

Core issues that must be addressed to improve Vocational Education & Training in Indonesia.

An Institutional Analysis

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Introduction:

Indonesia, like many other countries in the region has to come to terms with the challenges of a rapidly advancing economic globalization. In order to address the major issues involved the government must take some very essential steps that are practical, attainable and sustainable if it is to catch up and keep pace with the rest of the more developed countries so that it can improve the living conditions for many millions of its population. With global economies evolving from a traditional resource structure to that of a knowledge based, the nation needs to adjust from labor intensive to a highly skilled and technically adept workforce to sustain its growth in the global market place. However, one major barrier to accomplishing this goal is the fact that the informal economic sector, which is by far the largest, continues to absorb the highest percentage of school leaving youth due to their limited education and lack of practical abilities.

For the most part the informal portion of the economy is underpaid and in reality just making a living on a daily basis is difficult to say the least. Working conditions in this sector can be extremely dangerous as there is little consideration for health and safety and no social security net to deal with the consequences from any disease or accidents that might be incurred by the participants. Employment in this division of the labor force is inclined to be menial with youths having very little chance of self-improvement since facilities for developing competences are extremely limited. At the core of the problem is the fact that the education system is inadequate when it comes to vocational education and training (VET) as there are many factors that conspire to undermine its overall intention.

Dealing with this condition is a enormous undertaking as it demands flexibility in an extremely fluid global market while at the same time improving communications, planning and cohesion between national, regional and local government, business, educational institutions, communities and the population in general. It is imperative that all the key contributors cooperate so that they can readjust the education systems to keep in pace with a rapidly changing economy and the flexibility to encompass new technological innovations. Furthermore, any restructuring must involve creating a social climate that will stimulate enthusiasm between participants so that they will be eager and able to create new business opportunities. The prevailing circumstance in many vocational institutions needs to be substantially enhanced in many critical areas if these principle objectives are to be achieved.

However, from observations in a rural STM (Sekola Teknik Menegah) and collaborated through examining the situation in a number of similarly located schools as well as their urban equivalents across Indonesia will testify, there is a very wide gap between visible conditions and where the country needs to get to if its citizens are to realize their full potential.

The succeeding institutional analysis scrutinizes current circumstances with regards to eight core issues that are extremely important in relation to Vocational Education and Training and offers possible suggestions in dealing with the most salient problems.

Institutional Analysis

STM (Sekola Teknik Menegah)

STMs are one of Indonesia's leading establishments for vocational learning but in many skills based areas they can be seen to be failing students, their communities, the general economic landscape and therefore the country as a whole. However, this is not only a learning systems issue, because as we shall see, there is an underpinning social and cultural landscape also playing a less recognized but vitally important part.

Critically analyzing subject matter in this education sector can be considerable undertaking, but those of foremost importance from a VET perspective include key core issues in relation to;

- Curriculums.
- Teaching methodologies.
- Theoretical and practical skills.
- Resources.
- Students' abilities.
- Accreditation.
- Gender and equal opportunities.
- Socio-cultural attitudes.

Curriculums:

Curriculums in STMs are highly standardized being more or less written in stone with very little flexibility relative to community needs and an ever changing economy. They are at best very basic, static and leave little room for problem solving and lateral thinking. There is a tendency for the syllabus to be weighted towards the theoretical and not the practical, which is having a detrimental affect in the open market where quality hands-on skills are essential. Another outstanding issue is that Indonesia needs to generate business acumen and if they are to achieve this the VET sector will require the integration of entrepreneurial subject matter to stimulate business creation capabilities from their qualifying students.

National curriculums are also inclined to be a "catch all formula" targeting technical institutions without consideration for regional differentiation. This can be clearly seen in rural technical schools where students are taught how to use lathes and other precision machinery but are totally devoid of what

may be needed in the community. Indeed, on many of occasions when teachers are sent to upgrade their skills base, they returned well versed in how to use specialized equipment like Computer Numerical Control (CNC) lathes, but many institutions do not have the equipment for them to impart their new knowledge to the students, except at a theoretical level. No doubt the intention may be creditable but the undertaking had no practical benefit for the school, pupils or the community.

While there is nothing fundamentally erroneous with this type of training as it builds upon knowledge, there should be much more space made available for rural technical needs that encompass local government, business and community requirements. For instance; why is there no scope to train students how to construct, install or repair water pumps in rural villages? Adopting this approach can have a positive and far-reaching impact at a local level, while at the same time increasing students' competences and may even contribute to the proliferation of inadvertent development.

Teaching Methodologies.

Teaching methodologies are pedagogic with many instances of students merely copying from the board - mostly written up by another student - which in itself is not teaching. In these circumstances there is a much reduced student teacher interaction which makes it extremely difficult for the learners to gain any real comprehension as they do not have a chance to question what they are trying to learn. However, having said this, it is not exactly all the teachers' personal shortcomings, which is problematic, but is in fact a historical repetition of the way in which the teachers themselves were taught. Nonetheless, there is very little effort on the part of the teachers to try and change the system as genuine methods would put more demands upon their time and work load.

