading skill, and this should be emphasized. However, students should be encouraged to read and summarize for themselves, and not in a study group situation, where each member reads one text, and summarizes it for the rest.

In writing too, few students show an ability to pick out the major points and present them clearly. There is a need to teach them to focus on the content of what they write rather than on the language. The syllabus (p. 9) teaches summary writing, defined as being the summarizing of a text into one third the length, and not more than 60 words. Students have also had experience of various types of comprehension questions. But there may be room for shorter summaries, or “main point” summaries, i.e. giving in one or two sentences what is the writer’s overall message.

2. Linked with this, few students show an ability to plan a piece of writing. Their essays are seldom organised to cover information logically. What students seem to feel they have to have is an introductory paragraph which repeats the question, and a conclusion which usually adds nothing new to the essay. Between these two empty paragraphs, they proceed from one point to another without links between the points. This may be connected with the teaching of “organisation of material in composition” in the syllabus (p. 45), as “a clear introduction, well-connected paragraphs, and a neat concluding sentence.” Students seem to learn this structure without understanding that this form is secondary to the content. Without organisation of content, clear introductions and neat concluding sentences become empty. The unlinked, meaningless introductory paragraph which repeats the question, and a conclusion which usually adds nothing new to the essay. Between these two empty paragraphs, they proceed from one point to another without links between the points. This may be connected with the teaching of “organisation of material in composition” in the syllabus (p. 45), as “a clear introduction, well-connected paragraphs, and a neat concluding sentence.” Students seem to learn this structure without understanding that this form is secondary to the content. Without organisation of content, clear introductions and neat concluding sentences become empty. The unlinked, meaningless introductory paragraph was also referred to in the O-level examiners’ report of 1986. The reliance on the structured or guided composition in the secondary schools may delay students’ ability to organise their own material.

Some students have the idea that there should be links between paragraphs without having the ability to put it into practice: this
leads to expressions like therefore, thus, for example, and on the other hand being used as if they create links. Words like these cannot make links between unrelated bits of information: students need to learn that words like this reflect links that are there in the first place.

This poem does not rhyme. It cannot therefore be a lyric, as lyrics are short.

3. Students need to learn techniques of writing which allow them to organise material in which facts or opinions are contradictory. At present students seem quite able to write down contradictory views without even realising that they are contradictory. Exercises helpful to this would involve giving the students material to support and oppose a perspective, then requiring them to discuss the strengths and weaknesses of both approaches. It is not always necessary in academic writing for a student to come out in favour of one side. The students’ writing however suggests that they have been encouraged to take up positions in their writing. Again the syllabus (p. 32, Sec. 3) describes the teaching of techniques of expository and argumentative prose as well as reports. Perhaps the emphasis in the classroom, as in the syllabus, is on freshness, originality, being interesting, lively, and convincing (p. 45). Of course all these matter, but students in all walks of life will find themselves writing texts which are more of a report nature, in which detachment and clarity are more important than liveliness or being convincing. The syllabus (p. 46) clearly recognises this.

4. More directly related to language, students have problems to do with register — choosing an appropriate style for the type of thing they are writing. They tend to feel obliged to express opinions (of a conventional sort) even where not appropriate, and have a fondness for the declamatory or debating style rather than for reasoned argument. They often use a journalistic style, addressing their readers, for example, with imperatives and with an excess of rhetorical questions. The rhetorical questions are usually used, not as an organisational pointer, but in order to avoid discussing some problematical issues. They also use too many cliches, and have a fondness for unusual, often very formal, structures that they must have been taught, and which go very oddly with the chatty style they in general prefer; e.g. the overuse of the rather affected concessive structure with subjunctive be structure (Be it wet or dry, I still like to swim). This is described by Quirk et al 1972:752 as “rare and somewhat literary”. One of the few linguistic structures that is mentioned in the syllabus as being taught at Sec 4 level is the use of adverbs at the beginning of a sentence (“Never has there been such a good turnout”). This is another example of a structure overused by undergraduates. Quirk et al (1972:378, 380) describes this structure as “formal and literary”. If constructions like these have to be taught at all it should be with warnings about their status. There are very few occasions in modern usage where such a construction is appropriate.

The syllabus (p. 47) recommends the teacher to use “textbooks in other subjects” alongside “newspapers, magazines and novels” in teaching grammar points. The students’ writing however suggests that newspapers and magazines are their staple reading material for pleasure and their style is their normal writing style. The teaching of appropriate style should be linked to students’ work in subject areas: this is not the responsibility only of the English teacher.

Conclusion

The use of different types of language and organisations for different genres is a difficult concept. In general students should be asked to consider their readers or hearers in terms of what are the assumptions and background knowledge that can be built upon by the writer or speaker, and what will need to be explained. Whatever they write or say in a non-educational setting will have to consider the reasons for the act of communication, and the needs of the addresses.

There have been two apparently distinct parts to my paper; in fact they are linked. My concluding sentence is that the teacher needs to have a constant awareness of the appropriacy of different styles for different settings, that the bricks and mortar of the English language are being well taught, and that it is time to look towards the shape of the wall.
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The Career Maturity of Singaporean Adolescents — Where do We Stand and What Can be Done?*

Esther Tan

ABSTRACT

This study investigated the cognitive, attitudinal and behavioural aspects of the career maturity of 1380 secondary school and junior college students.

The findings reveal a general weakness in career exploration and in the students’ development of career decision-making skills. While no significant gender differences can be observed, there is strong evidence to indicate that career development does mature with age. The findings also suggest a positive association between career maturity and academic performance and between career maturity and parental involvement. Among the resource persons identified, teachers are the least consulted. They are also rated as the least helpful source of career information.

In the light of these findings, implications for the planning and implementation of career guidance in schools to enhance the career maturity of the students are discussed and suggestions made.

Introduction

Career maturity can be defined as readiness to cope with vocational development tasks. Ginzberg (1951), one of the earlier researchers in career development, believed that “to some degree, the way in which a young person deals with his occupational choice is indicative of his general maturity and, conversely, in assessing the latter, considerations must be given to the way in which he is handling his occupational choice problem” (p. 60). Extending this definition, Super (1957, p. 186) indicated that in a gross sense, career maturity can be described as “the place reached on the continuum of vocational development from exploration to decline”. Later still, Crites (1961, p. 259) described it as “the maturity of an individual’s vocational behaviour as indicated by the similarity between his behaviour and that of the oldest individuals in his vocational life stage”.

Since the construct of career maturity is closely linked to the concept of vocational life stages, one needs to understand the latter in order to assess the former. Super (1963) sees career development as a developmental process from childhood to retirement in which an individual goes through different vocational life stages to develop and implement a career self-concept. He believes that in expressing a vocational preference, a person puts into occupational terminology his idea of the kind of person he is; that in entering an occupation, he seeks to implement a concept of himself; that in getting established in an occupation, he achieves self-actualization. In one of his earlier works, Super (1957) outlines five vocational life stages in career development:

1. Growth Stage (Childhood)

In this stage the child develops a self-concept

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through identification with key figures at home and in school. Needs and fantasies are dominant early in this stage but as the child grows older, he engages in increasing social participation and reality testing.

2. Exploration Stage (Adolescence)

This stage is characterized by self-examination and role tryout. The adolescent continues his quest for a career self-concept through career exploration which often culminates in the crystallization of a vocational preference by the end of adolescence.

3. Establishment Stage (Adulthood)

Having decided on an occupational field, the individual makes an effort to find his place in the world of work. There may be some trials initially, resulting in consequent shifting and finally stabilization in the choice of occupations.

4. Maintenance Stage (Middle Age)

Having found a place in the world of work, the concern now is to hold it. Little new ground is broken in this stage but there is continuous advancement along established lines.

5. Decline Stage (Retirement)

As physical and mental abilities decline, work activity goes through a period of deceleration and finally ends in retirement.

In the context of this research study, career maturity of the adolescents was measured in terms of a) their orientation towards the need for and the usefulness of career planning, b) the extent of their involvement in career exploration and their readiness to crystallize a career preference c) the extent of their occupational knowledge and awareness of the world of work and d) the level of their career decision-making skills.

The Sample

Using the cross-sectional design and stratified random sampling techniques, a sample of 1380 students was drawn from 14 secondary schools and 3 junior colleges. Stratification was based on geographical location, type of school as well as distribution of the students in terms of age, gender and curriculum. Tables 1 and 2 illustrate the sample distribution by age, gender and curriculum.

Instrumentation

In this study, an adapted form of the Australian Career Development Inventory was administered to the students in groups of 40 in their respective schools.

The CDI-A consists of four scales designed to assess the attitudinal, cognitive and behavioural aspects of career development. Further more, scores on all the scales can be combined into a single score which, to a certain extent, indicates the career maturity of the subjects. The scales and composites are as follows:

Career Planning (CP)

This section is intended to reflect the students' orientation towards the need for and usefulness

<table>
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<th>Female</th>
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of career planning. It comprises 20 items in which the student reports on the type and extent of career planning he or she has engaged in and the degree of the engagement; for example, in talking about career plans with an adult and in seeking career information.

Career Exploration (CE)
This 16-item scale is also self-report in nature. The first eight items ask the students to rate relatives, friends, significant adults, printed matters and other media as sources of career information. The remaining eight questions ask for ratings of the usefulness of the information received from these sources.

World of Work Information (WW)
This is a cognitive scale intended to assess the career awareness and occupational knowledge that contribute to successful career planning. The first eight items assess knowledge of the career developmental tasks in the Exploratory and the early Establishment stages as described by Super (1957). The remaining 16 questions test knowledge of the occupational structure of sample occupations ranging from semi-skilled to professional jobs and of techniques for getting and holding a job.

Decision-Making (DM)
This scale consists of 12 items which involve brief sketches of people making career decisions. The situations cover a range of educational and occupational levels and both traditionally male and female occupations. The rational is that students who can solve the career problems in these sketches successfully are capable of making wise decisions about their own careers. Thus the scale attempts to measure the ability to apply occupational knowledge to career decision-making.

Career Orientation Total (COT)
The Career Orientation Total score can be obtained by combining all the scales (CP, CE, WW and DM). This general total score reflects the career maturity of the students.

Results
a) The Career Planning of Singaporean Adolescents
The findings as shown in Figure 1 reveal that as far as career planning is concerned, there is among Singaporean students a preoccupation with educational planning such as the choosing of a school/junior college or deciding on subject specialization. In terms of goal setting in career planning, the majority of the students are still at the stage of considering a possible occupational field rather than thinking about a specific occupation, let alone making preparations for a future career. For those who have some tentative choices, they admit that they know very little about what people actually do on the job, the abilities needed, the working conditions, starting pay, the training required and ways of entering their preferred occupations. In other words, they have not achieved what Super (1957) describes as an important vocational developmental task in adolescence — the crystallization of a career preference.

b) Career Exploration of Singaporean Adolescents
Figure 2 shows that among the students surveyed, the most popular source of information seem to be role models in the preferred occupation, followed by printed materials such as pamphlets and information booklets and their parents. Figure 3 shows their ratings of the usefulness of these sources of occupational information. Interestingly enough, school teachers are the last persons they would consult about their career plans. This could be due to
Figure 1: Career Planning of Singaporean Pupils

LEGEND
- Seeking Information
- Choosing School/JC
- Choosing Subjects
- Getting Part-time job
- Getting Money
- Sorting out Problems
- Deciding on Occupational Field

Figure 2: Sources of Career Information

LEGEND
- Parents
- Teachers
- Siblings
- Other Adults
- Printed Materials
- Audio Visual Materials
- Role Model
the fact that career guidance is still not a common practice in most Singapore schools and teachers are still thought of mostly as dispensers of knowledge rather than resource persons in career planning. It is hoped that with the current emphasis on Pastoral Care and Career Guidance in Singapore schools, the extended roles of the teacher as mentor and counsellor will be more readily accepted.

c) World of Work Information

This subscale of the Career Development Inventory attempts an objective assessment of the students' knowledge and understanding of the world of work in terms of a) knowledge about job preparation (how to go about preparing for a future career), b) job orientation (having a realistic and sound understanding of
job satisfaction and employment outlook), c) knowledge about job hunting, training required for sampled occupations and tools and skills required for a variety of occupations ranging from semi-skilled to professional jobs.

Figure 4 shows that on the whole the students are weak in their knowledge about training requirements and the kind of tools and skills required for a particular job. They are more inclined to give the correct answers to general questions pertaining to job hunting skills and the concept of job satisfaction (job orientation).

d) Career Decision-making Skills

This subscale assesses decision-making skills pertaining to planning for a career, matching self-awareness to job knowledge and setting realistic career goals, all of which are considered as indicators of career maturity. As shown in Figure 5, analysis of the data shows that among the four aspects of career maturity measured, the students are weak in the area of career decision-making, especially in linking self-knowledge to decision-making.

The Career Maturity of the Adolescents — Where do We Stand?

Having examined the four aspects of career development separately, the next step is to piece all the information together to look at the overall developmental pattern of Singaporean students. Figure 6 gives a graphical presentation of this general pattern, showing that on the whole the weak areas of Singaporean adolescents in career development are “career exploration” and “Decision-making”. The former measures the extent and readiness to seek career information while the latter assesses career decision-making skills.

