UTILIZATION OF RESEARCH FINDINGS IN TECHNICAL AND VOCATIONAL EDUCATION POLICY MAKING IN MALAYSIA

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ABSTRACT

This research was carried out to: assess the utilization of research findings in technical and vocational education and training (TVET) policy development process; investigate the gap between TVE research and policy making; and, determine ways to bridge the gap between TVET research and policy making. It employed qualitative research method using focus group discussion (FGD), elite interview (EI) and in-depth interview (IDI) as data collection techniques. Data analysis was done using content analysis, thematic analysis and simple deductive logic.

FGD and elite interview results indicate that Malaysia TVE policy making is largely centralized wherein policy decisions are made at the Ministry level, with very limited research input or use of research-generated knowledge. The policy process being followed is what experts call "stagist approach". The most significant suggestion made by the EI participants for bridging the gap between research and policy making is to capitalize on the recently created "National Professors Council (Majlis Professor Negara)". It was noted that the IDI findings were consistent with those of the results generated from the FGDs and EIs. The IDI participants further affirmed that TVE policy making in Malaysia is largely top-down and commissioned research and international data as the main source of knowledge. But they also mentioned that the use of this research is far-in-between. The study was able to indentify strategies for further improving the utilization of research in TVE policy making.

Field of Research: *Policy making, educational research, technical and vocational education.*

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1. INTRODUCTION

There is growing recognition that education research results are important input to further improve technical and vocational education (TVE) delivery and could be used as basis for charting policy directions, policy advocacy and formulation. Reality, however dictates that the gap between research and policy making remains far and wide. Although the debate on research utilization for policy decision-making and implementation processes is not new and its features have changed over time, the issue has gained greater prominence in recent decades following the major processes of world change that increasingly call for concrete evidence to support or challenge the innovations that are implemented in a variety of contexts (Almeida & Bascolo, 2006).

Most researches do not possess the characteristics that policy makers find useful (Weiss, 1980). Moreover, many of the research reports, although relevant and could be utilized to improve practices in the classroom and the system, end up in the bookshelves. Regrettably, those that

reached the policy-makers were criticized to be too bulky, or are written in a format and language that is quite incomprehensible to readers, and the subject matter of the reports is of little relevance or interest to policy makers (Morden, 1999; Hanney, et. al, 2003). So far, there is no systematic and comprehensive way of disseminating and utilizing TVE research findings in policy making in the Southeast Asian region, Malaysia included. This research therefore, sought to find answers to three key questions: a) To what extent are TVE researches being used in policy making?; b) What strategies should be undertaken to improve research utilization?; and c) How can we bridge the gap between TVE research and policy making?

The interactive/social interaction model of knowledge utilization (Glaser et. al, 1983 & Weiss, 1979) served as the research's conceptual framework. The process here is a set of interactions between researchers and users rather than a linear move from research to decisions. Policy networks are seen as providing a useful framework for studying research utilization. The network concepts help to explain the difficulties some research faces in gaining acceptance by users.

2. RESEARCH METHODOLOGY

The research employed multiple triangulations to ensure or enhance the validity and reliability of the research findings. Specifically, it involved the triangulation of research methods (within-method and between-method), triangulation of data and data sources and investigator triangulation. This study was pursued using qualitative research methods.

The following data collection techniques were used:

Elite Interview

Semi-structured questions were developed for interviewing key officials of the Ministry of Education. The purpose of this interview is to elucidate education policy making process and how research results are utilized in formulating technical and vocational education (TVE) policies.

Focused Group Discussion (FGD)

Two FGD sessions, with 6-10 participants each, were implemented, one involving the DTE officials who are directly involved in policy making and the other one with the officers of the Department of Polytechnic Education as participants. A series of open-ended questions were formulated to serve as discussion guides for each of the FGD. This part of the research aimed to: a) determine the manner by which vocational education policies are developed/formulated; and b) identify the gaps between TVE research and policy making.

In-depth Semi-structured Interview

Interview guides that served as framework for the interview were prepared beforehand. The majority of questions, however, were created during the interview, to allow both the interviewer and the person being interviewed the flexibility to probe for details or discuss issues. The general topics that were included in the discussion consisted of among others: key informants and policy-makers in the policy-process, perceived importance of research findings in the policy-making process, forms of communication found to be useful, different ways research can be used, how well equipped the department is in absorbing research findings, specific aspects of research that made it useful, presentation/format of research findings, barriers and facilitators to research utilization, and policy-makers' recommendations of how to increase their utilization of research findings.

