Introduction

Governments worldwide have adopted different policies towards technical and vocational education and training (TVET) and instituted programmes that have taken various forms. TVET programmes are very successful in Germany where by law vocational training is regulated as the shared responsibility of the state, unions and chambers of trade and industry. Vocational education in Latin America and the Caribbean as well as in Africa is accorded low prestige, is underfunded and inadequately linked with the labour market, being more geared to preparing students for higher education. When in 1991 the Government of Jamaica renamed the HEART Trust as the HEART Trust/National Training Agency and expanded its role to include TVET at the secondary level, this heralded a significant shift in the offering of secondary education because the curriculum was reshaped to include components to broaden the base of general education to include TVET. In 1993 the Government of Jamaica launched a major reform effort to rationalise secondary education. The Reform of Secondary Education (ROSE) centred on the introduction of a common curriculum in grades 7-9 in all school types. Included in this curriculum is an innovative subject-Resource and Technology (R&T) which was developed from the discrete vocational areas previously offered and organised into five elements, namely; Agriculture and the Environment, Home and Family Management, Product Design and Development, Resource Management (including Information Technology) and Visual Arts. R&T involved the use of a teaching–learning approach based on themes that served to draw on the commonalities of the five elements to make them more integrated.

Purpose of The Study

Drawing on research into the perception of innovation and adoption behaviour, this study sought to ascertain: (i) users’ perception of attributes of R&T (i.e. need and relevance, clarity, complexity, quality, observability and practicality); (ii) whether there are significant differences in the perception of these attributes by teachers from different school types; (iii) the extent to which the elements of R&T were being implemented; (iv) whether R&T provides a sound base for the technical–vocational subjects at the Caribbean Secondary Education Certificate (CSEC) examination and (v) the challenges faced by teachers and principals in implementing R&T in the schools.

Methodology

Fifteen schools representing three school types (Junior High, Traditional High and Upgraded High) were selected by stratified random sampling from four parishes in Jamaica. These schools all had used R&T in some form for at least two years. All the principals of the schools were included in the sample as well as 85 teachers. A separate questionnaire was developed for the teachers and principals using a Likert scale to measure the attributes. The reliability coefficient for each of the attributes ranged from .70 to .86. Data were analysed using descriptive statistics, analysis of variance and T-test. A total of 35 lessons were observed.

Main Findings

Teachers have a positive perception of the need and relevance, the quality and practicality and observability attributes of R&T, but they perceive the innovation as complex and its goals and means of achieving them unclear. They felt that R&T is essential for developing technological skills but they don’t think that through this subject particularly the children’s problem solving and critical thinking skills are developed. While the teachers found the teachers’ guide helpful, they had difficulty with the texts available for the subject. All of the principals and 96% of the teachers agreed that relevant and appropriate texts were needed for R&T. The teachers were unhappy with the quality of the R&T workbooks and the problems experienced with the mini enterprises were most pronounced in school which did not offer Resource Management. Most of the teachers did not think that R&T provided an adequate foundation for the CSEC and some felt that they needed more guidance in how to infuse career education into R&T.

The principals agreed with the teachers on the technological applicability of R&T, but there were differences between the perceptions of the principals and the teachers on clarity of goals and means. While most of the teachers felt that they knew how to use the thematic approach, most of the principals thought they didn’t.

A T-test showed that there were significant differences in the perceptions of teachers from the Junior High and Traditional High schools with the teachers in the latter schools having a negative perception of the clarity of goals and means while those in the former have a positive perception of this attribute.

Of the 35 lessons observed, only in 8 of these were there attempts to teach R&T in an integrated way. In all of the other lessons observed, individual elements were taught discretely without any effort to link with other elements of R&T. Despite the fact that R&T is a practical subject requiring ‘hands-on’ activities, this was hardly evident in practice. In the teaching of Product Design and Development (which replaced Industrial Arts) only one of the five classes observed was taught in a woodwork room, but the presence of the equipment made no difference. A lesson on ‘timber technology’ was taught using the chalkboard without use of any visual aids or materials at all.
Main Findings (cont’d)

Another lesson on tools consisted of the teacher copying tools onto the chalkboard from a textbook. The students copied from the board to their note books. While 80% of the teachers felt that Home and Family Management and Agriculture and The Environment were being taught in an effective way that would prepare the students for the CSEC, 60% of the teachers felt that Product Design and Development was not being taught in an effective way to prepare the students for CSEC. The greatest challenge faced by both teachers and principals had to do with provision of resources. In the case of the teachers, it was the lack of appropriate texts for R&T and getting children to provide the materials needed for the classes. For the principals it was providing the physical resources, materials and equipment needed for R&T. The principals were challenged by an inability to offer all five elements of R&T, but it was also evident that the training by subject specialisation was problematic for a programme that required skills in integration.

Conclusion

Inadequate provision of physical and material resources, the lack of teachers appropriately trained to teach the subject in an integrated way, the use of rotation and the persistence of attitudes inimical to the achievement of social equity goals are among the impediments to the successful implementation of R&T and to the achievement of the goals of the ROSE programme in general.

Implications for those who plan educational reforms

1. The need to focus not just on the curriculum but on the changing of values and attitudes

This study suggests that R&T which as part of ROSE was intended to narrow the social divide, has not been able to foster this goal; firstly because it is not being fully accessed by the more disadvantaged children and secondly because it is being manipulated by powerful users to maintain the status quo. Many of the prestigious high schools have not adopted ROSE as they consider it an affront to be brought to the same level as schools they consider below their status. In many of these schools if they implement R&T at all, they tend to restrict it to those children perceived as ‘slow learners’. Educational change requires not only new skills and behaviours, but also changes in beliefs, attitudes and values and these cannot be achieved by fiat or by the change of names of schools.

2. Provide the necessary resources

If governments are serious about the achievement of equity goals, attention must be given to providing the needed resources to implement new curricula. This includes employing teachers appropriately qualified to teach the subject. While the prestigious secondary schools can afford to implement all five elements of the R&T, children in the upgraded high schools were only able to access at most three of the elements. In the absence of needed resources, subjects which are practical and skills-oriented approach are likely to be mostly taught as theory.

3. Educational planners must consider the user’s perceptions of the innovation

While there is a tendency to focus on the curriculum, attention is not paid to how the users perceive it. The study underscores the need to design strategies to develop teachers’ competence in the use of the thematic approach with R&T, on how to construct a design brief and implement the design process, making use of every opportunity to link the themes to the students’ career prospects and on how to be more student centred and ‘hands-on’ in their approach to teaching practical subjects.

4. Focus training more on how to do rather than what to teach

The cascade model is usually used for training for implementing educational reform. This involves taking teachers to a hotel for a few days to be trained. The teachers trained are expected to become the trainers of other teachers in theirs and neighbouring schools. If such training takes place at all, it is on a limited basis.

The cascade model needs to be replaced by one which not only gives teachers actual demonstration of the practice but also provides on-going support in the form of workshops at their schools and in-school guidance on how to implement the new practice.

Vocational education in Latin America and the Caribbean as well as in Africa is accorded low prestige, is underfunded and inadequately linked with the labour market, being more geared to preparing students for higher education.

Profile of the Author

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