Age Differences in Career Maturity

Close scrutiny of the data shows age differences amongst Singaporean adolescents as evidenced in a gradual and steady increase across the age groups in their career maturity mean scores (Fig. 7). Further more, analysis for variance using Anova procedures reveals that except in the subscale “Career Exploration”, such age differences are statistically significant. This means that as the students grow older, they become increasingly more involved in career planning, acquire a greater amount of work knowledge and develop a higher level of career decision-making skills. Such results confirm the findings of researchers in the U.S., Canada and Australia as well as lending support to Super’s developmental career self-concept theory (Jepsen, 1975; Khan & Alvi, 1981; 1983;
Figure 6: General CDI Profile

Aspects of Career Development

Figure 7: Age Differences in CDI Score

Sex Differences in Career Maturity

With regard to the relationship between career maturity and gender, several American and Canadian studies have reported significant sex differences in career maturity in favour of females (Herr & Enderlein, 1976; Khan, Alvi & Kwong, 1982; Omvig & Thomas, 1977). In the Singapore sample, pair-wise t-tests reveal significant sex differences in “career planning” in favour of the boys and in “world of work information” and “decision-making” in favour of the girls. However, there is no significant sex differences in the overall career maturity of the students in the sample.
TABLE 3: THE CAREER DEVELOPMENT OF SINGAPOREAN STUDENTS

Comparison by Sex

<table>
<thead>
<tr>
<th>CDI Variables</th>
<th>Mean Score of $t$</th>
<th>Total Mean of Sample</th>
<th>Total Means as % of Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP</td>
<td>54.0 51.9</td>
<td>52.9</td>
<td>57.51</td>
</tr>
<tr>
<td>CE</td>
<td>34.6 33.9</td>
<td>34.3</td>
<td>53.54</td>
</tr>
<tr>
<td>WW</td>
<td>14.8 15.9</td>
<td>15.4</td>
<td>64.04</td>
</tr>
<tr>
<td>DM</td>
<td>6.2 7.2</td>
<td>6.7</td>
<td>56.06</td>
</tr>
<tr>
<td>CDA</td>
<td>88.6 85.9</td>
<td>87.2</td>
<td>55.88</td>
</tr>
<tr>
<td>CDK</td>
<td>21.0 23.0</td>
<td>22.1</td>
<td>61.38</td>
</tr>
<tr>
<td>COT</td>
<td>109.7 108.9</td>
<td>109.3</td>
<td>56.91</td>
</tr>
</tbody>
</table>

Career Development Inventory Variables:
- CP = Career Planning
- CE = Career Exploration
- WW = World of Work Information
- DM = Career Decision Making
- CDA = Career Development Attitude (CP + CE)
- CDK = Career Development Knowledge (WW + DM)
- COT = Career Orientation Total (CDA + CDK)

The Relationship Between Career Maturity, Curriculum and Academic Achievement

Some American studies have reported that at all age levels, students from academic courses perform better in career maturity measures than students in business courses, vocational courses and general courses (Herr & Enderlein, 1976, Khan & Alvi, 1985). Figure 8 shows that in the Singapore study, analysis of variance shows some significant differences in the career maturity mean scores of students enrolled in the different curricular groups in favour of the Arts students and Science students. Such results seem to support the findings of research studies conducted overseas.

To check out the claim that career maturity is often positively linked to academic achievement (Westbrook, 1983), a comparison is made between the Career Maturity mean scores of high-achievers and low-achievers in the sample. The results of analysis shows significant differences between the two groups in the "World of Work Knowledge" ($t = -10.83$, df = 743, $p < .001$) and "Decision-Making" ($t = -8.22$, df = 743, $p < .001$) subscales and in the overall Career Maturity Score ($t = -4.57$, df = 743, $p < .001$). As these two subscales measure the cognitive dimension of career maturity, such findings lend support to Westbrook's (1983) observation that there is a positive correlation between the cognitive aspect of career development and academic performances.

Home Influences on Career Maturity

Finally, to investigate the extent of home influences on the career maturity of adolescents, a
questionnaire was also administered to the students to assess the extent they discussed their career plans with their parents and the availability of career role models in their homes, etc. It is interesting to note that correlational analysis reveals a strong link between the extent of parental involvement and the students' level of career maturity. In order words, those who had frequently consulted their parents regarding their career plans also obtained higher career maturity mean scores. Such results confirm the observations of American researchers that parental involvement in the career development of children and adolescents could enhance the career maturity of the latter (Maccoby & Jacklin, 1974; Goodale & Hall, 1976).

Summary of Findings

The career maturity profile of Singaporean adolescents reveals a general weakness in career exploration and in career decision-making skills. Nevertheless there is strong evidence to indicate that career development does mature with age.

Although girls in the sample fare better in the areas of occupational knowledge and career decision-making, no significant sex differences can be found in the career maturity of the students.

There is some evidence to suggest that career maturity is positively correlated with academic achievement although the link between academic curriculum and career maturity cannot be firmly established in this study.

In the area of career planning, Singaporean adolescents pay more attention to educational planning such as choosing schools and deciding on subject specialization rather than thinking and planning about a future career.

With regard to career exploration, parents and siblings are popular resources for information though not always considered helpful. There is also evidence to show that parental involvement is positively linked to the career maturity of the students. Teachers are the least consulted and are also rated the least useful as resource persons.

What Can be Done?

This research study has provided insight into the affective, cognitive and behavioural aspects of career development of Singaporean adolescents. It has also yielded findings that have important practical implications for the planning and implementation of career guidance in Singapore schools.

Firstly, the study has established the link between career self-awareness and career matur-
ity and points to the absolute necessity of including a component on developing career self-awareness in any comprehensive career guidance programme for students.

Secondly, the significant age differences in the CDI mean scores of the students are clear indications of the developmental nature of career maturity. This not only confirms Super's theory of career development but also highlights the importance of having on-going and systematic career guidance in the schools. To be effective, career guidance in the schools should be a long-term, developmental process where at each stage of their school career (primary, secondary, post-secondary and tertiary), students are taught specific skills pertaining to their needs and the status of their career development.

In the primary school, the goals of career guidance should be to foster positive study habits and work habits; to help pupils achieve a sense of competence; to expose them to the concept of work and to help them develop an unbiased, non-stereotyped base of information from which to plan later educational and occupational decisions.

In the secondary school, the goals should be to enhance career self-awareness; to encourage career exploration; to inculcate positive work attitudes and work values and to teach decision-making skills. The latter is specially important as the results of this study show that regardless of age, students in the sample are persistently weak in career decision-making skills and lacking in vocational information-seeking behaviours. Career guidance programmes in schools should try to address these two problem areas.

While the school can play a vital part in enhancing the career development of the students, the role of the home should never be overlooked. This study has found that parental involvement is positively linked to the career maturity of adolescents in Singapore schools. Such a finding points to the importance of parent education programmes and the involvement of parents in career guidance programmes in schools.

Last but not the least, the results of this research study reveal that Singaporean students are preoccupied with educational planning while neglecting career planning. They spend much time and effort planning their academic studies and looking into matters such as the choice of school/college. They do not seem to see any link between their school studies and their future career, let alone planning one with the other in mind. In other words, the school and the world of work are seen as two distinct entities that have little association with each other. One needs to bridge this gap by bringing about a smooth transition from the school to the world of work. This can best be done by incorporating educational guidance as part and parcel of career guidance.

REFERENCES


The Effects of Streaming on the Self-Concept and Attitude of Primary School Pupils in Singapore

Quah May Ling

Introduction

When the New Education System — Primary (NES-P) was introduced into schools in 1980, pupils were streamed into three courses (Normal, Extended, Monolingual) according to the results of their Primary Three (P3) examinations. Streaming pupils to the three courses depends on their performance in P3 and P2. To be streamed into the monolingual or M-course, a pupil has to fail in P2 and P3. The end-of-year P3 examinations are school-based, but the items for the examinations are drawn from the item bank of the Ministry of Education (MOE). A safeguard against wrong streaming is the Ministry’s achievement test, which is given to pupils identified for streaming to the monolingual course by their schools. So, M-course pupils would have failed repeatedly during their first three years of school.

The Case for Streaming

Singaporeans did not welcome streaming with open arms. The protests against streaming, strong and emotional, came from virtually every quarter. In adopting streaming in its education system, Singapore probably fell out of step with the rest of the world. For, while most of the other countries chose to mainstream their pupils, Singapore decided to segregate pupils according to academic ability — and to do so much earlier in primary school.

There were two main arguments against streaming. One was the deprivation of access to higher education for some children. The other was the social stigma of being streamed to the monolingual course which was termed to be “less academically-inclined”. In the words of Dr. Soon Teck Wong, the former Director of Research & Testing at the MOE:

Two major arguments were advanced against streaming. First, pupils streamed to a lower course, say the Monolingual course, would have reduced access to higher education. This argument derived from an egalitarian philosophy which did not recognize differences in human ability, thereby equating ‘equality of opportunity’ with ‘equality of outcome’... Second, as errors in streaming could not be avoided entirely, a child wrongly streamed to a lower course would, in addition to becoming demoralized, suffer from the social stigma associated with the lower course. (Soon, 1988.)

There was much discussion on the issue of streaming by all parties concerned with the welfare of children. Many justifications were put forward by the Ministry of Education for adopting the streaming policy and perhaps the strongest one which its critics found hard to counter, was its quick results in bringing about a reduction in the rate of dropouts at the primary and secondary levels.

Before streaming was introduced, 20 percent of primary school pupils dropped out of school without getting any educational qualifications, while another 20 percent dropped out of secondary school without getting any secondary qualification. After streaming, the corresponding dropout rates were reduced to 10 percent for primary schools and five percent for
secondary schools only five years after streaming was introduced (The Straits Times, 29 Mar 1985). At the end of 1987, the MOE announced that less than one percent of students below 16 years old left school with fewer than 10 years of schooling (The Straits Times, 17 Oct 1987). Considering that Singapore does not have a policy of compulsory education, the low incidence of premature school leavers is remarkable. The same article cited post-streaming results which showed that the attrition rate fell from 29 percent before streaming to eight percent among the first batch of Primary Six pupils who underwent streaming while in Primary Three. Similar good results of streaming were found with secondary school students.

Self-Concept and the High or Low Achiever

Many educators believe that there is a significant and positive relationship between a student's concept of himself and his performance in school (Purkey, 1970). They believe that students who feel good about themselves and their abilities generally perform well in school. The reverse is also true. Educators believe that negative self-concept is also a significant factor contributing to low academic achievement in a substantial number of students (Muller and Leonetti, 1974). Gillman (1969) argued that the development of a positive self-concept is a necessary prerequisite to academic achievement and that the nurturing of a positive self-concept should be a major objective of schools which are concerned with the development of productive citizens.

Self-concept, as defined by LaBenne and Greene (1969) is "the person's total appraisal of his appearance, background and origins, abilities and resources, attitudes and feelings which culminate as a directing force in behaviour" (p. 191).

In a study investigating the differences between achieving and underachieving elementary school children, Durr and Schmatz (1964) reported that underachievers tended to lack self-confidence, a sense of personal growth, a feeling of belonging, and were more withdrawn. There were also signs of more behavioural immaturity and feelings of inadequacy in the group of underachievers. The finding by Durr and Schmatz seemed to be generally substantiated by the findings from Taylor's (1964) review of literature on personality traits and discrepant achievement which reported that the underachiever is, among other things, "self-derogatory, has a depressed attitude toward himself, has feelings of inadequacy, and tends to have strong inferiority feelings". However, in one of the studies (Holland, 1959) reviewed by Taylor, underachievers tended to have positive self-concepts.

In general, most investigators found that the achievers tended to have a more positive concept of themselves and of their abilities. Many empirical studies indicate a persistent and significant relationship between self-concept and academic achievement (Hansford and Hattie, 1982; West and Fish, 1973; West, Fish, and Stevens, 1980; Wylie, 1979). Brookover, Erikson, and Joiner (1967) tracked down pupils from grades seven through twelve in an effort to determine the relationship between their self-concept and academic achievement. They found that self-concept was significantly and positively related to academic achievement among boys as well as girls, and that this relationship was strengthened, when change in self-concept of academic ability was associated with change in grade point average. In a review of literature, Brookover and his team (1979) reported that school social systems might offer a potent source of explanation for school-level differences in pupil achievement. They postulated that schools could make a difference and interventions (Scheirer and Kraut, 1979) and school guidance programs (Khor, 1986) have positive effects on the self-concept of students.

Although some studies support the notion that high self-concepts in students promote high academic achievement, there are studies which do not. For example, Gilby and Gilby (1967) examined the effects of failure upon self-concept, and concluded that the stress of failure, caused subjects to experience lower self-esteem. Carlton and Moore (1966) studied culturally disadvantaged children to explore changes in self-concept as a result of academic success. They found that significant changes in self-concept occurred when subjects achieved higher academic evaluations. The researchers
concluded that successful experiences, more than any other variable, accounted for high self-concepts, rather than self-concept causing successful experiences. Although research data do not provide clear-cut evidence about which comes first, a positive self-concept or scholastic success, they do emphasize a reciprocal relationship between the two. Based on this interpretation of the evidence, it appears reasonable to assume that enhancing the self-concept will influence academic achievement and obtaining high academic achievements will result in the development of positive self-concepts.

Coopersmith (1967) reported that persons high in self-esteem approach tasks and people with the expectation that they will be successful and well-received. He also reported that persons low in self-esteem were more destructive and anxious. According to Erickson (1963), it was important for a teenager to ascertain his identity in each of his life roles, to find meaning in what he was doing and have a sense of self-worth. How he viewed and valued himself, either directly or indirectly, affected how he conducted himself, related to others, or coped with the demands made on him by others, at home, in school and in society. It would therefore be important to investigate how pupils viewed themselves as their perceptions of self could influence the way they felt about their academic work. This was particularly true of slow learners or low achievers who were commonly believed to have lower or less positive self-concepts compared to their brighter peers. Teachers of pupils with low concepts of themselves could then organize their classroom environment to help them improve their self-views.

Attitudes Towards School Subjects & the High or Low Achiever

Attitudes, like self-concept, seem to influence how well children will perform in certain activities. In this paper, the term "attitudes" refers to a system of feelings related to a particular activity or experience (in this case, learning) which causes a person/child to approach or avoid a learning situation.

Virtually every curricular programme has both cognitive and noncognitive goals. While a programme's cognitive effectiveness is routinely evaluated, the achievement of noncognitive objectives is rarely assessed (Hogan, 1975). Hogan cautioned researchers to keep in mind that "achievement is not highly correlated with affective reactions to curricular areas". It is possible, for example, that sometimes the results may show that some good readers express a strong dislike for reading, or some slow students seem to like mathematics very much. However, information about students' attitude towards school subjects will be helpful to the teacher planning instructional programmes, because student reactions to various activities in a curricular area can help determine how instruction in that area may be presented most effectively.

Grade level and sex differences in attitudes to English, Mathematics, Social Studies and Art were explored among a sample of students in grades seven through ten (Fraser, 1980). The results revealed that student attitudes were generally most favourable towards English, then towards Mathematics, Social Studies and (least favourable) Art.

Attitudes towards certain subjects may change as pupils advanced through the grades (Hogan, 1975). This hypothesis is supported in a study on the attitudes of high school students towards social studies (Fraser, 1981). The results found that attitudes towards school social studies declined with grade level among a random sample of 1,600 students in sixth through ninth grades in schools in a north central state of the U.S. Another study by Kaczala (1980) found that children became more pessimistic and negative about mathematics as they grew older.

