

Applying SEIFA disadvantage indexes to VET participation

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UTS RESEARCH CENTRE FOR VOCATIONAL EDUCATION AND TRAINING

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THE PROBLEM

Indexes of socio-economic status (SES) are widely used in school and higher education because of the known relationship of low educational participation and achievement by socio-economic disadvantaged groups. An index of SES is likely to predict which areas and social groups need to be 'targeted' to improve resourcing and support for improved outcomes.

This methodology assumes that disadvantage is concentrated in particular regions and localities. Hence, it is argued, equity policy cannot be effective unless it takes into account the dimension of area disadvantage.

However, it appears that general indexes of socio-economic disadvantage may be of limited use in the case of vocational education and training (VET) in Australia. VET participation studies show there is quite a strong participation by people living in areas that are identified as relatively socio-economically disadvantaged (King 1983, McIntyre 1998, 1999). Moreover, there is lower VET participation by higher SES areas whose populations tend to have greater rates of participation in higher education and adult community education.

Does this then mean that measures of 'area disadvantage' have no application to equity policy in Australian VET? Do they have little application in identifying those groups who are 'at risk' of low participation and poor outcomes in the VET system? Should policy-makers persist with a framework for equity policy that emphasises strategies that target 'equity groups' and their representation in the VET population without regard for locality factors, even though this approach has been criticised as seriously flawed in the way it understands socio-economic disadvantage?

This paper argues that some analysis of 'area' disadvantage is an essential step in determining what policies can be effective in countering the effects of socio-economic disadvantage on post-school participation. However, it is one dimension among several, including the characteristics of 'equity groups' and the particular strategies that are known to be effective in addressing their VET needs.

The paper suggests an approach where SEIFA indexes are used to identify those localities and regions where large areas and where a large concentration of disadvantaged people live. The key, then, is to make good use of VET client data to establish whether it is actually the case that these 'disadvantaged areas' have VET clienteles that represent their disadvantaged populations, and to what extent their participation results in equitable outcomes (ANTA 1999).

It is not sufficient to identify a 'disadvantaged area' as having high VET participation rates, since such an area may have relatively *advantaged* clientele who make up the participants. Policy always has to contend with the fact that those who are participating are those who have participated before (ABS 1998a). The SEIFA indexes only point to areas that can be expected to have large populations of disadvantaged people. The question is whether VET providers serving these disadvantaged areas are 'recruiting' and addressing the needs of disadvantaged clientele. Hence the argument mounted by critics of 'target group' thinking, that local providers have a key role to play, as they always have, in developing and implementing equity policy (eg see McIntyre, Volkoff and Egg in progress).

The way forward for equity policy then, is to place greater emphasis on the concept of the potential 'equity clientele' that are identified through regional analysis. It is the context of local equity analysis that makes relevant the question of the application of the widely-used SEIFA indexes to VET policy. The nature of this direction for equity policy and its methodology have been set out, in some detail elsewhere (McIntyre 2000). This approach to the problem opens a number of possible directions for equity policy analysis:

1. *More emphasis on local and regional VET clientele.* From an analysis of the social composition of a locality or region, what kinds of disadvantaged VET clients (or 'equity groups') can be expected to participate in VET?
2. *More emphasis on the outcomes achieved by clientele.* What is the level of participation and achievement of these disadvantaged clientele, judged by appropriate measures such as type and level of course and module outcomes, relative to all VET participants?
3. *More emphasis on the equity strategies of regional TAFE providers.* What is the role of local VET providers (private providers, ACE and TAFE institutes) in identifying disadvantaged VET clientele and customising programs to meet their needs?

Against this background, it is clear that the SEIFA indexes of disadvantage may have application as one component of regional analysis that aims to identify potential VET clients with varying degrees of disadvantage (ANTA 1999). It may be that in addition to SEIFA, other social indicators can be used to identify those disadvantaged groups or individuals who are not participating and achieving in the VET system.

The rest of this paper therefore explores the concept and application of the SEIFA indexes in the VET context. It draws both on past studies of participation in Sydney and Melbourne postcodes which have drawn attention to the importance of differences in VET and socio-economic disadvantage in urban regions within these cities.

Thus the concern of the paper is to draw attention to that order of 'regional disadvantage' that has largely disappeared from VET discussions, by examining how VET participation and achievement are reflected in disadvantaged urban regions. By contrast, 'rural and regional' disadvantage is highlighted by current VET policy in according 'disadvantaged' status to remote or rural location. Thus a limitation of the

paper is that it considers rural disadvantage as a distinct issue that requires (and is receiving) analysis in its own right, for example through the University of Tasmania’s Centre for Learning and Research in Regional Australia (CLRRA). The significance of the urban/rural differences in the nature of socio-economic disadvantage is reflected in the construction of the SEIFA indexes by the ABS, as discussed below.