These deep-seated historical and attitudinal cycles needs to be curtailed in order to align the system to student learning requirements. If this methodical practice continues there can be no foreseeable way forward as the circle of events will continue to keep turning in on itself. Teachers need to know what is expected of them, while students and their parents must have more say as to what their expectations are through transparent, balanced and impartial procedures and dialogue.

Theoretical and Practical Skills:

Theoretical and especially practical skills should/must be directed towards regional needs and considerations as appropriate. Here we have situations where it is impossible to build the skills of a student in electric welding, if the power supply is continuously interrupted. Additionally, the time allowed for this activity in the workshop is not sufficient to attain any level of real competence. In urban areas where there is a regular supply this is much easier to attain, at least from a power transmission perspective.

Again, we can see that if more attention was paid to weighting the competences that are linked to regional realities then the students and the community can avail of the practices that are best suited to their conditions. Unquestionably, it would be better to tilt the balance towards those areas

that can actually be taught. If there is a power supply problem, then why can't there be other alternatives like oxy-acetylene welding being offered if this is an easier commodity to obtain. Mechanics and other skills that do not have to rely heavily on utilities and other external inputs would be much more suitable. Flexibility should be a key component when regional factors are taken into consideration as these can dictate the level of skills attainment the education authority, headmasters, teachers, parents and students can expect to achieve.

Resources:

Resources are certainly one the most important factors that will dictate whether or not an institution will lean towards the theoretical or practical application of its curriculum. Many schools can only approach the VET subjects from a theoretical standpoint as there are little or no resources to do anything else. Relying on assets coming from one provider or another is a constant cause of concern for all institutions but without them any practical aspects becomes non-existent.

Principles of Technical schools and other institutions should be allowed more autonomy to pro-actively research and identify income generation from various sectors like international sponsorship, local business and to some extent the community. However, it is hard to see how some businesses and communities would be willing to input if they were not getting any tangible dividends from the venture.

International assistance could be one possible source if more knowledge and information is disseminated between the institutions and donor agencies. Head teachers and other administrative staff should be trained in business and income generating activities that include proposal writing and other significant knowledge. If resources were better directed, as has been mentioned earlier in curriculum targeting, it may help to alleviate the situation in some localities.

Business, local government and communities need to be nurtured into becoming part of the overall system. They must have an interactive dialogue and participation in the development of school curriculums so that they are aware of the issues in general and perhaps can help with requirements in particular target areas that are more suitable to their needs. Links between businesses and schools should be pursued much more vigorously so that there are mutual benefits for both parties.

Student Abilities:

Digging a little deeper into the substance of the education system it becomes apparent that a high percentage of students in their later school years are devoid of some very critical intellectual capabilities. Form and function, spatial awareness, lateral thinking, problem solving, the practical applications of mathematical models, as well as, speed, time and distance appear to be under-developed. If these mental functions have not been maturing by the time students enter a VET establishment the difficulties they will experience can be overwhelming. Technical education relies heavily on these mental attributes in order to further develop the individual

student's critical reasoning and thought processes, but if the basics are not there then it will difficult if not impossible to impart higher level skills unless there is a practical intervention inserted into the system.

In-house capacity building that addresses these particular issues could be introduced into the curriculum and teaching methodology so that it can be addressed even at this late stage. There can be no doubt that this would have to be approached from a mature perspective as any attempt to re-introduce early learning competences could rebound as they could be seen as being infantile from a students viewpoint. Through the initiation of a system that can deal with the situation until the problems from earlier educational underdevelopment in critical areas is addressed it would ensure that students are given a further opportunity to attain a higher level of knowledge and competence.

Accreditation:

Accreditation is a very contentious subject depending on different outlooks and who is considering them. What are the governments, headmasters, teachers', parents and students' expectations, and again what are business and community needs in relation to the awards? It is a well-known fact that there is pressure for results from all the key actors, but in some cases, it is leading to misrepresentations. If for instance, the written examination credits 40% and the course work for a particular subject is 60% there can be no doubt that the student will pass because it is the most subjective component of the overall results formula.

The main concern here would be that teachers that are not actually teaching could manipulate the results to make them look a lot better than they actually are. The government, headmasters, teachers, parents and students would be happy but would their potential employer be as amused if the students did not live up to the expectations that the award is suggesting.

Any award that is issued as a blanket achievement is certainly wide open to speculation as it does not indicate the degree to which the student has attained a specific level of competency. The course work component may only include the time spent in the classroom and not the time covered in a workshop building critical hands-on skill. If a company requires a mechanic that can work on vehicles and employs someone that has only got limited theoretical knowledge it can be extremely disappointing for both parties.

In the long run the net effect of students not being able to live up to the presupposed standards these awards imply can only have a negative impact for everyone involved, especially those students that will be forced into the informal sector. When the accreditation becomes more important than the actual component parts there is a serious need to reflect on what has to be done to rectify the situation.