A student's self-concept can affect his attitude towards school subjects. Since self-concept is not innate, but learned over a period of time, especially, through feedback from the student's significant others, a teacher is in a good position to contribute to positive self-concept development and maintenance (Quick, 1973). As Rosenthal and Jacobson (1968) in discussing teacher expectations for disadvantaged children said, the teacher may communicate his expectations to his students through "tone of voice, facial expression, touch, and posture".

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Like the review of studies on self-concept, the relationship between attitude and academic achievement is mixed and inconclusive. While some studies seem to show a link, others do not. Perhaps part of the problem lies in the fact that attitudes, like self-concept, are sometimes outcomes and at other times, inputs.

Focus of the Paper

The literature on self-concept tends to show a link between academic achievement and a positive self-concept. However, not all studies agree that this is so. In Singapore, we segregate pupils according to academic ability and critics of this education policy are concerned that this may have a detrimental effect on the low achievers. This paper attempts to investigate whether streaming pupils into the three courses at a young age have affected pupils' self-concept and attitudes towards school subjects. Further, it attempts to investigate whether continued attendance at a less academically-inclined course like the M-course, has lowered the pupils' self esteem and increased their dislike of school.

Brief Background of the M-Course Programme

The twin objectives of the Monolingual curriculum are to inculcate basic literacy and numeracy and to develop personal, social and scientific awareness to ensure that pupils can relate efficiently and effectively to their natural, social and vocational environments.

To implement this new curriculum, instructional materials in the form of multi-level and multi-media packages incorporating teaching strategies which were described as being "a radical departure from traditional classroom practice" were developed by the writer leading a team of subject specialists and teachers. Staff development workshops and demonstration lessons were conducted to help teachers use the materials effectively in class.

These curriculum materials are activity-based and emphasized "learning by doing" (Quah, 1986). They are thus called the Learning Activity Programme, or LEAP, for short. Underlying LEAP are two objectives — that of providing pupils with a firm foundation in basic literacy and numeracy, and that of improving the self-concept and attitude of pupils toward their school work through the provision of enjoyable and successful experiences.

Method

In September 1985, nine months after pupils were streamed into the three courses, the Primary Self-Concept Inventory (PSCI) and the Survey of School Subjects (SSA) were administered to a sample of P4 children in the three courses to find out how they viewed themselves in terms of their self-concept and attitude towards subjects studied in school. All P4N, P4E and P4M pupils from four primary schools — one in each of the four zones of Singapore — were included in the sample. To minimise problems to schools, intact classes were chosen.

In all, the sample consisted of 582 pupils, with 204 P4M pupils, 171 P4E pupils and 207 P4N pupils. Of the total of 582 pupils, 334 were male and 248 were female. There were 393 Chinese, 158 Malay and 31 Indian pupils (Table 1). (Originally, there were 583 pupils but one Eurasian pupil was dropped from the

<table>
<thead>
<tr>
<th>Table 1: Percentage of P4 pupils given the PSCI &amp; SSA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mono (n = 204)</strong></td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td><strong>M(n = 129)</strong></td>
</tr>
<tr>
<td>Chinese</td>
</tr>
<tr>
<td>Malay</td>
</tr>
<tr>
<td>Indian</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Mono = Monolingual  Ext = Extended  Nor = Normal  M = male  F = female
The PSCI was designed to serve two functions — to evaluate the effectiveness of educational programmes seeking to enhance the self-concept of pupils and to identify pupils who are likely to have undesirably low self-concepts. The test is designed to measure three major domains of intellectual-self, personal-self and social-self and may be scored to yield a total self-concept score. It has been suggested by the authors that a given domain score of five or higher or a total score of 14 or higher be used as an indicator of program effectiveness (Muller & Leonetti, 1974).

The SSA was designed to measure pupil reactions to four major areas of the school curriculum: Reading and Language Arts, Mathematics, Science and Social Studies. One advantage of the SSA was that it did not require a pupil to do any reading. Means are about 22 out of a possible 30 and standard deviations are about 6.

The PSCI and SSA were administered to pupils on separate days but each test was given at one sitting. The results of the two tests administered to P4 pupils are presented in Tables 2 and 3.

One-way analysis of variance with "course" as the independent variable, was used to test for significant differences among the means obtained by the three groups of pupils at the P4 level. The Tukey test revealed that significant differences in social-self were between the means obtained by the M- and N-course pupils and between the means of the E- and N-course pupils. No significant differences existed between the means of the M- and E-course pupils (Table 2).

The results from Table 2 showed that M-course pupils thought more highly of their intellectual-self and personal-self than pupils in the two more academically-inclined courses, although the means did not prove to be significantly different. The M-course pupils had as positive a view of themselves as those in the other two courses, as far as success in school work was concerned. They probably saw themselves as a happy group of children who were not smaller in physical size or helpless as compared to others. In the domain of social-self, they had significantly lower concepts of themselves compared to the pupils in the brightest course (N-), but their social self-concept was not significantly different from pupils in the next brightest course (E-). They had as positive perceptions of their acceptance by their peers as did those in the E-course.

Although M-course pupils did not have significantly more positive concepts of themselves than the pupils in the E- and N-courses, they had, at least as high a self-esteem as those who were judged to be more academically inclined.

Results obtained in the SSA were also tested to find out if there were significant differences in pupils' attitudes towards Reading/Language, Mathematics, Science and Social Studies. Univariate analysis of variance using "course" as the independent variable, showed that significant differences were found in the means of Mathematics (p < 0.0001), Science

<table>
<thead>
<tr>
<th>Domain</th>
<th>P4M(N = 204)</th>
<th>P4E(N = 171)</th>
<th>P4N(N = 207)</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS</td>
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<td>4.43 1.20</td>
<td>4.38 1.28</td>
<td>4.26 1.27</td>
</tr>
<tr>
<td>SS</td>
<td>6</td>
<td>4.03 1.39</td>
<td>4.25 1.24</td>
<td>4.80 1.32</td>
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<tr>
<td>PS</td>
<td>6</td>
<td>5.64 0.85</td>
<td>5.53 0.87</td>
<td>5.54 0.99</td>
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<tr>
<td>TS</td>
<td>18</td>
<td>14.07 2.38</td>
<td>14.17 2.35</td>
<td>14.58 2.61</td>
</tr>
</tbody>
</table>

*** Significance level p < 0.001

Legend: IS = Intellectual-self SS = Social-self
PS = Personal-self TS = Total self-concept
MS = Maximum Score X = Means SD = Standard Deviation
TABLE 3: MEANS, STANDARD DEVIATIONS AND F-VALUES OBTAINED BY P4M, P4E AND P4N PUPILS ON THE SSA

<table>
<thead>
<tr>
<th>Subject</th>
<th>P4M (N = 204)</th>
<th>P4E (N = 171)</th>
<th>P4N (N = 207)</th>
<th>F-value</th>
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<tr>
<td></td>
<td>MS</td>
<td>X</td>
<td>SD</td>
<td>X</td>
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<tr>
<td>R/L</td>
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<td>M</td>
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<td>26.58</td>
<td>4.84</td>
<td>25.14</td>
</tr>
<tr>
<td>Sc</td>
<td>30</td>
<td>25.36</td>
<td>5.08</td>
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<tr>
<td>SoSt</td>
<td>30</td>
<td>24.36</td>
<td>6.64</td>
<td>23.73</td>
</tr>
</tbody>
</table>

Significance levels: * p < 0.05   *** p < 0.0001   **** p < 0.0001

Legend: R/L = Reading/Language   M = Mathematics   Sc = Science   X = Means   SoSt = Social Studies   MS = Maximum Score   SD = Standard Deviation

(p < 0.001) and Social Studies (p < 0.05), but not in Reading/Language. The Tukey test revealed that M-course pupils had significantly more positive attitudes towards Mathematics than both the N-course and E-course pupils. In the case of Science, significant differences were found in the attitude of N- and M-course pupils, and between N- and E-course pupils. N-course pupils had the most positive attitudes towards Science, followed by the M-course, and then the E-course. There was no significant difference between the means of the M- and E-course pupils. In Social Studies, the Tukey test revealed that M-course pupils were more positive towards Social Studies than their brighter peers in the E-course. These results are presented in Table 3.

According to Hogan (1975), achievement is not highly correlated with affective reactions to curricular areas. He said that it was not uncommon to find that some low achievers might express high interest in one or more curricular areas, and high achievers might have generally negative attitudes, but have special interest in a particular area or sub-area.

The results presented in Table 3 tended to confirm Hogan’s hypothesis. In this study, N-course pupils appeared to express the least liking for Mathematics, yet, they were the most able pupils of three groups. M-course pupils, who were the weakest academically, expressed the highest interest in Mathematics and the differences between the means of the three groups were very highly significant (p < 0.0001). A possible explanation was that M-course pupils found the LEAP Mathematics programme enjoyable. The materials were colourful and contained multi-media materials which included manipulatives and games which emphasize learning through concrete understanding. In addition, pupils were paced according to their attainment in the Survey tests administered before they started on the programme. Pupils were also grouped on the basis of their performances on these Survey tests, and pupils were given work in class which they could cope with. Diagnostic tests were given at the end of units of work and corrective/remedial measures were provided to ensure that pupils reached mastery level before proceeding to the next level. As such, M-course pupils probably found Mathematics learning less stressful and more enjoyable and experienced more success in class.

The same trend was observed with the means of the three groups for Reading/Language, although in this subject area, the variability in mean scores did not prove to be significant.

The Science programme in the N- and E-courses emphasizes the learning of process skills, as does the M-course Science programme. The M-course Science programme does not follow the same syllabus, although most of the content areas are similar. The difference between the two Science programmes lies in the treatment of the content. The M-course Science programme deals with only basic concepts suitable for the “informed layman”. Significant differences (p < 0.001) were found between the means obtained by the M- and N-course pupils and between the E- and N-course pupils. In the case of Social Studies, the
brightest pupils had the most positive attitudes towards the subject and the M-course pupils were more positive towards Science compared to the E-course pupils, although not significantly so.

Social Studies is one of the subjects in the N- and E-course curriculum, although it is not an examination subject. However, Social Studies is not a subject in the Revised M-curriculum, per se, although aspects of Social Studies are incorporated into the Language Arts materials. N-course pupils were most positive towards this subject, M-course pupils were the next most positive and E-course pupils were the least positive.

Although M-course pupils were the weakest of the three groups of pupils, their attitude towards subjects like Reading/Language and Mathematics was the most positive of the three groups, and their attitude towards Science and Social Studies was better than that of the E-course pupils. These findings suggested at least, that M-course pupils did not dislike these subjects, but in fact appeared to enjoy learning them.

As the literature on self-concept generally showed a link between a positive self-concept and achievement, or vice versa (Gillman, 1969; Purkey, 1970), then, slow learning children, such as those in the M-course, exposed to frequent and repeated failure in the past, would most likely suffer from poor self-esteem. I was, however, convinced that if pupils were provided with a conducive learning environment, concerned and dedicated teachers and an educational programme incorporating sound pedagogical principles aimed at helping pupils overcome their past failures, these pupils could learn to improve their sense of self-worth. LEAP is a programme which attempts to help M-course pupils improve their self-concept by demonstrating to the pupils that there are many things in school that they can do and do well. I, therefore administered the pretest of the PSCI two years later on the P4M pupils who took the pretest. The results of the pre and posttest of the PSCI are presented in Table 4.

The pre and posttest results, using the correlated means t-test results, showed significant gains made by the M-course pupils after almost three years’ immersion in the new programme, suggested that pupils’ self-concept had improved. When these pupils were tested two years back, their social-self and total self-concepts were undesirably low. Two years after they had been in LEAP, their self-concept in three areas of self-concept (intellectual, social and total) had improved significantly. At the beginning of the programme, pupils already had positive personal concepts of themselves and although the posttest results showed some improvements, they were minimal. Using the authors’ recommendation to regard a total self-concept score of 14 or higher as an indicator of programme effectiveness, it could be interpreted that LEAP was effective in enhancing the self-concept of the M-course pupils since the mean total self-concept score improved from 13.50 to 14.90 after two years.

It is frequently cited in the literature that achievement is linked to a positive self-concept (Hansford & Hattie, 1982; West & Fish, 1973; West, Fish & Stevens, 1980; and Wylie, 1979) and interventions can produce positive effects on self-concept (Khor, 1986; and Scheirer & Kraut, 1979). M-course pupils had experienced repeated failure in the past and many might even think negatively of themselves. If they were placed in another learning environment where success was experienced frequently

<table>
<thead>
<tr>
<th>Domain</th>
<th>MS</th>
<th>X</th>
<th>SD</th>
<th>X</th>
<th>SD</th>
<th>t-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS</td>
<td>6</td>
<td>4.27</td>
<td>1.22</td>
<td>4.78</td>
<td>1.13</td>
<td>4.99***</td>
</tr>
<tr>
<td>SS</td>
<td>6</td>
<td>3.94</td>
<td>1.41</td>
<td>4.60</td>
<td>1.35</td>
<td>5.50***</td>
</tr>
<tr>
<td>PS</td>
<td>6</td>
<td>5.34</td>
<td>1.07</td>
<td>5.50</td>
<td>1.03</td>
<td>1.75</td>
</tr>
<tr>
<td>TS</td>
<td>18</td>
<td>13.50</td>
<td>2.62</td>
<td>14.90</td>
<td>2.40</td>
<td>6.41***</td>
</tr>
</tbody>
</table>

Significance Level *** p < 0.001

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through a more suitably paced instructional programme and provided with more appropriate learning materials over a period of time, it might be possible that their self-esteem would improve, and become as positive as those who experience success frequently. The pre and posttest results of the PSCI obtained by the M-course pupils in this study showed it was possible to do just that.

Conclusion

A comparison of the mean scores obtained by pupils of the M-, E- and N-courses in self-concept and attitude towards school subjects indicated that M-course pupils had as positive a self-concept and attitude towards the four school subjects as their peers in the two more academically-inclined courses after exposure to LEAP. The pre and posttest results of the PSCI showed that after three years’ immersion in LEAP, the self-concept of M-course pupils had significantly improved. The results suggest that streaming pupils to a less academically-inclined course need not result in pupils losing self-esteem. Streaming on its own is not a negative experience success frequently. The pre and posttest results of the PSCI obtained by the M-course pupils in this study showed it was possible to do just that.