SEIFA DISADVANTAGE INDEXES AND VET POLICY

A brief description of the five SEIFA indexes is needed. Three of these are of a general character and two are more specific. According to the Australian Bureau of Statistics, their general index ‘summarises variables related to the economic and social characteristics of families and households, as well as personal education qualifications and occupation’ (ABS 1998b).

Table 1 summarises the definition of these indexes by the ABS. In all cases, the indexes are constructed so that high values reflect high socio-economic status (advantage) and low values, low socio-economic status (relative disadvantage). Since there are significant differences between rural and urban areas in their socio-economic structure, different indexes were designed to enable, for example, comparisons within a major capital city. Detailed discussion of the derivation of the indexes is given by the ABS (1998b).

Table 1. The ABS Socio-Economic Indexes for Areas (SEIFA) indexes)

Index	Description
<i>Relative socio-economic disadvantage</i>	A general index. Derived from attributes such as low income, low educational attainment, high unemployment and jobs in low skilled occupations.
<i>Urban advantage</i>	A general indicator of ‘relative socio-economic well-being’ including high-income, tertiary education and skilled occupations, applied only to urban areas.
<i>Rural disadvantage</i>	A general indicator of ‘relative socio-economic well-being’ including high-income, tertiary education and skilled occupations, applied only to rural areas.
<i>Economic resources</i>	A specific index which is intended to ‘reflect the profile of economic resources of families within the area’. Includes income, renting and home ownership, and housing and car ownership.
<i>Education and occupation</i>	A specific index ‘designed to reflect the educational and occupational structure of communities. Includes indicators of both qualification and participation.

Since the indexes differ in their makeup, they may differ in their potential application to VET policy. The general index, the Index of Relative Socio-Economic Disadvantage has components of low income, low educational levels, unemployment and low skill occupations. However, general index of advantage or disadvantage may not be so useful as (specific) indexes based on educational and occupational, or economic criteria of disadvantage, because of the significant influence of employment status in TAFE participation.

In contrast, the Indexes of Economic Resources and Education and Occupation separate economic criteria of disadvantage (such as household income and housing factors) from the educational and occupational criteria (such as the level of education in a locality and its dominant occupational groups) that are combined in the general indexes.

It may well be that an index of economic resources is a better measure of factors that are linked to low VET participation and achievement, since it may capture low income, poor housing and other factors that depress VET participation, whereas ‘education and occupation’, though a traditional measure of social class, is less likely to predict low VET participation because of the strong correlation of TAFE participation and measures such as the percentage of the adult population who hold a basic or skilled qualification.

The index of economic resources is the only index that includes measurement of family variables such as household income, number of dependents and housing type and car ownership. For this reason it may be useful in identifying those urban areas where relative poverty may act as a factor depressing VET participation and achievement—including for example, lack of private transport in outlying suburban areas where public transport is poor.

There are a range of reasons for considering the application of indexes of socio-economic disadvantage — a term which is not in common use in VET policy. The unequal social and economic circumstances of different social groups is referred to in terms of ‘equity’ and the ‘representation’ of ‘target equity groups’ in the VET population. The use of the term ‘equity’ or ‘access and equity’ is used to denote the socio-economic factors that are associated with lower levels of participation and achievement in vocational education and training. Prior to the changes that accompanied the ‘training reform agenda’ there was an emphasis in policy on the stronger term ‘disadvantage’ to refer to these social and economic inequalities and their effects on VET participation, particularly at the time of the Poverty Commission and the Kangan Report (McIntyre 2000). There is a need to appreciate changes in VET equity policy since that time in an historical perspective.

It might be said that the concept of socio-economic disadvantage underlies that of equity. However, writers have been particularly critical of the limited understanding of disadvantage that is projected through the ‘target equity groups’ discourse. Current VET research underlines what has been well-known for decades, that ‘disadvantage’ is not a simple condition (for example, in having an NES background) but is compounded

by a range of educational and economic factors (Powles 1990, Powles and Anderson 1996, Golding and Volkoff 1998, Volkoff and Golding 1998, McIntyre 2000).