A purposive sampling was done to select informants from the Department of Polytechnic Education that participate in the policy development process including those who are assisting the policy makers. Interviews were done until the saturation point is reached.

Analysis of qualitative data was done using NVIVO version 8. Further analysis was done using content analysis, theme analysis and simple deductive logic.

3. LITERATURE REVIEW

3.1 Policy Making

Policy simply refers to a broad statement that reflects future goals and aspirations and provides guidelines for carrying out those goals. Hill (1993), as cited by Osman (2002) defines 'policy' as 'the product of political influence, determining and setting limits to what the state does'.

In the existing literature, policy making has been viewed from varieties of approaches like rational approach, incremental approach, mixed scanning model, group theory, elite theory, pluralist theory and political system model (Osman, 2002). Of these approaches, it is popularly believed that Easton's (1965) 'Political System Model' can be employed to explain the policy making process of developing countries.

Cairney (2012) claimed that policymakers and academics often hold different assumptions about the policymaking world based on their different experiences. But given a favorable environment, they both may learn from each other about how to understand, and seek to influence, the policymaking world. Yet, there is a major barrier to that: both may have a different language to understand it and a meaningful conversation may require considerable translation.

3.2 Educational Research

Educational research studies contribute simultaneously to theory, policy, and practice. Bulmer (1978) proposed a five-fold classification as a continuum in which all research may be classified. It is this five-fold division that has some relevance for educational studies and may be used to classify different types of educational research as follows:

1. ***Basic educational research*** which is principally concerned with advancing knowledge through testing, generating, and developing theories. While such investigations may have some benefit for policy and practice this is not their prime purpose.
2. ***Strategic educational research*** which is based on an academic discipline but is oriented towards an educational problem. In sociological research, for example, work concerned with conceptual issues of sociology has in turn been concerned with practical problems.
3. ***Specific problem-oriented research*** which is designed to deal with a practical problem. Such work might be conducted on behalf of government departments or local authorities and might be concerned with topics such as the teaching of reading or with examination performance in schools.
4. **Action research** which involves research in a programme of planned change. This research is often designed to study the effects of change. In the field of education, there have been a number of action research projects concerned with curriculum development as well as with educational priority areas.
5. ***Intelligence and monitoring*** which involves the collection of statistical data on education by such bodies as the Office of Population, Censuses and Surveys.

3.3 Technical and Vocational Education and Training and Policy Making

TVET refers to education and training that prepares persons for gainful employment (Finch and Crunkilton, 1999). In other words, TVET refers to deliberate interventions to bring about learning which would make people more productive in designated areas of economic activity (e.g., economic sectors, occupations, specific work tasks). It therefore plays a vital role in the socio-economic development of any nation. This can only be realized if countries have favorable policy environment.

Experts say that for TVET policies to be more effective they should be underpinned by sound research results. Furthermore, research can play a crucial role in evaluating policy effectiveness. It should be emphasized that policies developed and implemented without backing them up with sound evidence can be negative, as measures taken can have unwanted, and even opposite, effects. However, few countries use research coherently as structural input to their VET policy-making processes (CEDEFOP, 2011).

4 Theoretical Framework

Many categorizations of policy-making exist. The categorization of policy-making presented here is not intended to describe the models comprehensively. Instead, it is based on previous analyses of public policy-making that were specifically made in the process of analyzing research utilization. The categorization incorporates work undertaken by Kogan and Tuijnman (1995), for the Organization for Economic Co-operation and Development. The various models described are not mutually exclusive, but are included because each makes a specific contribution that is built on in later analysis:

1. **Rational models.**
   Rational models of policy-making assume policy-makers identify problems, then gather and review all the data about alternative possible solutions, and their consequences, and select the solution that best matches their goals. Sometimes this approach is known as ends-means rationality. It is thus different from some of the models below, which might also seem rational to the policy-makers involved. The various models of policy-making should be seen as a spectrum.

2. **Incrementalist models.**
   It has long been recognized that policy-making is a complex process. It can involve scientific knowledge and a range of other factors including interests, values, established positions within institutions, and personal ambitions. Furthermore, evidence from research has to compete with 'ordinary knowledge' which owes its origins to, 'common sense, casual empiricism, or thoughtful speculation and analysis'. In models such as 'disjointed incrementalism', policy-making does not involve a clear movement towards predetermined goals but rather is more a series of small steps in a process of 'muddling through' or 'decision accretion'. Incrementalists allow for a greater role for interests in policy-making debates and emphasize the many sources of information that impinge on policy-makers.