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Some Aspects of Special Education in Singapore*

Alaistair Fraser

ABSTRACT

The Special Educational provision in Singapore for children with disabilities has progressed considerably since the first voluntary group began in 1947.

By mid-1986, there were 12 special schools catering for some 2,000 pupils; intellectually disabled, educationally subnormal, hearing impaired, visually handicapped, cerebral palsied and multiple handicapped. All these schools are run by Voluntary Associations with Government support in terms of funds, buildings and some teachers.

However, an analysis of prevalence figures indicates a possible shortfall in the numbers of disabled children actually attending special schools, and an over-concentration of these schools in one part of Singapore which might deter some parents from sending their children to the appropriate special school.

One major improvement in the quality of Special Education has been the systematic training (since 1984) of the unqualified Association teachers at the Institute of Education on the Certificate in Special Education Programme.

However, there would still seem to be a need for more therapists and para-professionals to support the services offered in the special schools.

Introduction

Special Education in Singapore has progressed beyond measure since its inception in 1947. According to Mr. M.K. Wong, a well-known figure in Special Education (1972), the first organised efforts to educate handicapped children began in 1947 at Trafalgar Home. There, groups of volunteers conducted classes for children with leprosy.

In 1949, the British Red Cross Society set up a home for crippled children. The education of deaf children was started in 1951 by the Red Cross Society, and also in that same year the Singapore Association for the Blind was founded. In 1952 the Singapore Children’s Society began its social casework services for children with various social problems. By 1956 the Association for the Blind has raised enough funds to set up a school, and in 1957 the newly formed Spastic Children’s Association of Singapore had begun to care for the needs of children with cerebral palsy.

Mentally retarded children had their own organisation by 1962 with the founding of the Singapore Association for Retarded Children. Other smaller groups were set up, but the next
major organisation to begin was the Singapore Association for the Educationally Subnormal (ESN) in 1976. Finally, the Centre for Multiple Handicaps was opened in Margaret Drive in mid-1987.

In addition to this very brief history, it is worth mentioning that in 1985 the Singapore Association for Retarded Children changed its name to the “Movement for the Intellectually Disabled of Singapore”. This change is important, since it represents a significant shift in awareness of both the role and the provision that an organisation for disabled persons should make in any society.

Firstly, the Association adopted the term “Movement” to indicate its willingness to be adaptable and progressive; secondly, it chose “Disabled” to escape from the pejorative term “Retarded”; thirdly, it changed from “Mentally” to “Intellectually” to avoid the stigmatising label of mental illness and to emphasise that these disabled persons were capable of learning and of improvement. Finally, the removal of the word “Children” indicated that the Association saw itself as meeting the needs of all age-groups, not just those of school age.

It goes without saying, of course, that many other Associations have also reviewed their terms of reference and are adapting their range of provision to accommodate to the changing needs of Singapore’s population.

### The Provision of Services

Special Education in Singapore is carried out almost entirely by voluntary Associations (see Table 1), with funding through charitable donations. This funding is coordinated by the Community Chest of Singapore. The majority of the teachers are employed by the Associations, and the curriculum, hiring of staff, and administration of the schools are determined independently by these Associations. The Government leases school buildings to the Associations at nominal rents, gives per capita

<table>
<thead>
<tr>
<th>TABLE 1: SPECIAL SCHOOL ASSOCIATIONS IN SINGAPORE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
</tr>
<tr>
<td>S’pore Children’s Society Convalescent Home</td>
</tr>
<tr>
<td>S’pore Council of Social Services: Centre for Multiple Handicaps</td>
</tr>
<tr>
<td>(Other Associations: non-teaching; daily or residential care)</td>
</tr>
</tbody>
</table>

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**TABLE 2**

<table>
<thead>
<tr>
<th>Special School Association/ Category</th>
<th>Numbers currently on roll</th>
<th>Numbers on Disabled Register of ages 6 — 17(1)</th>
<th>Estimated numbers, based on S'pore child popltn. (2) aged 5 — 14 (N = 459,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visually Impaired:—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blind School + Govt. Schools</td>
<td></td>
<td>53</td>
<td>85 105</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>459 (1:1000; US '76; Blackhurst '81)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>or 918 (2:1000; USA '79; Kirk &amp; Galghr. '83)</td>
</tr>
<tr>
<td>Hearing Impaired:—</td>
<td></td>
<td>126</td>
<td>918 (2:1000; UK '70; Rutter, '70)</td>
</tr>
<tr>
<td>Cansn. Cvnt.</td>
<td></td>
<td></td>
<td>or 1,377 (3:1000; USA '79; Kirk &amp; G. '83)</td>
</tr>
<tr>
<td>Mnbtn. School Govt. Schools</td>
<td></td>
<td>235</td>
<td>439 515</td>
</tr>
<tr>
<td>&quot;Spastic&quot;:—</td>
<td></td>
<td>145</td>
<td>271 (&quot;Neuromuscular&quot; disorders)</td>
</tr>
<tr>
<td>Spastic School Govt. Schools</td>
<td></td>
<td>163</td>
<td>459 (1:1000; UK '80; Price '80)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>or 1,836 (4:1000; USA '80; Price '80)</td>
</tr>
<tr>
<td>&quot;ESN&quot; (IQ btwn. 70 &amp; 50)</td>
<td></td>
<td>414</td>
<td>see below</td>
</tr>
<tr>
<td>All schools (Govt. Schools unknown)</td>
<td></td>
<td></td>
<td>Difficult to define; 10,098 (2.2% UK '70; Rutter et al '70)</td>
</tr>
<tr>
<td>Intellect’ly Disabled (IQ below 50)</td>
<td></td>
<td>966</td>
<td>see below</td>
</tr>
<tr>
<td>MINDS: all schools (Govt. Schools unkn.)</td>
<td></td>
<td></td>
<td>Difficult to define; 1,836 (4:1000; UK '70; Rutter et al '70)</td>
</tr>
<tr>
<td>Combined ESN and Intell. Dsbd.</td>
<td></td>
<td>1,380</td>
<td>1,384</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4,590 (1% USA '79; Kirk &amp; G. '83)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>or 13,770 (3% USA '79; Kirk &amp; G. '83)</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>2,067</td>
<td>2,275</td>
</tr>
<tr>
<td>Prevalence:—</td>
<td></td>
<td></td>
<td>Minimum = 6,426</td>
</tr>
<tr>
<td>(per 1,000 of child pop. '80 (2) )</td>
<td></td>
<td>4.5:1,000</td>
<td>Maximum = 17,901</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.9:1,000</td>
<td>Min.: 14:1,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Max.: 39:1,000</td>
</tr>
</tbody>
</table>

(1): Register of Disabled Persons in Singapore, March, 1986; Ministry of Community Development.
(2): 1980 Census of Singapore.

grants, and provides Ministry of Education (MoE) teachers on the ratio of 1 per 25 pupils. These MoE teachers are supervised by MoE inspectors, who also give advice to the Associations.

Although the vast majority of the disabled
children of school age go to special schools (just over 2,000 in 1986; see Table 2), about 200 hearing impaired, visually impaired, cerebral palsied, and intellectually disabled children attend regular Ministry of Education schools. Indeed, some hearing and visually impaired students have progressed a long way in the mainstream educational system and several have successfully attended Polytechnics, the National University, and the Institute of Education.

It is often crucial to match the location of special schools to the distribution of the population, especially when attendance at school is voluntary, and some parents are reluctant to send their children to special schools. If access to a special school is difficult, then some parents may not send their child, preferring to keep him or her at home.

As can be expected, many special schools are clustered around the central city region since this has always had the highest population density. However, recent de-centralisation has seen the growth of new towns, and the corresponding placing of special schools in these new zones of high population has not always occurred.

One new MINDS school in Yio Chu Kang, and one enlarged MINDS school in Jurong, have greatly assisted parents of intellectually disabled children to gain access, but the regretted closure of the Clementi ESN school can only be seen as a setback in terms of ESN provision in the West of the island.

Even though Singapore is a small island, only 41 by 22 kilometres, travelling is a very time-consuming affair. When disabled children have to spend over an hour in a hot, stuffy minibus on their way to school each morning, they are less than receptive to their lessons upon arrival. Parents too are discouraged, and have been known to withdraw their children from special schools on the grounds of the relatively high cost of transport.

It would seem vital, therefore, that when planning future placement of special schools, consideration be given to those newer centres of population where there is no special education provision at present.

The prevalence of disabled children in Singapore

Another aspect of planning of provision for disabled children involves the accurate collection and analysis of data. The prevalence of various disabilities is very difficult to determine in any country. Singapore's policy of voluntary school attendance runs the risk that children with special needs might slip through the 'net' (since they might not be on record) and remain undetected and hence un-assisted. It must be remembered that paediatric screening during the first weeks of birth does not necessarily reveal a disability, and it is quite possible that a child might go on until the age of 6 or 7 (Primary 1 and 2), or even later, before his or her disability is noticed.

Table 2 is a presentation of two sets of data: the left-hand column being the numbers of children currently on roll in the special schools (April, 1986 figures; personal communication with Principals) and the second column indicates the corresponding numbers according to the Register of Disabled Persons in Singapore (March, 1986), collated by the Ministry of Community Development.

As discussed earlier, Registers such as this are very useful, but unfortunately they could be inaccurate, having to rely heavily on voluntary, second-hand returns; e.g., a glance at Table 2 will reveal a close match between the numbers in the first two columns. The main reason for this is that the major source of statistics on disabled children comes from the actual numbers on the special schools' rolls. This may be a convenient method of collecting data, but there may be disabled children who do not attend these special schools, and thus their numbers remain undetected and hence unrepresented on the Register.

There are two other well-known problems that make obtaining accurate statistics difficult. The first is whether the disabled person benefits by getting onto a Register. There exists some tax relief for disabled persons and their families, and persons who are experiencing severe financial hardship can apply for assistance to buy, say, a wheelchair or callipers (up
to $500). However, being on the Register has few benefits. Hence, numbers are likely to be under-representations.

The second problem is that of definition. One major category on the Register is “Intellectually Disabled” (ID), an area notoriously difficult to precisely define. The Register indicates that there are 1,384 ‘ID’ children of school age — a figure so close to the combined figures of the MINDS and ESN schools’ enrollments (1380) to strongly suggest that the special schools were the main source of data for the Register for this category of children.

The risk here is that some children at both the top and the bottom extremities of the “Intellectually Disabled” category might not be in special schools. At the high IQ end (around 69), quite large numbers of so-called ‘ESN’ pupils are likely to be in regular MoE schools in Primary 1 to Primary 3 classes, or Monolingual classes. Statistics for these children are not available. At the low end, with IQs of well below 50, some severely intellectually disabled pupils are not brought to school by their parents, and hence are not registered.

It can now be seen that obtaining accurate data on disabled children is not easy, and whatever data we have at present should be treated with caution and not as a firm basis for planning future provision.

Perhaps the time is now right to commission a large-scale survey to investigate the prevalence of disabled children in Singapore together with the sort of special needs that they and their families might have, and how the existing services might be enhanced to meet these needs. This is in fact the sort of technique that other countries have resorted to in order to gain this data. This is never an easy task, and researchers from many countries have commented on the difficulty of gaining accurate statistics.

Returning to Table 2, if the total number of children attending special schools was 2,067 (April, 1986 data), and with around 459,000 school-age children in Singapore (1980 S’pore Census), then this would indicate that there are around 4.5 disabled children per 1,000 of the school-age Singapore population, for 1986. In the same way, a similar prevalence of 4.9 disabled children per 1,000 of the Singapore school-age population can be obtained from the 1986 Register of Disabled Persons.

However, I have already indicated that the above statistics may not reflect the true numbers. Therefore, in the absence of reliable Singapore data, I have taken some of the prevalences of disabled children in the United States and in the United Kingdom, and applied them to Singapore in the hope of getting a more realistic figure.

Such an analogy may seem spurious, yet I think comparisons can be made with a fair degree of legitimacy, for the following reasons: Singapore has an enviable record that can compare favourably with the USA and the UK in terms of good housing, clean, potable running water supply, good sanitation, reasonably priced electricity, good public health services, free education, high employment, relatively high per capita income within a stable economy, good levels of nutrition, almost no poverty, small family size, low child mortality rates, and good life expectation patterns.

All in all, Singapore’s population is healthy, well-fed, well-housed, and well-cared-for, and therefore there would seem to be no strong reasons against comparing its child population with those of the USA and the UK. Apart from some ethnic characteristics which have a very minor effect, eg. a greater tendency among Chinese to visual impairment, which are in fact balanced out by certain European problems, eg. a greater prevalence of Spina Bifida, Singaporean children would seem to match up fairly closely with Western children.

Thus, in Table 2 I have presented on the right-hand column two sets of prevalences from the USA and/or the UK, and have calculated the estimated numbers of children within each category based on the 1980 Singapore Census figure of 459,000 school-age children.

Now in every country there is a shortfall between the actual numbers of children attending special schools, and the actual number of disabled children in the population at that time. Table 3 is one such example, where, in the USA, we can see that there are many disabled children not being “serviced”. (Wynne & O’Connor; 1979). Also, in the UK in 1984, Lindsay (1984) points out that: “... while about
20% of children may have special educational needs, less than 2% are catered for within the special school system.’’ (p 9).

Thus we can expect, quite reasonably, some shortfall here in Singapore, and indeed, a glance at Table 2 shows this.

One of the widest discrepancies is in the provision for children who fall into the combined ESN and Intellectually Disabled categories. There are a total of 1,380 on roll in the special schools, and 1,384 on the Register. Yet the minimum estimated number is 4,590 (based on a prevalence of 1% - see Table 2 for references).

This is understandable since this category was only ‘recognised’ comparatively recently (compared with other disabilities such as the blind), and hence provision of schools and trained personnel for intellectually disabled children has had the least amount of time to become established. ‘Borderline’ ESN children make up a large proportion of these numbers, and yet many of them will probably be in regular MoE schools and hence not categorised as ESN.

Taking the minimum estimated number of all disabled children (namely, 6,426) and comparing it with either the total attending special schools, or the total on the Register (namely, 2,067, or 2,275), we find only about one third are being provided for, or are registered.