Though it is true that 'target equity group membership' increases the probability that an individual will have difficulty in accessing VET and achieving desired outcomes, it is important to consider the relationship of particular equity groups to those economic and educational factors that are associated with their under-representation in VET. Golding and Volkoff (1998) found that one third of their respondents were members of four or more nominal equity target groups. It underlines the fact that VET policy cannot, without appearing tokenistic and ineffectual, deny the harsh realities of compound nature of disadvantage. In turn, this implies that it may be useful to seek common underlying criteria of disadvantage such as those provided by SEIFA indexes.

The reasons for a more robust concept of equity, based on socio-economic disadvantage, should not need much justification. It is economically and socially important for individuals to obtain adequate access to educational opportunities, including VET. Significant social and economic costs arise when individuals are unable to access or successfully complete adequate education and training. Since 'training reform' in the mid-1980s, national policy in VET has recognised that lack of equity reduces the overall skill formation effort and national economic competitiveness, as well as having unacceptable social costs. Equity of access for disadvantaged groups has been accepted as a key social objective of VET since the Kangan report (1974) and it is underpinned by broader concepts of social justice according to Powles and Anderson (1996). Participants undertake VET for many reasons including some unrelated to the narrowly constructed view of the purpose of industrial training, skilling or direct labour market outcomes (Golding and Volkoff 1998).

This is not the place to debate the philosophical base of equity policy, but rather to note the compelling argument that VET equity policy has at its disposal rich sources of data that now make possible the effective monitoring of the extent to which people in different areas and from different backgrounds are accessing the system and using it to achieve their career and life goals. By bringing together census data, including 'area disadvantage' measures such as SEIFA, together with AVETMISS client data, it is possible for TAFE institutes and other VET providers to carry out powerful analysis of their VET clientele. Thus approach to equity policy is wholly consistent with national goals of greater client focus and customisation of courses to the needs of industry, communities and individuals (ANTA 1995, 1999).

PROBLEMS IN APPLYING SEIFA INDEXES IN VET POLICY

Even if the SEIFA indexes are themselves too general to be of use in monitoring equity in the VET system and targeting resources more appropriately, their underlying rationale presents a sound basis for developing more effective analysis of disadvantage and the response of the VET system to disadvantaged clientele.

It was earlier pointed out that on good statistical grounds the ABS makes a key distinction between 'educational' and 'economic' criteria and embodies these in separate indexes. More specific indicators of disadvantage may work as well as SEIFA indexes for the purposes of VET policy, as discussed further below. (In contrast to an 'index', which combines several different data items in the one measure, a 'social indicator' refers to a specific data item such as post-school qualification held, occupational group, or individual income).

These different kinds of measures can include economic measures such as unemployment rate, or labour force participation and education and occupation measures such as the proportion of residents aged 15 and over holding a post-school qualification; and the proportion of the workforce in 'blue collar' occupational groups.

This is an important point, since these two dimensions of disadvantage that are picked up in VET client data in the AVETMISS measures of 'employment status' and 'prior educational level' can be used in analysis of systems, regions and providers. These dimensions are significant across all 'target equity groups' since the most disadvantaged VET clients will have low levels of schooling and marginal employment status whatever their socio-cultural group membership.

Prior education is defined by the AVETMISS standard as highest schooling level completed and prior educational achievement in terms of a given qualification. When examining equity and access considerations, highest level of schooling, rather than prior educational achievement, is commonly used. There appears to be some evidence that VET achievement (as measured by module pass rates, module completion rates and employment outcomes after VET) can be attributed to demographic factors after differences in field of study and qualification level had been taken into account (Ball and Phan 1999).

Employment status, as collected by AVETMISS can similarly be related to measures of the labour market in areas of socio-economic disadvantage (see McIntyre 2000). It is of interest to know, for VET planning purposes, how far the employment profiles of VET clients in a regional provider reflect the employment and labour force participation levels of that area. The rates of labour force participation by men and women, are potentially more useful than the unemployment rate. In contrast to standard practice in calculating gross participation rates for, say, TAFE in an area, it is also possible to assess to what extent areas differ in the degree to which their VET clients are employed.

There are a number of problems and constraints in using the SEIFA indexes to interpret disadvantage in relation to participation and achievement in the VET system (McIntyre Ball Phan & Freeland 2001):

- There are great differences between urban, rural and remote areas in regard not only to population characteristics, but in their ability to access VET services. This access to infrastructure is recognised by the ABS as being integral to the concept of advantage or disadvantage. Thus there is serious doubt that one and one only index will be adequate for all purposes.