3. **Networks.**
   A networks approach also highlights the role of different interests and how the relationships between such groups and policy-makers can result in an incremental policy process. The term 'policy network' is defined as a generic label for the different types of state/interest group relationships, for example 'policy communities' in which the long term relationships between government officials and representatives of leading interest groups are particularly powerful. Other definitions of the term networks involve a wider membership and are more likely to include researchers. It is claimed that researcher involvement in 'social networks' is

important for research utilization. Others suggest that leading experts who share a similar approach on an issue can be seen as an 'epistemic community' and can influence policy. Analysis of health systems often suggests the influence of the medical profession over policy-making is particularly strong. Its domination of the policy networks led to the use of the term 'a professionalized policy network'. Its influence is likely to be a factor in setting agendas and determining the type of knowledge to which most notice is taken in the policy debate.

4. **The 'garbage can' model.**
   The 'garbage can' model of policy-making looks at these issues in an idiosyncratic way. It suggests that sometimes solutions that might have been discarded nevertheless remain in the policy-making system, and occasionally there are problems to which they become attached. Models such as this highlights the way in which policy-making can be seen as a most untidy process, rather than neatly going through a series of phases.

These various models of policy-making, even occasionally the final one, are likely to be found relevant to different parts and circumstances. They will have different implications for the utilization of research and although they do not stack up as connected paradigms, or have much predictive power, they help put shape onto otherwise inchoate patterns (Hanney et al., 2002).

Following the work of Weiss (1979), various models of research utilization in policy-making have been identified, and they are thought to be applicable beyond the social sciences:

1. **The classic/purist/knowledge-driven model.**
   This suggests a linear sequence in which research generates knowledge that impels action.

2. **The problem-solving/engineering/policy-driven model.**
   This also follows a linear sequence, but begins with the identification of a problem by a customer who requests the researcher to identify and assess alternative solutions.

3. **The interactive/social interaction model.**
   The process here is a set of interactions between researchers and users rather than a linear move from research to decisions. It ensures they are exposed to each other's worlds and needs.

4. **The enlightenment/percolation/limestone model.**
   According to this, research is more likely to be used through the gradual 'sedimentation' of insight, theories, concepts and perspectives. This model has the advantage of extending the range of ways in which research is seen to be utilized.

5. **The political model.**
   In this, research findings become ammunition in an adversarial system of policy making.

6. **The tactical model.**
   Here research is used when there is pressure for action to be taken on an issue, and policy-makers respond by announcing that they have commissioned a research study on the matter. Whilst this can sometimes be seen as a cynical delaying tactic, there are other occasions on which the commissioning of research provides the political system with a valuable breathing space, thus reducing the chances of irrational policy-making.

There is no precise overlap between the principal characteristics of policy-making models and the utilization processes. The first two categories of utilization both fit with rational models of policy-making, but it is the problem-solving model that shares the same starting point: identification of a problem by a policy-maker. The more incremental models of policy-making have the longer time

frame implied by interactive and enlightenment models of utilization, but sometimes these forms of utilization lead to paradigm shifts which are much more radical than is inherent in incrementalism.

5. FINDINGS AND DISCUSSION

5.1 Focus Group Discussion

The study pursued two focus group discussions (FGD) with key officers of Department of Technical Education (DTE), Ministry of Education (FGD1) and Department of Polytechnic Education (DPE) and Department of Community Education (DCE), Ministry of Higher Education (FGD2). Results of the FGD sessions indicate that TVE policy making conforms to Leong's (1992) observation that policy formulation in Malaysia is essentially a centrally directed exercise and research is seldom used in the process. The results also suggests that most policy inputs and outputs are systematically determined by the government bureaucracy before proposals are made available to the public for debate and discussion, which are being participated mainly by those in the government ministries, departments and bureaus. Whereby, agenda are being set by key government officials (e.g., ministers) with minimal consultation with stakeholders. These findings are consistent with those of Moon and Richardson (2007), who mentioned that the formulation of TVE policy is found to differ from that of the conventional British policy style, in that it was announced without prior consultation with the education policy community.