If we now look at the total sets of all the figures, we find an estimated minimum prevalence of 14 disabled children per 1,000 of the child population, compared with 4.5 per 1,000 actually attending special schools, and 4.9 per 1,000 on the Register.

It would seem from these figures that there is a strong need for more accurate data, as I mentioned earlier. There might also seem, looking at the shortfall between the estimated numbers of disabled children and the actual enrollment figures, that more special schools are needed, together with the trained staff, which I shall come to later in this study.

To meet the first need, some Associations are expanding: MINDS, the Association for the intellectually disabled persons, opened two new schools — Towner Gardens in 1984, and Yio Chu Kang in 1986, as well as moving its Jurong Centre in 1985 to much larger premises. The ESN Association has moved Chao Yang School to newer premises at Newton Circus, and the Singapore Association for the Deaf has also recently moved to a new site in January 1987.
Thus, the need for more special schools is gradually being met.

Another recent improvement is the establishment of a Centre for Multiple Handicaps on Margaret Drive. This school will meet the needs of very young multiple disabled children for whom, until recently, there was inadequate provision.

Training Special Education Teachers

If we now turn to another crucial area of provision, namely the quality of special education teaching, we find encouraging signs, albeit, very recent ones.

Table 4 indicates the numbers of teachers in full employment at the various special schools in Singapore. They fall into two main categories: those employed by the Associations, and those by the Ministry of Education.

As can be expected from the strong voluntary traditions of the Associations, overall Association teachers outnumber MoE teachers by about 2 to 1 (personal communication, April 1986). However, the distinction is an important one, since all the MoE teachers hold a teaching qualification, whereas all but a few of the Association teachers are unqualified.

The fact that some two thirds of all teachers in special schools are unqualified raises serious issues concerning the quality of teaching. A further area of concern is how many of either group of teachers have received some sort of training in Special Education.

As we can see, by mid-1986, only a total of three Association teachers (out of 138), and only 24 MoE teachers (out of 67) had any sort of training — training being defined for convenience, as any full-time course in some area of special education of six months or longer.

This lack of training in Special Education is understandable since, until 1984, no organisation in Singapore offered suitable courses for either MoE or Association teachers, apart from ad hoc courses run for short periods and often involving overseas experts from Australia, UK, USA, New Zealand, and so on. Overseas training is very costly and may not be of direct relevance to local needs. Furthermore, financial stringencies have hit hard at the sources of the funding, namely, international charitable trusts and the Government. Belt-tightening has reduced the numbers of scholarships and bursaries available for training teachers of the deaf, the blind, and so on.

Courses run by visiting overseas experts have their drawbacks. However experienced that expert might be, he or she does not have first-hand, working knowledge of how Singapore manages its education system nor of the unique needs of Singaporean children. A fleeting visit by an overseas expert of three or four weeks can never yield enough insight to equip that expert to advise with absolute authority, nor does it allow time for evaluation and follow-up of some new techniques or teaching aids that may have been introduced to the Singaporean teacher.

Fortunately, a bold move in January 1984 saw some 38 Association teachers enroll for the Institute of Education’s Certificate in Special Education Programme. This first cohort completed their studies in December 1986 after attending part-time for three years. Table 6 illustrates how the situation regarding Special Education training has changed since 1984.

A second Programme for another 37 Association teachers began in July 1986, and a third cohort of 40 more commenced in July 1987. Hopefully, by May 1990, some 115 Association teachers will be trained in Special Education. This would mean that around 70% of all teachers in special schools (Association and MoE) would have some sort of Special Education training by May 1990.

This initiative in training teachers in Special Education has been a bold, yet highly commendable move on the part of the Institute of Education and others, and should enormously improve the quality of provision within our special schools.

Recommendations

While the quality of teaching in special schools has been upgraded by the training of Association teachers, some two thirds of the MoE teachers currently in special schools have not
### TABLE 4: EDUCATION AND BACKGROUND OF TEACHERS IN SPECIAL SCHOOLS

<table>
<thead>
<tr>
<th>Special School</th>
<th>Total number of teachers. N</th>
<th>Association teachers</th>
<th>Min. of Ed. teachers</th>
<th>All</th>
<th>Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N, Na%</td>
<td>Those with Special Ed. training (≥6 mths)</td>
<td>Those currently at IE taking CISE</td>
<td>Numbers Nm%</td>
<td>Those w. Special Ed. training (≥6 mths)</td>
</tr>
<tr>
<td>MINDS:- All schools:</td>
<td>92</td>
<td>74 80%</td>
<td>2 25</td>
<td>18 20%</td>
<td>4</td>
</tr>
<tr>
<td>Singapore Assn. for the Deaf:</td>
<td>32</td>
<td>16 50%</td>
<td>0 6</td>
<td>16 50%</td>
<td>10</td>
</tr>
<tr>
<td>Canossian Convent S./Deaf:</td>
<td>17</td>
<td>10 59%</td>
<td>0 1</td>
<td>7 41%</td>
<td>3</td>
</tr>
<tr>
<td>Spastic Chn's School:</td>
<td>18</td>
<td>6 33%</td>
<td>0 1</td>
<td>12 67%</td>
<td>7</td>
</tr>
<tr>
<td>School for Blind:</td>
<td>12</td>
<td>7 58%</td>
<td>1 0</td>
<td>5 42%</td>
<td>0</td>
</tr>
<tr>
<td>ESN:- All schools:</td>
<td>36</td>
<td>25 69%</td>
<td>0 5</td>
<td>11 31%</td>
<td>0</td>
</tr>
<tr>
<td>Total: All Schools:</td>
<td>205</td>
<td>138 67%</td>
<td>3 38</td>
<td>67 33%</td>
<td>24</td>
</tr>
</tbody>
</table>

(Source: personal communication w. Principals of Special Schools; April '86)
MINDS
TG

teachers
20
25

a=

Teachers with special education training in April '86; (i.e. ≥ 6 months full-time or equivalent)

(= Sources: Personal Communication w. Principals/Special Schools, April '86)

TABLE 5: TRAINING AND BACKGROUND OF TEACHERS IN SINGAPORE SPECIAL SCHOOLS IN APRIL, 1986.
TABLE 6: TRAINING AND BACKGROUND OF TEACHERS IN SINGAPORE SPECIAL SCHOOLS BY 1989 (PROJECTIONS)

= Teachers with special education training in April '86; (i.e. ≥ 6 months full-time or equivalent)
= teachers w. Sp. Ed. training by Nov. '86.
= teachers w. Sp. Ed. training by June '89 (estimated)
yet received any Special Education training. For this reason, some sort of in-service programme is needed for qualified MoE teachers, possibly in a modular form over two or three years, leading to a further professional certificate in Special Education.

Another urgent need, as discussed earlier, is that of obtaining reliable data on the numbers of disabled children, who they are, where they are, what needs they have, what help they are currently receiving both in and out of school, and so on.

With this data we will be far better equipped to analyse and project the need for more special schools in different geographical regions of Singapore, together with the numbers of teachers, and the resources required.

The problem of trained teachers has been highlighted, but together with this must come a planned programme of training professionals and paraprofessionals such as educational psychologists, psychiatrists, speech therapists, occupational therapists, physiotherapists, social workers, and welfare/medical aides. These paraprofessionals would work in special schools together with, and in support of, the teacher, or in regional resource clinics, as part of multi-professional teams who would diagnose and plan intervention programmes for children with special needs. Some excellent multi-disciplinary teams already exist in Singapore at the moment; for example, the early intervention programme, EIPIC, at the Lee Kong Chian Centre (MINDS) is one which can stand alongside the best in the world today. The year 1986 saw the opening of a Department of Psychology at the National University of Singapore, and therefore we can hope that more educational psychologists will become available in the near future for children with special needs.

Unfortunately, we have all too few paraprofessionals in either the Government or Special Education sectors at the moment, many of them choosing to go into the more lucrative private sector. Such persons are needed in abundance if all the needs of our disabled children are to be met in the future. Professor Ann Wee of the Department of Social Work at the National University of Singapore stated (Sunday Times, April 27th, 1986) that there was a shortage among the often unrecognised and unsung, yet vital, profession of social workers. These paraprofessionals are desperately needed to work with families of disabled children, to convince parents and relatives that there is hope, and that there are services that can help them and their children.

Finally, one needs to look to the long-term future, to the Year 2000 and beyond. For it is now that we must make our plans, lest we be caught short by demands for which we have neither planned nor budgetted.

It is probable that the numbers of disabled persons in Singapore are increasing, not decreasing! It may seem paradoxical, but with improved social conditions and more effective medical services, fewer disabled persons will die at a very young age, and more will live to a ripe old age! And of those who live to that ripe old age will be many whose relatives are dead and who will have no-one to care for them. It is very probable that the State will have to provide for these elderly disabled persons, in terms of housing, food, care, and so on.

Fortunately, Singapore has managed in the past to avoid building those dreadful enormous 'institutions' for disabled persons which many other countries are now struggling to demolish. Instead, we have an opportunity to plan well-designed, small-scale, sheltered accommodation that allow for adequate 'normalisation'. We also have the opportunity to train professionals and paraprofessionals, and to budget for all the other requirements that these adult disabled persons will need in the next 20 or 30 years. Without this forward planning, we may find our society unprepared for the needs of this small, yet significant, minority.

In conclusion, we can see that in recent years, Singapore has taken considerable strides forward in its provision for children with special needs. We must not slacken on this progress and we must make every effort to prepare for the needs of our disabled population in the future.

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Self-Concept and Deafness: Factors Affecting the Development of Deaf Children

Tan Hwee Bong

ABSTRACT

From the perspective of hearing-impaired individuals, deafness or hearing impairment means more than just the inability to hear. Deafness imposes on the individual in almost every aspect of their lives, educationally, socially and emotionally. How then does the hearing-impaired individual perceive himself in relation to others? This paper attempts to answer this question by looking into the literature on the psychosocial factors that might influence the self concept of hearing-impaired individuals.

Three factors are delineated; they are familial acceptance, attitudes of society, and communication. Implications for parents and teachers are suggested.

The objective of this paper is to examine some of the factors that influence the development of self-concept in deaf children, to assess the impact of those factors on the self-perceptions of deaf children, and to provide insight into how educators can apply the knowledge gained from research in the field.

Self-concept is, after struggling through all the terminology and lengthy interpretations of psychologists, psychoanalysts and sociologists, essentially how a person sees himself in relation to others in society. It is a state of mind that is in constant flux, relative to the number and type of interaction that a person has with other individuals in his environment. The feedback gained from interaction with other significant individuals is instrumental in the process of self-evaluation. We are all constantly measuring our performance as members of the society and culture in which we live.

Research has enumerated many factors that individuals use to measure their own worth. However, deaf children are faced with certain factors that adversely affect their ability to confidently assess their own self-worth. Among these factors are three main variables: they are (1) familial acceptance of deafness; (2) attitudes of society towards deafness; and (3) communication.

(1) Familial acceptance of deafness is probably the most critical factor in the development of a positive self-concept in any individual. Parents usually have the most direct influence on the development of a child during the formative years, and, as pointed out by Berne (1976), the first five years are the most crucial in the development of the individual; it is during this period that the child essentially determines the adult that he will become. It is at this stage that the attitudes of the parents become incorporated into the child’s perception of self.

The relationship and expectations between deaf parents and deaf children as opposed to the relationship and expectations between hearing parents and deaf children clearly delineates the impact of familial attitudes on the child. A study by Meadow and Schlesinger (1972) re-
revealed the fact that the prevalence of personality/behaviour disorders among deaf children of hearing parents was significantly higher than among deaf children with deaf parents. They concluded that this was, in large part, due to the ready acceptance of the deafness of their child by deaf parents. Greenberg (1980) found that many hearing parents tend to show attitudes ranging from overprotection to over-indulgence (or both) of the deaf child, in addition to developing unrealistic expectations. A literature search by Carver (1984) found that rejection of or an overreaction to the child’s deafness was pervasive, and that estrangement between the father and the deaf child was common, frequently leading to marital breakdowns and family break-ups, for which the deaf child might feel personally responsible. Vernon (1974) discovered that the hearing-impaired child might become isolated in his or her own home, losing the emotional and educational benefits of close parental contact.

Many parents, being unprepared to accept their child’s deafness, turn to professionals for help. The reassurances given by many of these professionals that the child could become “normal” and assume a “normal” status in the mainstream of society tend to give rise to false hopes and unrealistic expectations in many parents (Carver, 1984). As noted by Thompson, Thompson and Murphy (1979), little time or effort is directed towards helping those parents realistically adjust to the reality of the situation. “Professionals” do not appear to be very professional in their approach to the matter at all, and, as acknowledged by Vernon (1968), the success stories that abound about the “normalization” of deaf children almost always have other mitigating factors. Gilfillan (1978) has stated that if the parents do not adjust to the problem in a mature way the child may lose the help and encouragement to explore, communicate and learn which he so vitally needs, and if this initial parental backing is lost it is difficult to replace. Carver (1984) concurs by noting that parents who were knowledgeable about deafness and understood the limitations that were a direct result of deafness could transmit a positive attitude to their children. When a deaf child’s relationship with parents and siblings was satisfying and wholesome, this relationship contributed to the development of a positive self-concept.

Studies by Brill (1960) have revealed that deaf children with deaf siblings receive more ratings at both the positive and negative ends of the scale of emotional adjustment in comparison with single deaf child of hearing parents. However, it was not determined whether or not the positive ratings related to those children with deaf parents or not. In that respect, the study is inconclusive. Gregory (1976) did note that the siblings of deaf children were reported to experience more jealousy than was the case of other children, usually as a result of the concessions made by the parents for the deafness.

Difficulties in communication often impede the mother-child bonding, and contribute to parents’ attitudes and child-rearing practices that lead to the slow development of social maturity in deaf children (Meadow, 1972). Meadow (1980) notes that a number of studies have given some insight into the dynamics of how the protectiveness most families have for their deaf children have probably contributed to the retarded social development of those children. Carver (1984) has also noted that parents of deaf children are sometimes made more anxious by teachers who try to encourage them to work harder for the children to achieve results. This anxiety is transmitted to the children, and, as a result, their fragile self-esteem suffers.