- Much of the research evidence suggests that disadvantaged people (understood both in terms of the ‘equity groups’ and lower economic and educational levels) do in fact access TAFE in large numbers, at least in the urban areas regarded as disadvantaged. Thus ‘disadvantage’ as measured by the SEIFA indices does not predict lack of participation, but rather the reverse. This suggests a problem with a more general index.
- There are inherent limitations in the indexes affecting their application to VET, in particular, the degree of socio-economic homogeneity within an area. The more homogeneous areas tend towards the extremes of the indexes. Areas of high SES tend to exclude individuals with low SES and areas of low SES do not attract individuals with high SES. Thus the SEIFA indexes are better able to define the extreme values for high and low socio-economic status. They are less useful in understanding why areas around the average value fall above or below this value.
- Further, the larger the ‘area’ to be defined, the less homogenous is its socio-character likely to be. Obviously, an urban region such as Western Sydney with over a million people, is extremely diverse. Mapping disadvantage by the smallest area for which values are available (the ABS census collection district, approximating 200 households) can show neighbourhoods of extreme disadvantage and relative advantage within a postcode – though such a postcode may have an ‘average’ value on an index of disadvantage. Recently gentrified suburbs can have this character.
- There are the limitations of the Census data on which the SEIFA indexes are based. Not all data relevant to defining disadvantage are collected, and areas of highest disadvantage have the highest rates of non-response on critical questions such as prior schooling. Certain areas with high percentages of non-private dwellings and holiday regions are likely to have significantly distorted responses to the Census
- There is a significant limitation that is inherent in the concept of ‘disadvantaged areas’ due to the way that certain boundaries, such as postal areas or local government areas, are defined. The SEIFA indexes assume that the area of representation is homogenous within their bounds. Homogenous characteristics of population are less likely to occur in areas of low population. The ABS (1998b, 27) recognises that disadvantage may differ widely within an area, particularly within rural localities and certain inner city areas undergoing redevelopment.

The question of what ‘area’ an index is to be calculated for is therefore important. In general, the larger the area, the more general and less useful is the ‘disadvantage’ value calculated. This can be illustrated by reference to the case of Western Sydney. It helps us little to know that the Western Sydney has higher general socio-economic disadvantage than that of other Sydney sub-regions, or even that its sub-regions (such as Penrith or Blacktown) have such values. It is much more useful to know that certain postcodes within this region are more disadvantaged than their neighbours – or, more precisely still, thinking in terms of the notional catchment of Western Sydney Institute of TAFE, that there are particular neighbourhoods in the Mt Druitt postcode that

appear to have extreme values of disadvantage. TAFE Institute planning can then pay particular attention to those areas, both to examine whether there are VET clients coming from those areas, and if they are, to know the nature of their participation. It may be that local equity strategies need to respond to particular characteristics of such areas.

Postcode is selected as a unit of analysis for good reasons. Though it can be sometimes too large to be useful, it is a good compromise between larger boundaries such as local government areas, and the census collection district. For all practical purposes, especially its use in VET planning, postcode is preferred because that 'client home postcode' is collected by AVETMISS, making the mapping of VET participation and achievement on to socio-economic disadvantage possible.

This point is quite crucial since the 'local equity analysis' model and effective regional equity planning by TAFE makes key assumptions about 'catchments' of TAFE Institutes, defined in terms of the home postcodes of their VET clients (McIntyre 2000, McIntyre Volkoff and Egg, in progress). This methodology relies on the postcode as a unit of area analysis for which SEIFA and other measures can be calculated.

It is precisely the fact that the AVETMISS standard collects 'client residential postcode' and that makes this a key data item for mapping the characteristics of VET clients living in an area to the socio-economic characteristics of that region or locality. However, postcodes as a unit of analysis is more applicable to the analysis of VET participation in urban areas because of the large areas covered by single postcodes in rural and isolated areas. Even within urban postcodes there is a high degree of heterogeneity of social economic circumstances that is revealed by fine-grained analysis of the census collection districts that are aggregated to form Australia Post postcodes.

THE SEIFA INDEXES AND PROFILING VET CLIENTELES

It is necessary to consider some of the limitations of the usefulness of the SEIFA indexes that arise from the VET policy and planning methodologies that will make use of this order of data.

From this point of view, one limitation of the SEIFA indexes is their very abstraction. Though the indexes provide a comparative measure of disadvantage at the local and regional level—a measure relative to other areas—they do not say much about what that disadvantage comprises.

On their own, the SEIFA indexes do not assist much in developing effective regional equity planning by TAFE Institutes, community agencies and other VET providers. This is because planning needs to profile the usual residents of the notional 'catchments' of providers such as Western Sydney Institute or Blacktown Community College (an ACE provider). For this reason, it is useful to examine the SEIFA values for a set of postcodes in relation to a range of specific indicators drawn

directly from Census data. Profiling catchments is a more descriptive and meaningful approach to planning local equity strategies.