The TVE policy process currently being followed in Malaysia is what experts call "stagist approach", with the following cyclical steps:

1. Agenda setting (Problem identification)
2. Policy Formulation
3. Adoption
4. Implementation
5. Evaluation

The FGD results, however, showed that implementation and evaluation of policies, albeit lacking, need to be done systematically and purposively. Another important observation is the lack of policy instrument development or written documents detailing the purpose of the policy, who will be involved in the policy implementation, the implementing rules and regulations, etc. The FGD participants recognized this as lacking and in most cases the minutes of the meetings are taken as the policy itself. To further enhance the TVE policy making process, the MOE and MOHE may consider adapting the policy making process of Althaus, Bridgman and Davis (2007). The eight step policy cycle is presented herein:

1. Issue identification
2. Policy analysis
3. Policy instrument development
4. Consultation (which permeates the entire process)
5. Coordination
6. Decision

7. Implementation

8. Evaluation

The above model is heuristic and iterative. It is intentionally normative and not meant to be diagnostic or predictive. Policy cycles are typically characterized as adopting a classical approach. Accordingly some postmodern academics challenge cyclical models as unresponsive and unrealistic, preferring systemic and more complex models. They consider a broader range of actors involved in the policy space that includes civil society organizations, the media, intellectuals, think tanks or policy research institutes, corporations, lobbyists, etc. (Athaus, et. al., 2007).

Further analysis of the FGD also indicated that results of commissioned research and the findings of international research institutions were the most frequently used inputs in the policy process. Local researches, on the other hand, are not fully utilized and are doubted for its quality and relevance. Nutley (2003), Finch (1986), Rogers (1995), and Weiss (1998), as cited by Nutley (2003), mentioned that, attention is more likely to be paid to research findings when:

- The research is timely, the evidence is clear and relevant, and the methodology is relatively uncontested.
- The results support existing ideologies, are convenient and uncontentious to the powerful.
- Policy makers believe in evidence as an important counterbalance to expert opinion: and act accordingly.
- The research findings have strong advocates.
- Research users are partners in the generation of evidence.
- The results are robust in implementation.
- Implementation is reversible if need be.

The above factors therefore need to be taken into account by both the researchers and users of research findings if only to increase research utilization in TVE policy making.

The FGD participants, when asked at which particular stage of the policy making process does research plays the greatest role, mentioned that it is during the agenda setting stage where research findings could be more useful. While this maybe true, Pollard and Court however contested that there is a potential role for knowledge (research) at each of stage of the policy process (see Box 1).

It has become more apparent that the FGD participants are not aware of the potential role of research beyond agenda setting. Throughout the FGD sessions, there was no mention of evaluation being done on policy and its implementation. This is also indicative of the reasons why local researches were all the more underutilized.

Box 1: Potential role for knowledge (research) at each stage of the policy process (Pollard and Court 2005).

- At the agenda-setting stage, knowledge is used to identify new problems or highlight the magnitude of a problem; uptake of knowledge is enhanced if it is crystallized around a policy narrative, and credibility and communication are shown to be important. There has been a lot of work from the third paradigm on agenda-setting: for example, as well as Kingdon's model (below), Cobb and Elder (1972) argue that an unequal distribution of influence generally leads to systematic biases in the range of issues considered, sustained by significant pre-political forces.
- At the formulation stage knowledge plays a role in structuring various alternative policy options, and in suggesting the causal links between the policy and its outcomes; the quantity and credibility of the evidence is important, and analyses of costs and benefits tend to be required.
- At the implementation stage operational knowledge functions to improve the effectiveness of initiatives; it needs to be relevant and generalisable across different contexts, and directly communicated with those implementing policy. Grindle and Thomas (1990) emphasise that in developing countries the implementation phase is often the most crucial aspect of the policy process, with political economy being a central determinant of policy outcomes and implementation.
- Evaluation functions to monitor and assess the process and effects of an intervention; objectivity or independence are important for accountability functions.

4.1 Elite Interview

Three elite interviews (EI) were done with high ranking officers of DTE, DPE and DCE. The three EIs could be described as cordial and casual, which has contributed to an ideal intellectual atmosphere. The key findings are presented herein.

The elite interviewees mentioned that Malaysia TVE policy making is largely centralized wherein policy decisions are made at the Ministry level, with very limited research input or use of research-generated knowledge.