Montgomery (1978) has noted that the origins of neurotic and disturbed behaviour are often embedded in early experience and by the time they reach school, children may seem set in a definite mould, fashioned from the inseparable mix of constitutional and experiential influences to which they have been subjected in the first pre-school years. In confirmation of this, Schlesinger and Meadow (1972) found that the mothers of deaf pre-school children were significantly less permissive, more didactic, less creative, less flexible, and showed less approval of their children in comparison with mothers of hearing pre-school children.
The attitudes of a society towards deafness is another major factor affecting the self-esteem of deaf children. Lawson (1978) comments that because deafness is not a visible handicap it is often mistakenly interpreted by the hearing world as deafness, dumbness or muteness. The deaf have been ridiculed in jokes which to a deaf person are anything but funny, and although civilized people no longer poke fun at the visibly disabled nor do fashionable people visit the "mad-house" for amusement as they once did, their behaviour towards the deaf has not improved very much over the course of time.

Mitchell (1978) makes the pointed observation that because institutions exist for groups of similarly handicapped individuals, those groups are by nature separate and distinct from the general population. This gives rise to the popular misconception that these individuals are somehow not quite "normal". The institutional alienation of handicapped individuals diminishes the amount of interpersonal interaction with the public at large, with the result that the lack of knowledge causes attitudes to develop based on vague facts and supposed attributes.

Goffman (1961) makes it clear that the dependency fostered by the environment of the institution stultifies independent thinking, while at the same time, patients may feel intra-physically inadequate because they are always made painfully aware that they are institutionalized because of some defect, their inability to function adequately outside the institution's walls, and deviant from what is considered normative by society.

Another aspect of society's acceptance of deafness is made evident by the observation that deaf people tend to socially congregate together. This may be because of the ease of communication between themselves or because they can easily identify with one another. Goffman (1963) claims that it is because the stigmatized person, in this case, the deaf person, never really knows to what extent he is fully accepted into the company of normals, and so can never really be sure of himself in any particular social situation except perhaps in the company of similarly stigmatized people. Society may not shun such activities, equating such action with the old adage that "birds of a feather, flock together", however, it is equally true that society will then ignore that group. As with all minority groups, the deaf are stigmatized in society, as a whole (Mackenzie, 1978).

Mason (1980) highlighted the hypocrisy that exists in society when he said:

Another . . . example is the hearing who make a living out of working with or for the deaf, especially those involved in the decision-making processes which affect the lives of the deaf. It is also a very rare event that those hearing people socialize at all with the deaf of any socio-economic level of their own free will. Yet, those are the same people who have been urging the deaf to integrate themselves into the mainstream of society; these are the same people who urge the deaf to mingle with their normal 'peers' and in their next breath would not even think of having any one of them over for a cup of tea or are too embarrassed to be seen in public with them. They shy away from the deaf under such uncomfortable conditions.

Mainstreaming, the catchword of the Eighties, may be as detrimental to the development of a self-concept in hearing-impaired children as was institutionalization. Whereas the institutional setting has forced a sense of dependency and inadequacy upon the child (Goffman, 1961), mainstreaming makes those negative attitudes more intrinsic to the deaf child. Given that the vocabulary and reading skills levels of hearing-impaired children are lower than that of their hearing peers, deaf children would be more likely to compare their academic performances unfavourably to their hearing classmates. Klopping (1983) maintains that most deaf children do not function well in mainstreamed situations. This would definitely affect their self-esteem in a negative manner; one that may not occur if they were to compare themselves against other hearing-impaired children such as are to be found in institutions. Mclaughlin's (1980) review of several studies in this area support this view. The poor performance by many of the mainstreamed hearing-impaired individuals could also affect the developing social attitudes of their hearing
classmates. While those hearing children may become more familiar with the manifestations of deafness, at the same time they might well form such notions that hearing-impaired people are not particularly intelligent. Mainstreaming might be producing a generation of hearing adults who are familiar with deafness but intolerant of association with it.

Another concern with mainstreaming and the self-concept of deaf children is one related to technology. Children, more so than adults, are intolerant of differences; they all strive to seek uniformity. A deaf child is no less so. Placement of a deaf child in a regular school setting puts him at a social disadvantage: he is different. He usually cannot communicate well or easily with his hearing peers; he will usually be using one or more hearing aids; and he will receive special attention from teachers and support staff. The possibility that he may shun the wearing of hearing aids in order to appear “normal” is a real one and it is one that will only serve to add to his disadvantage and to lower his sense of self-esteem. Carver and Rodda (1978) affirm that a delayed start to the rehabilitation program may have permanent physical, psychological and social effects.

The sense of isolation that a deaf child may experience during the process of mainstreaming can also lower his self-esteem. Depression may become his companion in his silent solitude. Ladd (1978) asserts that it is very difficult to accept the classification ‘disabled’ and conceptualize oneself consistently as a member of an ‘abnormal’ group. But as Klopping (1982) asks,

“How can the mainstreamed situation for most deaf children be the least restrictive environment and how can the extra curricular involvement of most deaf children be a real experience when they are unable to be true participants in what is taking place?”

Garretson (1981) substantiates this argument by citing the example of the Maryland School for the Deaf as being indicative of what is happening in the United States. He says that each year the school has been admitting increasing numbers of hearing-impaired children 10 years of age or older who have developed learning and emotional problems in regular public schools. Clearly, society’s well-intentioned attitude of assimilation (via mainstreaming) is more idealistic than realistic.

Becker (1981) addresses another attitude of society towards the deaf. She contends that the negative attitudes of the general public towards sign language have created conflict and ambivalence about the language for its users, both in childhood and in adulthood. Montgomery (1978) notes that some feel that sign language is not a language at all, and even though it may be the main means of communication between deaf individuals, it is not operational in gaining employment in the ‘normal’ world.

Schein and Delk (1975) remark upon the general public’s attitude towards the employability of deaf people. Although there are many successful deaf people in all walks of life, by and large, deaf people as a group tend to be relegated to the more uninteresting types of job. Vernon (1974) further notes that while automation is displacing many of the types of employment that the majority of deaf people were engaged in, employment in areas for which the hearing-impaired would have a definite advantage, i.e., noise-polluted environments, is not occurring, primarily as a result of negative attitudes towards the deaf. Lawson (1978) sums it up by saying:

It is little wonder that many deaf people are frustrated and have to put up with mundane or monotonous jobs only for the sake of earning a living.

(3) Communication: The onset and degree of deafness is important in determining self-esteem in hearing-impaired children, but this is primarily because of its relationship to the development of communicative abilities. Deafness is not the fundamental problem; communication is. Lundstrom (1970) has emphasized the necessity of communication in personality development. It is necessary to pay attention to the child’s need of communication, of confidence, and of meaningful contact with the “normal” world. Schlesinger and Meadows (1972) have noted that whatever the means of communication, it must maximize the exchange of information, both social and experiential, between the parent and the child. Otherwise, as Gray (1978) points out, emotional and social maturity will not develop.
Language is the basis of communication, and although there are many contentions on what constitutes a language, Webster's definition, that of a systematic means of communicating ideas or feelings by the use of conventionalized signs, sounds, gestures, or marks having understood meanings, is a fundamental one. It is ironic that the deaf, who are unable to hear sound, should be subjected to the "oral-only" approach to learning language. The relatively recent propensity of professionals to use the "oral-only" approach is, in Ladd's (1978) words, "killing and impoverishing the deaf world." As Becker (1981) points out, 90% of all deaf children are born of hearing parents — hearing parents who listen to these professionals because they do not want to admit that their child is not normal. Meadow (1980), in her review of language development studies, confirmed that an "oral-only" approach retarded the development of the child while on the other hand, deaf children born of deaf parents were capable of developing a vocabulary (signed) that exceeded the vocabulary acquisition of hearing children. Stokoe and Battison (1981) have found that there is a lower incidence of emotional/behavioural problems in deaf children born to deaf parents, primarily because of the early and well-established communication patterns and language use, sign language being the medium of interaction, although there are other mitigating factors, such as having a sympathetic and realistic role-model in the family.

The fact that a deaf child may learn to speak a language at a level that is understood by his family or by trained professionals, does not, by any means, ensure that he will be understood by the man in the street. He may suffer ridicule, rejection or, at the very least, a sense of frustration that will erode the false sense of self-esteem that has been inadvertently built up in him.

Literacy, another component of communication, remains at a very low level for the average deaf person, let alone, child. Ladd (1978) vigourously proclaims, "The illiteracy of deaf school leavers is a fact." Trybus and Karchmer (1977) did find that 75% of hearing-impaired persons at age 18 read below a 6.1 grade level. Meadow (1980) concludes from her research that most deaf children do not have a sufficient command of language to enable them to function on a high academic level, thus reinforcing the claim to the low literacy levels of deaf children in general. However, studies by Quigley (1968) reveal that when sign language is incorporated into the teaching approach, children scored higher on reading tests and on three of the five measures of written language ability.

Although many schools employ deaf adults, Montgomery (1975) found that, ironically, those who could best help deaf children learn to communicate better were seen as an unwelcome source of manual communication. Mackenzie (1978) postulates that if a deaf person cannot communicate with the hearing community, then his opportunities to gain information about adult roles are limited, as are his experiences of life in general, thus his development of selfhood will be retarded.

The results of this research, even in its limited scope, reveal the importance of the familial environment in establishing the early development of a positive self-concept in deaf children. The two most important points to be gained from this study are:

1. Most parents need professional help with the emotional trauma that ensues following the discovery that their child is hearing-impaired.
2. The need to establish and maintain intimacy with the deaf child is paramount in nurturing positive self-esteem.

A further implication would be the parents' recognition of their deaf child's right to be part of the deaf culture.

The stigma attached to deafness by society is a major factor in the development of self-concepts in deaf children; one that can only be overcome by public education, exposure to the deaf community, greater integration of the deaf into higher levels of occupational status, and time.

The reciprocal relationship that exists between self-concept and communicative competence has led to a re-examination of approaches to education of the deaf. Exposure
to the deaf community, exposure to deaf adult role models, and the introduction of deaf studies into the curriculum have been suggested as a means of providing incentives to motivate deaf children to improve their communicative abilities (Harris, 1982).

After centuries of the deaf being educated by hearing people who do not know what it is like to be deaf, and who have had, on average, a success rate of approximately 11% in oral communication relative to "normal" society, it is time that the deaf took an active part in their own education, stressing communication and development that would result in well-adjusted individuals who perceive themselves as wholly normal, albeit deaf.

REFERENCES

Music Therapy in Action: A Case Study of a Brain-Damaged Teenager

Louise S.C. Cheng

Introduction

The founder of Music Therapy, Dr. E. Thayer Gaston, was originally set for a career in medicine. The Depression Years changed those plans and though he became Professor of Music Education, medicine and psychiatry continued to intrigue him. With close medical friends like Menninger, Maslow and Masserman, he had the advice and support of his medical colleagues to initiate the first Music Therapy programme at the University of Kansas, Lawrence, Kansas. There he was Director of Music Therapy and the research, conducted by his doctoral students in the fifties, soon took a foothold in the professional fields at psychiatric settings and in Special Schools for Handicapped Children.

Music Therapy

Sears’ (1968) explained the closely related link between the behavioural sciences and the functional roles of different music activities. Now music therapy is accepted as an adjunct tool in the rehabilitation programme for children with muscular-motor problems. In this study, most of the activities selected were intended to assist the teenager to improve: (a) her eye-hand or visual-motor skills, (b) the muscular-motor coordination skills of both hands, and (c) the lengthening of her breath control from one count to 4 counts and later to 10 counts.

Hypothesis

1. Given the non-threatening atmosphere of encouragement and trust, a good rapport between the subject and the music therapist will assist in stimulating the subject’s interest and growth, improving the subject’s self-esteem, and increasing the subject’s self-confidence.

2. The subject will look forward to the weekly session with the music therapist knowing this will include a wide variety of simple and easy-to-learn tasks or stimulating, pictorial types of resource materials and visual aids. Thus, we incorporated the 3 principles that form the foundation of music therapy:

(i) the establishment or re-establishment of interpersonal relationships,

(ii) the bringing about of self-esteem through self-actualization,

(iii) the utilization of the unique potential of rhythm to energize and bring order. In this instance, the ORFF pitched instruments were introduced in gradual stages.

Methods

The Subject

In this paper the subject will be designated as Amy. Amy had gone through the normal 9 months of intrauterine development and a normal birth. However, soon the infant baby

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contracted aspiration pneumonia. That short period, when the brain was deprived of oxygen, led to brain damage. This resulted in a variety of nervous system deficits, including a motor system impairment.

The far-sightedness of Amy’s parents brought about early intervention. Amy showed great improvement — over a period of 11 years — as a result of working with a physiotherapist and a specialist in special education and the influence of her persevering mother. Special attention was given to transforming daily exercises into a play form so that each day’s routine would help the muscles regain their strength and Amy’s control of them for skilled movements. This enabled Amy to move her neck in various directions, sit, walk at a slow pace and use her hands to perform basic functions required in dressing, eating and attending to certain social needs.

The Profile

Amy was 13 year old, attending the Special School run by the Spastic Children’s Association of Singapore. She was raised well by her parents and displayed the social graces one expects from a normal child. That was the profile the music therapist had of her when she came for her first music therapy session (March ’84).

The Diagnosis

The music therapist was fortunate that Amy’s prognosis was encouraging at this stage. The two main areas for rehabilitation through music activities/therapy were:

1. to improve the coordination of both her hands (right hand was weaker than the left) by use of unpitched instruments before playing pitched ORFF instruments of the glockenspiel or xylophone.

2. to improve her breathing that would, in turn, improve the flow of speech from jerky sounds to longer and more sustained tones.

The Design

1. RHYTHM. Using coconut shells, castanets, tambourines or any percussive instruments to produce rhythmic sounds of short, equal duration would activate both of Amy’s wrists, hands and all fingers to improve her visual-motor and neuromuscular coordination. The abilities required (Ackerman, 1978) will be:
   - visual focus on objects/instruments in space
   - perceptual-motor match
   - accurate locomotor abilities
   - balance
   - muscular strength
   - reciprocal neuromuscular response

These required abilities should lead to the following developmental steps. Amy will be able

— to read from big coloured notes as well as the usual small musical print in music books,
— to hit the percussion instruments and produce percussive, vibrating sounds and pitched instruments and produce sounds that will be melodious and resounding in quality,
— to strike small instruments when she has the strength and then to hit the big bass drum and bigger sized bass xylophone requiring more strength and energy, and
— to use each hand independently; to perform melodies faster in speed and in alternating sequences and both hands together in harmony.