Some examples can be given to illustrate the use of typical social indicators to supplement the SEIFA indexes. This analysis sets aside the general indexes of urban and rural advantage, and the index of socio-economic disadvantage. The interest is in the two specific indexes, the Index of Economic Resources and the Index of Education and Occupation.

In addition to such indicators, SEIFA indexes also need to be supplemented by reference to important socio-cultural indicators, referring to the relative size of populations of indigenous and non-English speaking people in the area. These include the proportion of the population who identified as Aboriginal and/or Torres Strait Islander, and the proportion of the population aged over 5 years that spoke a language other than English (LOTE) at home. (This indicator is preferred to the proportion of residents born in non-English speaking countries). More specific indicators are often generated in profiling, for example, to assess differences between male and female populations, or younger and older residents, for example, Aboriginal youth as a proportion of all aged 15-24 years.

Table 2. SEIFA Indexes and social indicators for profiling

Specific Index	Related social indicators (1996 census)
<i>Economic resources</i>	<i>Low household income</i> (the proportion of households receiving under \$16,000 per annum)
	<i>Rented accommodation</i> (the proportion of households residing in rented accommodation)
	<i>Female labour force participation</i> (the proportion of the female population aged 15 in the labour force, ie those in work or looking for work).
	<i>Vehicle ownership</i> (the number of motor vehicles owned per household).
<i>Education and occupation</i>	<i>Qualifications</i> (the proportion of the population aged 15 and over holding a post-school qualification).
	<i>Basic and skilled qualification</i> (the proportion of the population aged 15 and over holding a basic or skilled vocational qualification).
	<i>Lower occupational groups</i> (the proportion of the labour force in three occupational groups traditionally associated with 'blue collar' work, ASCO groups 7, 8 and 9).

Obviously, these social and economic factors, known to be variously related to a lack of educational participation, are highly correlated, giving the basis for developing composite indexes of disadvantage in the first place.

Another limitation concerns the assumption of 'local equity analysis' that disadvantage clients will attend their VET courses locally rather than at locations far from their homes (for example, in other regions where they may travel to work). Local providers may enroll students who live beyond their nominal (local) catchment and residents may participate in courses nearer their workplace or wherever a course is available. However, it has been shown that most VET students do in fact travel less than 20km to attend their courses. Thus, there are good grounds for a concept of local providers developing strategies to address the character of local socio-economic disadvantage. (Local analysis can in any case establish to what extent residents in a given urban region are attending courses within the region, and to what extent beyond the region. For example, a 'local TAFE participation rate' can be calculated as the percentage of TAFE students living in a postcode within the region who attend the local TAFE institute).

Finally, the point needs to be made that the application of the SEIFA indexes in some profiling process is an interpretive process designed to provide a principled basis for planning decisions. Clearly, caution needs to be exercised, since this process is one of making generalisations about populations of people using data derived at a moment in time (and data that is going out of date from the time of its collection).

CONCLUSION

This paper has examined the application of the Socio-Economic Indexes for Areas (SEIFA indexes) in VET equity policy, against the background of the need for more robust concepts of equity strategy that take greater account of local and regional differences.

The rationale for using such indexes springs not only from their widespread use in public policy but from the evident need to address the conceptual weakness of equity policy in the VET system. There are limitations in based equity policy on limited generalisations about 'equity group characteristics' that do little to address underlying socio-economic disadvantage.

A focus on socio-economic disadvantage directs attention to the factors measured by the SEIFA indexes—education and occupation factors such as level of qualification or occupational group, and economic resource factors such as level of household income and housing type.

The paper notes the paradox that while SEIFA indexes predict areas with low achievement in education generally, these areas are those with higher levels of VET participation and achievement. Thus other and perhaps more specific measures are needed to identify those groups that are least likely to participate. The paper suggests

the hypothesis that economic factors may be more useful than educational and occupational measures to identify these potential VET clients.

It notes that AVETMISS data provides key data on the prior schooling and employment status of VET clients that can be used to monitor the relative disadvantage of clients coming from an area that is assessed as being disadvantaged on one or more SEIFA measures. Client home postcode is a crucial basis for methodologies monitoring the effectiveness of providers in meeting the needs of their disadvantaged communities.

A further paper will summarise some empirical findings from the application of SEIFA indexes to the analysis of VET participation in disadvantaged urban regions.

Note: This paper has been informed by work in progress for the WA Department of Training and Employment on the development of an index of socio-economic status for application to VET policy in that State (McIntyre, Ball, Phan and Freeland, 2001).

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