One of the most significant suggestions made by the EI participants for bridging the gap between research and policy making is to capitalize on the recently created "National Professors Council (Majlis Professor Negara)". The Council was created to form a group of intellectuals exerting influence on the policies or to contribute to decision-making and affairs of the nation. The interviewees viewed that the council could serve as a conduit between the policy makers and the researchers. It was also mentioned that the members of the council are researchers themselves and therefore could be the major source of knowledge for policy making.

The EI participants forwarded the following suggestions for further improving the TVE policy making process and research results utilization:

- Institutionalize the policy review and policy evaluation process in order to ensure that the policies that were issued are implemented accordingly, and determine if it addresses the issues for which it was created. The results of this policy review/evaluation can be used as input in deciding whether to continue or discontinue the implementation of the policy or whether it needs revision or not.

- To have more linkage with the ministry and the universities, where universities and ministry can work together for more research-based informed decision making.
- The researchers should ensure that their researches are relevant, valid and reliable for it to be considered in policy making.
- Research should be realistic and replicable. Study that can be generalized is far more important and useful in policy formation because it is across the board.
- One way to encourage researchers to conduct research related to policy making is by give them reward or make research as condition for promotion
- Policy makers should be encouraged to make use of the available research findings and communicate their needs to the researchers.

4.2. In-depth Interview

There were 11 directors/deputy directors and DTE, DPE and DCE heads of offices who participated in the in-depth interviews (IDI). The purpose of conducting this interview together with the FGD and the EI was to enhance the reliability of the qualitative data through triangulation of data, data source and research method.

It was noted that the IDI findings were consistent with those of the results generated from the FGDs and EIs. The IDI participants are one in saying that TVE policy making in Malaysia is largely top-down and commissioned research and international data as the main source knowledge. But they also mentioned that the use of this research is far-in-between.

The interviewees have a firm belief that for policy to be effective and adaptable it should be based on research for it to have solid foundation. However, most of the IDI participants indicated that researches are not being used or are seldom used in TVE policy making due to lack of information by policy makers about the researches being done or the available research findings. This according to them makes the resulting policies static and not responsive.

One of the logical reasons mentioned by the interviewees for the underutilization of research is the lack of communication between the researchers and the policy makers due to time constraint on the part of the latter. In most cases, they have very limited time to develop the policy, and research for that matter requires a great deal of time before results could be made available for use by the policy makers. The interviewees suggested that both parties should be open to any discussion as regards the area for research and how research could be fully used in policy making. Intellectual forum like seminars and meetings could be a good avenue for both parties to communicate with each other.

In order to enhance the Polytechnic Department's ability to absorb research from various sources (universities, research centers, etc.), the interviewees suggested for the setting-up of a division whose responsibility will be more focused on collecting, sorting, processing and communicating or transmitting the research findings to policy makers. The division will act as a clearing house and will see to it that relevant research results are communicated properly to the end users.

6. CONCLUSION

The conclusions derived from this research are presented in the form of recommendations and implications for further study, as follows:

- Purposively educate/re-educate the researchers on TVE policy making process and in preparing policy brief and relevant materials to improve communicability of their research findings.

- The type of research being pursued by education researchers may have to be shifted from basic to more applied or domain-oriented research as this follows an agenda driven by forces other than the scientific imperative.

- Joint research priority setting should be pursued to link the research to the priorities of the national policy-makers. This will include: a) setting priorities that will produce research that policy-makers and others will want to use; and b) setting priorities that will engage the interests and commitment of the research community.

- The likelihood of policy makers using the research findings will probably be increased if they are able to develop long-term links with researchers. Much attention therefore, must be given on improving the interface between researchers and users of research considering the differing values and interests between two communities, with different time frames.

- One of the key reasons why researchers are less inclined to conduct policy-oriented research is the lack of incentive for doing so. It is therefore important and urgent to set-up incentive schemes that will reward researchers whose findings are being used in policy formulation. This will also call for changing the criteria for assessing research outputs where relevance (i.e, utilization) and excellence are given equal importance.

- The setting-up of special task force or an education research system to improve research utilization in policymaking is all but necessary. It could encourage or facilitate interactions, networks and mechanisms at a systemwide level.

- Full scale researches on research utilization be pursued not only in TVE but in other education fields as well. The research should look into: a) factors enhancing or hindering research use; b) possible indicators to measure research use; and c) possible strategies to increase such use. A conclusion, therefore, is that careful consideration of these factors, rather than recipe-like approaches, will be needed for successful enhancement of the use of research.

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