2. MELODY. First, Amy will utilize the five fingers of her right hand by playing on the Portasound keyboard, using Kodaly-based, two to six-note range kindergarten songs (Hoermann, 1978) This will enable her to exercise her smaller, finer hand muscles yet,
aurally, enjoy the catchy tunes produced by her effort. During the next stage, Amy will use the pianica, using her respiratory apparatus to improve her breath control. Initially, she will hold each pitch for one count. Then she will gradually progress to four counts during the first year, up to ten counts during the second year, etc. The 4-bar tunes performed by the fingers will be lengthened to 8-bar tunes and the melody will gradually improve from jerky sounds to long, smoothly flowing tunes.

These target objectives had to be amended as Amy’s attention span increased from a one-to-one session of one-and-a-half hours to that of a 3-hour session during the second and third years of music therapy. Other activities also were gradually added (see Annex I — IV).

The Treatment

The music therapy session was held once a week at the Institute of Education on a one-to-one basis with Amy’s mother in attendance. Initially, it was an hour session, but with the mother’s home supervision, Amy’s muscular-motor coordination progressed faster and the session time was lengthened. Less than a year later, Amy was able to sustain her interest and her mother did not need to be at her side to lend her the needed moral support. The rapport with the therapist was well-established. Encouragement was given whenever Amy did well. The therapist recognized errors with a “Try again,” or “One more time,” or “That’s better.”

Surprisingly, due to the varying changes in the presentation of each lesson and the constant change of activities, Amy’s attention span increased from an hour and a half session to a three-hour session, without even a tea-break.

Strategies Used

1. Percussive instruments were changed from hitting coconut shells to using castanets or the tambourine.
2. To the slow, percussive beats, the therapist would sing the song increasing the pace faster and faster which evoked Amy’s laughter as she tried to “hit” as fast as she could.
3. Words of song were changed to those she was familiar with, for example the song LEFT! RIGHT!
The last line goes like this:
All the Way to LONDON TOWN
is changed to
All the way to Singapore Town
OR
All the way to C.K. Tang
All the way to Katong Park, etc.

Variety is the spice of life and it certainly was the spice or stimulant in each lesson and certainly caused Amy to wonder what the therapist would do next week. Suspense helped to stimulate her interest. Each week she had to learn a new 4-bar tune and during each session she had a new art picture to color, a new poem to recite to improve her articulation, and a new topic for which she had to compose 4 sentences to describe the topic setting. The gestalt approach was implemented.

The therapist’s philosophy was similar to that stated by Grant for the rehabilitation programme in the Georgia Retardation Center, Athens, Georgia: “The 4 areas that music therapy can make unique contributions are — perceptual, sensorimotor, social and communication . . . Sensorimotor skills, particularly perceptual motor skills and eye-coordination receive primary emphasis within the framework of rhythm and playing musical instruments.” (Grant, 1989)

Evaluation

TYPE I

At the end of the first three months, the first video-recording of Amy’s performance was made. It demonstrated her cognitive ability in the execution and understanding of the musical symbols, note-values and time duration.

There were periods of trial and error during the first year while the therapist was selecting the best resource materials that would appeal to Amy. Finally in the second year, another video-recording was made followed by one for

each successive year. The fourth video-recording was the edited version of the first three recordings showing a comparative study of Amy’s progress.

**TYPE II**

Resource materials were selected from books mainly written by authors who had experience teaching children in Special Schools. Piano playing books and theory were written in progressive stages and therefore easily learned and assessed (i.e., from level I to VI, so in Amy’s case having reached the book which is at level III indicates she has made significant progress in 3 stages).

Stage 1: Instant PIANO FUN Book I & II, in which the alphabet A to G is used. A few well-known folksongs (Poffenberger, 1975).

Stage 2: MUSIC FOR EVERYONE Reader Level 2 & 3. This course has 5 levels and the musical notes on the stave are printed much larger, with the right-hand notes colored GREEN and the left-hand notes in RED.

Reader level 4 & 5 involve the use of chords in which 3 notes have to be played simultaneously by one hand. This was beyond Amy’s restricted muscular ability, so the next choice selected in a book series was...

Stage 3: Burnam’s—“Step by Step” Piano Course. Book I to V. Amy started with Book 2 and ended with Book 3 in her fourth year. She would have been able to complete this series if the research had continued. A new “concept” was introduced after the student mastered at least 6 new pieces. Hence, learning was at a slower pace than in books where almost every new piece is a “new work.”

Findings

1. **Muscular and eye coordination.**
   Amy no longer needs to generate pressure from her mouth and lips to transmit the extra power and energy to the hands and fingers in the execution of Grasping, Hitting and Pressing the keys of a keyboard. Gross arm movements used in hitting a big, bass drum and small, fine muscular skills, used in playing the piano and blowing the recorder, are now subconsciously attempted with greater flexibility.

2. **Tongue and lips.**
   Through playing the pianica and the recorder, Amy has strengthened her lungs, lips, laryngeal muscles and vocal cords. Diction and articulation are clearer, especially for consonants like “K,” “H,” and for dipthongs.

3. **General musical knowledge.**
   Amy came to the therapist with no prior knowledge of music. Now she is able to identify the main musical instruments under the sections of Strings, Wind, Brass and Percussion and she is musically literate. She is capable of reading and playing simple musical works, with sufficient basic knowledge of the rudiments of music to understand the concepts of note-values, time and key-signatures as well as musical terms for dynamics and tempo, pertaining to the Preparatory Level, Trinity College of Music, London, theory examination requirement.

   (b) Knowledge of the Kodaly-based songs is equivalent to that taught in a Government Primary 2 class and the ability to perform the recorder is up to Gifford’s MY RECORDER BOOK II. Other songs she has enjoyed are similar to the peer group of any normal child, i.e.,

   WE ARE THE WORLD
   TOMORROW
   WE ARE SINGAPORE/COUNT ON ME SINGAPORE, etc.

**Interpretation of the Findings**

Campbell & Stanley (1973) have listed the “factors jeopardizing internal and external validity of various experimental designs.”
Many others have also commented on what is considered good research and what poor practices should be avoided.

Similarly, Grant (1989) prefers "not to use meaningless lingo, with a biased body of literature... which the "rest of the world does not understand or accept." This study is client-centered and not music-centered. The selection of materials and activities — which may or may not be continued — depended on the needs of the subject and the presentation of each therapy session was flexible enough so as not to upset the objectives of "concepts" to be acquired.

The main goal was achieved. Psychologically, Amy is a well-adjusted person. She has acquired the various skills that enable her to enjoy a) poetry, b) writing skills, c) performing and singing songs that she likes. She has grown from a shy person into a young adult with normal emotional and aesthetic needs. Her smiles often break into laughter logically, Amy is a well-adjusted person. She has acquired the various skills that enable her to enjoy a) poetry, b) writing skills, c) performing and singing songs that she likes. She has grown from a shy person into a young adult with normal emotional and aesthetic needs. She selects her dress and harmonizes it with the appropriate accessories to reflect her individuality.

Amy has gained self-confidence and has developed a personality that reflects her unique humour. Her smiles often break into laughter with her sense of wit expressing freedom of thought and speech.

In conclusion, there is validity in the hypothesis, significant enough to state that the musical, psychological, cognitive and sensori-motor goals have been achieved. These were closely related to the therapeutic roles of music therapy.

One looks forward, not only to educators and therapists, but also to medical researchers finding more solutions to lessen the complex problems that a handicapped person has to tackle.

REFERENCES


Grant, Roy E. Ibid.

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### ANNEX I: REHABILITATION PROGRAMME — MUSIC THERAPY

**STAGE ONE — EMPHASIS WAS ON THE PRACTICAL APPLICATION OF THE VARIOUS MUSIC ACTIVITIES TO IMPROVE EYE AND HAND MOTOR COORDINATION**

<table>
<thead>
<tr>
<th>The Activity</th>
<th>The Resource Materials</th>
<th>The Musical Instruments</th>
<th>General Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CLAP/HIT/BEAT/CCLICK to regular beats</td>
<td>Hoermann's Kodaly-based songs — sung by MT. — unpitched musical instruments.</td>
<td>Hands, coconutshells Bass drum, castanets tambourine To improve with greater flexibility gross and fine movements — in SLOW tempo and gradually increasing to a FASTER pace.</td>
<td>To strengthen the muscles of arm, hands and fingers.</td>
</tr>
<tr>
<td>2. SEE/READ &amp; CLAP to the RHYTHM PATTERNS shown</td>
<td>RHYTHM Patterns Nos. 1 to IV</td>
<td>Clap or use unpitched instruments.</td>
<td>Learning to READ Music notation cognitively.</td>
</tr>
<tr>
<td>3. Arranging the drinking paper cups or bottle-caps to indicate the RHYTHM — TA &amp; TITI.</td>
<td>Same concept as activity 2 but varying the presentation.</td>
<td>Practical application of the note-values or the concept of DURATION learnt. — one beat and 2 half-beats.</td>
<td>Same objective as item 2 above.</td>
</tr>
<tr>
<td>4. Keyboard skills. major scale. To play tunes</td>
<td>To play the first 5 notes of C major scale.</td>
<td>Yamaha PORTASOUND with exercise the finger muscles and and TIMBRE.</td>
<td>The objective here is to executing each note at a regular pace.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>To cultivate a sense of hearing different TONALITY, STYLE and TIMBRE by changing the preset RHYTHM patterns, the instrumentation from stringed — bowed to plucked sound; from WIND to BRASSY tone-colour.</td>
</tr>
</tbody>
</table>
## STAGE TWO — INTRODUCING THE ORFF PITCHED INSTRUMENTS TUNES INVOLVING BOTH HANDS TOGETHER
### PLAYING DIFFERENT NOTES AT THE SAME TIME

<table>
<thead>
<tr>
<th>The Activity</th>
<th>The Resource Materials</th>
<th>The Instruments Performed On</th>
<th>General Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Playing or STRIKING simple Kodaly-based songs — 1) using chord I DOH, MI, SOH 2) 2 to 5 pitched-songs based on Doh to Soh.</td>
<td>Selected songs from HOERMANN’s I &amp; II. e.g. SEE SAW LEFT RIGHT — I’M H-A-P-P-Y PLANTING RICE</td>
<td>Began with the glockenspiel but changed to BASS XYLOPHONE for softer tone, less penetrating, and bigger arm movement.</td>
<td>Commenced by hitting the wood, the side of the metal “key” but gradually improved on the eye &amp; hand co-ordination and was able to hit on the middle of each “key” to produce the vibrating sound required. Hands were able to have a better grasp of the “stick” correctly.</td>
</tr>
<tr>
<td>2. PIANICA PLAYING — blowing</td>
<td>Using the 5 notes of the C major scale. Holding each pitch from ONE COUNT to FOUR and improving the duration to TEN COUNTS. Used figured notation and 5-note range to play tunes as in ACTIVITY 1 above.</td>
<td>Yamaha PIANICA SOPRANO range. Finger exercises will be for the left.</td>
<td>To improve the muscles of her breathing apparatus by blowing each pitch in tune.</td>
</tr>
<tr>
<td>3. PIANO — PLAYING</td>
<td>Same as activity 2 above but having similar objective to exercise the finer muscles in the fingers of both hands. i) PIANO FUN ii) MUSIC IS FOR EVERYONE</td>
<td>Full-sized UPRIGHT PIANO</td>
<td>Bigger tone from the piano means using more arm “power” or energy and to READ the music using the first seven LETTERS of the alphabet representing DOH to TI. (PIANO FUN) Later change to staff notation but bigger print. (MUSIC IS FOR EVERYONE)</td>
</tr>
<tr>
<td>4. SINGING</td>
<td>VOCALIZING to vowel sounds based on D major — 1st tetrachord. VOICE BUILDER vocal exercises Songs of varying styles.</td>
<td>VOCAL CORDS high pitches but not for the lower pitch range. Singing though off pitched was in correct tempo and rhythm.</td>
<td>The intrinsic muscles of the larynx were damaged for the pitch range.</td>
</tr>
<tr>
<td>5. GENERAL MUSICAL KNOWLEDGE</td>
<td>Simple basic THEORY — Boyter Music Series &amp; for Musical Instruments.</td>
<td>PICTORIAL charts and visuals, in some cases — personified, cartoon-like to sustain and maintain the interest.</td>
<td>Response verbally was good. Able to identify the instrument by name but not able to spell correctly. Can do simple theory as in Burnam’s book 2 and 3.</td>
</tr>
<tr>
<td>The Activity</td>
<td>The Resource Materials</td>
<td>The Instruments Used</td>
<td>Comments</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------</td>
<td>----------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1. INSTRUMENTAL PLAYING</td>
<td>MORE TWO-part tunes • introducing — waltz style — Alberti bass style used for accompaniment.</td>
<td>Orff bass xylophone — big in size to require whole arm movement</td>
<td>WRIST AND ARM GROSS MOVEMENTS progressed to more flexibility in the execution of both hands</td>
</tr>
<tr>
<td>2. PIANO PLAYING</td>
<td>INSTANT PIANO FUN Book Il-words are with humour eg eg HERE COMES THE BRIDGE Big, fat and Wide. Range of tunes are wider.</td>
<td>UPRIGHT PIANO</td>
<td>Eight-bar tunes for both hands are easily learnt — very well written and slow enough for the slow learner to cope.</td>
</tr>
<tr>
<td>3. PIANICA PLAYING and later changed to RECORDER for more finger dexterity in execution.</td>
<td>Tunes arranged in figured notation within the 5-note range or in pentatonic mode.</td>
<td>YAMAHA PIANICA &amp; DESCANT RECORDER</td>
<td>The repertorie differs from that of the piano pieces and were carefully selected — catchy and tuneful short pieces, easily learnt in a short pace of time that were not discouraging to the learner.</td>
</tr>
<tr>
<td>4. SINGING</td>
<td>KODALY-based songs, Nursery Rhymes from recordings on cassettes</td>
<td>VOICE BUILDER by Olaf C Christiansen • articulation • resonation • breath economy</td>
<td>VERY SLOW PROGRESS SHOWN due to the weak contraction of the intrinsic, laryngeal muscles — the thyro-arytenoids and the arytenoids. 10</td>
</tr>
<tr>
<td>5. POETRY READING</td>
<td>SASSOM: C: SPEECH RHYMES</td>
<td>FOR SPEECH TRAINING ON &quot;H&quot; AND &quot;K&quot; CONSONANTS</td>
<td>Enjoyed reading poetry esp those by M Leong</td>
</tr>
<tr>
<td>6. ART WORK</td>
<td>SUNDAY TIMES: PLAY PAGE by Anna Song, 1985</td>
<td>Coloured pencils and highlighting marker pens.</td>
<td>Enjoyed colouring and relating the story in each picture</td>
</tr>
</tbody>
</table>
### STAGE FOUR
THE FINAL STAGE

<table>
<thead>
<tr>
<th>The Activity</th>
<th>The Resource Materials Selected</th>
<th>The Instruments Used</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PIANO PLAYING</td>
<td>EDNA M BURNAM BOOK II &amp; III</td>
<td>UPRIGHT PIANOFORTE</td>
<td>The book was an appropriate type for the slow learner with finger dexterity problem.</td>
</tr>
<tr>
<td>2. RECORDER PLAYING</td>
<td>GIFFORD: MY RECORDER BK II</td>
<td>DESCANT RECORDER</td>
<td>Had some difficulty in changing finger position in fast passages containing quaver notes.</td>
</tr>
<tr>
<td>3. SINGING</td>
<td>TOMORROW WE ARE THE WORLD</td>
<td></td>
<td>Appreciates &quot;Pop&quot; tunes and is capable of discerning her likes and dislikes. More songs that appeal to the normal teenager.</td>
</tr>
<tr>
<td></td>
<td>COUNT ON ME S'PORE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WE ARE SINGAPORE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>including TV Channel 8-favourite Chinese serial themes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. THEORY</td>
<td>BURNAM: Piano Book II &amp; III</td>
<td>elementary RUDIMENTS of MUSIC — note values, time-signatures etc.</td>
<td>Learnt the concepts of</td>
</tr>
<tr>
<td></td>
<td>— pictorial and easy to comprehend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. POETRY</td>
<td>C SANSOM: SPEECH RHYMES</td>
<td>DRILL ON CERTAIN DIPTHONGS</td>
<td>Has shown appreciation for good poems by wellknown poets.</td>
</tr>
<tr>
<td>READING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. ENGLISH</td>
<td>J.H. Heaton: COMPOSITION THROUGH PICTURES (Longmans)</td>
<td>TYPEWRITER — after going through the pictorial contents orally then the answers to the set questions were typed by Amy.</td>
<td>Commenced with PUFFIN: &quot;STEP AHEAD&quot; — story building before leading to Heaton’s book which is based on picture too.</td>
</tr>
</tbody>
</table>
Attitude Towards Responsibility and Teacher Locus of Control: Further Evidence of Their Validities

Soh, Kay-cheng

In recent years, a growing number of studies have shown that teachers’ sense of efficacy is a powerful predictor of teacher effectiveness. The construct of teacher locus of control or perceived teacher efficacy is defined as the teachers’ beliefs or conviction that they can influence how well students learn and how they behave (Guskey, 1981; Rose & Medway, 1981; Taylor et al., 1981). It has also been found that teachers who place a high value on teaching tend to take greater personal responsibility for their own actions and their students’ performance (Ames, 1982; Brookover & Lezotte, 1979). The concept of personal responsibility for student performance and behaviour may be extended to include responsibility for other aspects of school work and to attitude towards responsibility in general within the school context.

The intent of the present study is to explore further the relationships between teachers’ attitude towards responsibility and locus of control, on the one hand, and other teacher characteristics such as stress, educational attitudes and attitude towards change, on the other, as the former variables might have a bearing on teacher behaviour and hence teacher effectiveness.

METHOD

Subjects

Involved in this study were 54 experienced teachers who participated in a course on classroom-based research. They either were nominated by their respective school principals or volunteered to participate. As shown in Table 1, there was a preponderance of female primary teachers. That these teachers had long years of teaching experience is indicated by the mean of 19.98, and the S.D. of 8.48 suggests that they had a wide range of years of service.

TABLE 1

<table>
<thead>
<tr>
<th></th>
<th>Primary</th>
<th>Secondary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>17</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>Female</td>
<td>30</td>
<td>5</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>7</td>
<td>54</td>
</tr>
</tbody>
</table>

Predictor Measures

Responsibility.

The scale consists of 14 Likert-type items purportedly measuring teachers’ sense of responsibility, willingness to take on additional, new duties, and their perception of being assigned additional duties. For the present sample, this scale has a Cronbach’s alpha of 0.85.

As reported (Soh, 1985), when administered to a group of primary and secondary teachers, items of this scale discriminated between high- and low-scoring teachers with a median of 0.41 for the point-biserial correlations. A Cronbach’s alpha of 0.79 was obtained when the
scale was first constructed. The correlations of this scale with measures of educational attitude (0.35), teacher locus of control (0.31), attitude towards change (0.28) and Machiavellianism (-0.29) suggest its concurrent validity.

Teacher Locus of Control.

This scale consists of 20 Likert-type items for measuring teachers' beliefs in their own potential in influencing student performance and classroom events (Taylor, Sadowski, & Peacher, 1981). For the present sample, this scale has a Cronbach's alpha of .63.

Evidence of its reliability and validity was reported by Sadowski et al. (1982) and Sadowski & Woodward (1983). Soh (1986a) reported the internal consistency reliabilities of this scale when used with three groups of teachers to vary from 0.55 to 0.72 and its concurrent validity is suggested by the correlations with educational attitude (0.28), attitude towards change (0.32), attitude towards responsibility (0.31) and teaching behaviours (0.23). Teacher locus of control has also been found to be a moderator of teacher stress (Soh, 1986b), consistent with findings of studies involving other human services.

Sample items of these two scales are shown in the Appendix.

Criterion Measures

The three criterion measures of this study were teacher stress, educational attitude, and attitude towards change. These are described below.

Teacher Stress

This was measured by an adapted version of the Wilson Stress Profile for Teacher (Wilson, in Truch, 1981). This scale deals with various possible sources of teacher stress, including student behaviour, relationship with the school administration, relationship with fellow-teachers, intrapersonal conflicts, and psychophysiological symptoms. The scale as a whole has a Cronbach's alpha of 0.85 when administered to a group of experienced teachers (Soh, 1987). Its concurrent validity was suggested by the negative correlations with attitudes towards responsibility and change. For the present sample, the Cronbach's alpha is 0.93 for the scale as a whole, and the Cronbach's alphas vary from 0.32 (intrapersonal) to 0.94 (Administration) for the five subscales, with 0.70 as the median.

Educational Attitude

This 20-item scale deals with various aspects of a teacher's school life, namely, children, discipline, teaching methods, and administration. High scores on the scale indicate more 'progressive', people-oriented attitudes. Earlier studies since 1971 show the scale to have reliabilities ranging from 0.36 to 0.79, and a recent study returns with reliabilities varying from 0.70 to 0.80. The validity of the scale is indicated by its expected correlations with teacher locus of control, attitudes towards responsibility and change as well as teaching behaviour (Soh, 1986c). For the present sample, the Cronbach's alpha of 0.78 was obtained and the subscale reliabilities vary from 0.59 (Children) to 0.82 (Administration), with 0.69 as their median.

Change

This was measured by a scale comprising 20 Likert-type items purportedly dealing with teachers' acceptance of changes in life as normal happenings and feelings towards change as enriching life experience. The scale has an internal consistency reliability of 0.79 and its concurrent validity is suggested by its correlations with educational attitude, teacher locus of control and attitude towards responsibility in the expected direction (Soh, 1985). A Cronbach's alpha of 0.78 was obtained for the present sample.

RESULTS

First of all, it is worthy of note that years of teaching experience did not correlate significantly with Responsibility and Teacher Locus of Control. Thus, the two predicators were independent of length of service.

As shown in Table 2, Responsibility correlated with Teacher Stress in the predicted direction
both at the subscale and whole scale levels, though the correlations are not high, varying from −0.27 to −0.33 (p < 0.05, one-tailed test). The median of the correlations for the subscales is −0.31. An exception is Fellow-Teachers for which the correlation is not significant. Responsibility has also significant correlations with Educational Attitude both at the subscale and whole scale levels. The correlations are in the expected, positive direction and vary from 0.23 to 0.45. The median of correlations for the subscales is 0.33. In addition, Responsibility has a correlation of 0.30 with Change and one of 0.46 with Teacher Locus of Control.

The correlations between Teacher Locus of Control as a predictor and the criterion measures fall short of expectation somehow. Although an earlier study (Soh, 1986) shows it to be a moderator of teacher stress as indicated by negative correlation, there are only two significant, negative correlations, −0.28 for Student Behaviour and −0.27 for Intrapersonal. Likewise, the correlations between Teacher Locus of Control and Educational Attitude, are not significant, though in the predicted direction in most cases. However, Teacher Locus of Control correlated significantly with Change (0.25) and responsibility (0.46).

**DISCUSSION**

Notwithstanding the limitations of the study in terms of the size and composition of the sample, the patterns of correlations between the predictors and the criteria indicate convergent validities of the former, especially Responsibility. The values of the two predictor measures are added by the substantial reliabilities, high in some cases.

Since the subjects formed a highly selected group in that they had either volunteered themselves or were nominated by school principals to participate in a research workshop, homogeneity in the various measures under study can be expected. This suggests that the variances of the measures might have been truncated due to self-selection or nomination, and the correlations between the predictors and criteria would be higher had it been possible to involve a more representative sample of teachers. It can also be speculated that the correlations would be even higher were applicants for teacher education programmes to be involved.

The constructs of responsibility and perceived teacher efficacy as studied here have shown further evidence of concurrent and convergent validities through the configuration of correlations of various attitudinal measures. The next logical step would be to evaluate their predictive validities with teaching behaviour as the criterion. The criterion could be operationalized in terms of principal’s ratings, pupil achievement and behaviours, and classroom observation.

**Acknowledgements:**

The author thanks Dr Ho Wah Kam, Head, Educational Research Unit and other members of the Institute of Education Selection Criteria Project for their useful comments.
REFERENCES


Appendix (Sample Items)

Responsibility

3. I accept responsibility because it gives me a chance to contribute.

7. I will do my job, but I do not like additional responsibility.

Teacher Locus of Control

3. It is impossible to raise the current academic standard of my students.

7. When I can spend extra time with a slow learner, I soon see positive results.
Development of Subtraction Skills by Primary School Children in Singapore*

Chu Chiu Wai

This study investigated the order of acquisition of subtraction skills by children, the sequence of complexity of the subtraction skills and the types of errors committed by the children. The information obtained from this study can have important implications for the teaching of these skills especially when a comprehensive set of instructional objectives is used as a guide for lesson plans and test construction. The error types identified will provide information on the misconceptions that children have in performing subtraction skills.

A criterion-reference test on subtraction facts and algorithmic skills was designed for this study. Up to 4-digit numbers are used in the test items which consist of a varied combination of number of digits, renamings and the involvement of 0 digit in the renaming. This set was given to a sample of 381 Primary 1 to 3 children in two primary schools of average academic ability.

The data obtained were subjected to two statistical analyses to determine the homogeneous groups of items at various facility bands and the scalability of these groups. The results of the two statistical analyses showed that there was an order of acquisition of subtraction skills by the children. This order was similar to that suggested by other researchers like Gagne’ (1965) and Cox (1975) and that presented in the Singapore Primary Mathematics Syllabus.

The complexity of the subtraction skills could be described in terms of the basic facts, horizontal and vertical format of presentation of the item, number of digits, number of renamings, involvement of the 0 digit in the renaming and the column position of the renaming. The vertical format of presentation was found to be more difficult than the horizontal format. The difficulty of an item was increased when the number of digits or renaming was increased and when the 0 digit was involved in the renaming. Renaming at a middle digit was also more difficult than renaming at the right-most digit. This sequence of complexity was similar to the sequence in a set of instructional objectives compiled by some teachers from a group of primary schools in Singapore.

Altogether 24 error types were identified and the three common errors were ‘basic subtraction fact errors’, ‘subtract smaller digit from larger digit when the smaller digit is in the minuend’, and ‘do not reduce the digit in minuend by 1 after a renaming’. The errors could be classified as basic fact errors, conceptual errors and procedural errors. A wide range of conceptual errors (22 types) was found, which involved renamings and the 0 digit. They suggest a lack of understanding of the place value in the denary system and the role of the 0 digit in the renaming procedure.

The results of this study have important implications to the teaching and remediation of subtraction skills. The subtraction skills need to be taught in the order identified in this study so that the children can acquire the skills accord-

* M. Ed. thesis, National University of Singapore.
ing to their levels of cognitive development. The sequence of complexity of subtraction skills can be used as a guide in compiling specific instructional objectives to be used for teaching and test design. Effective strategies are also needed to help children understand the basic concepts like place value so that they can master the basic arithmetic skills.

BIBLIOGRAPHY


Variation in Singapore Tamil English*

Vanithamani Saravanan

ABSTRACT

This thesis examines the link between language use and an ethno-linguistic community of Tamil bilingual speakers set within a wider and complex, multi-lingual, multi-ethnic society in Singapore.

It investigates the underlying systematicity in the phonological, morphological and syntactic features in the indigenized variety of Singapore Tamil English. The underlying systematicity in past tense marking in morpho-phonemic verb categories is examined quantitatively. The semantic notions of punctuality, non-punctuality, anteriority and stativity are examined in relation to marking and non-marking of past tense. Statistical analysis is used to examine the correlation of linguistic variables with the sociological variables of education, occupation, socio-economic status and sex.

This study contributes further to the discussion on a number of principles of sociolinguistic methodology and theory, that is, on the methodological principles related to obtaining data from a non-Western society. The structuring and development of satisfactory field methods are critically examined; the issues related to sampling techniques, the use of the interview in obtaining spontaneous speech data and the crucial factor of the role of the interviewer are discussed.

The use of ethnographic approach and participant observation as methods for observing a close knit speech community, to examine the link between language use and socio-cultural, religious and socio-psychological factors are compared with other approaches. These set of factors that affect language use are to provide further explanation for the linguistic behaviour of this community of bilinguals.