Gender and Equal Opportunities:

Gender imbalance is also a very noticeable issue in VET as it has always been pre-disposed historically and traditionally to facilitate the male

population. The percentage of female involvement is abysmally low and there is no real effort being made to encourage girls into this educational stream in which they are more than capable of participating. However, when they do attend many institutions are not aware of their gender needs and this will often discourage female students. It must be made clear to all parties, what equal opportunities actually means and involves. It is for both genders and has to be part of any educational policy, not only in this sector, but also across the board.

Socio-cultural Attitudes:

Finally, socio-cultural mind-sets play a very important role as it clearly conditions the perceptions of various social groups regarding education, especially in relation to that of vocational disciplines.

In open conversation with students, the following statements were repeated time and again. They included;

- "we are stupid",
- "I want a desk job",
- "government jobs are the best",
- "my parents picked the school",
- "engineering is too dirty" and,
- "I would rather be doing economics".

For those teaching VET the aforementioned pronouncements highlight a very serious condition, as it is obvious that a considerable proportion of students just did not want to become hands-on operatives in a technical discipline. Possibly the most worrying was the phrase; "we are stupid", as this opinion is reminiscent of the "self fulfilling prophecy". That if a child or student is told they are stupid by whoever at a critical time during their early learning - then they are liable to take on this role and consider it to be a fact.

On further investigation, it revealed that the pupils did indeed consider themselves collectively as they had discussed the situation amongst themselves, and furthermore, they felt they were ill equipped to deal with the subject matter. Neither the students nor their teachers realized that there was a distinct possibility that it could have been a lack of inclusive learning experiences in their earlier schooling that was now failing them.

With many parents tending to choose the school for social reasons rather than the from a standpoint more attuned to the child's academic or vocational choices or abilities they were in fact planting the seeds of despondency in their own children's higher educational career. It would seem that very many parents were more interested in their social standing rather than their offspring's educational well-being.

Students were more interested in tracking down desk and government jobs as they seen it as an easy career option with the teacher being a prime example. They considered employment in the technical sector to be a dirty job and in some ways beneath their life expectations without taking into consideration there are many different facets to a career in this field. Clearly, this also infers that there is a deficiency when it comes to students

thinking about career pathways as there is very little knowledge or direction being imparted regarding possible choices.

The one glimmer of hope, which could be taken from any of the popular statements they made was that they were certainly interested in participating in economic studies. Vocational institutions clearly need to consider commercial factors in their curriculums as it can be linked to technical areas of the economy and may eventually, spawn a ray of hope, that there are students who will eventually combine curricular components for business generation purposes.

Attitudes towards technical education and especially that of engineering must be changed so that it attracts genuinely interested students because it is a subject that does require willingness in the first place. From a broader perspective, here we have young people whose parents have the economic ability to choose a school but their children are unwilling or incapable of taking on the subject for anything more than an accreditation from what are considered to be superior educational institutions.

What future does this sector hold if there is not an on-going output of high quality and well educated students to supply the business requirements, but then again we can turn it around and say but if there are no businesses being created by these self same students it all adds up to the same result. If this is the situation for a more affluent part of Indonesian society, it does not hold out much hope for the less fortunate. One might consider that in some cases the VET sector is cutting itself off at its very roots.

Summary:

In summing up; it is clear from this example and one which is being replicated in many similar institutions across the country in rural and urban locations, there is still a long way to go if Indonesia is to fully address the core problems in its VET systems. If the present condition is allowed to persist without any broadly based and sustainable interventions, it will continue to supply an informal economy with uneducated and unskilled youth.

Curriculums in VET institutions must be more flexible in relation to global trends, national, regional and local government, business and community requirements. It is extremely important that the syllabus have an entrepreneurial component in order for students to consider creating new business and job opportunities. Theoretical and practical skills enhancement should be of a much higher standard and adaptive to the available resources.

Inclusive educational curriculums should be substantially improved starting from kindergarten and throughout the whole of the child's learning cycle so that they are equipped to join the workforce with the abilities required for their chosen career.

For those who have already passed through the system without attaining their full potential more opportunities must be created to deal with their situation. This sort of intervention should be carefully thought out so that it

can cope adequately with the lack of key educational necessities that may have created their condition in the first place.

Changes to teaching methods and attitudes will have to be introduced with the aid of retraining for those already in the system so that they are complementary to VET objectives at national and local levels.

When headmasters of institutions are looking into practical resource solutions they should also conform to sustainable regional and community necessities whilst still being mindful of the bigger economic picture.

Streamlining accreditation to reflect the actual capabilities of the students is of paramount importance as some awards tend to be ambiguous and do not reflect actual competences that are measurable in both theoretical accomplishments and practical abilities.

Dealing with gender issues and equal opportunities has to evolve more rapidly while at the same time weaving their principles into the social fabric of everyday life.

General attitudes of students, parents and communities towards VET within some social spheres have to be addressed so that the mindset is complementary and supportive in the creation of a skilled workforce.

While there has, and continues to be good progress made in addressing these issues there is still a lot more that needs to be done. Government institutions, external agencies and some companies are offering training in vocational areas but this is still not sufficient and certainly can't answer all the requirements that are being undermined by other educational and systemic inadequacies.

Addressing these core issues in vocational education and training can go a long way in alleviating the circumstances that Indonesia is experiencing and furthermore, any improvements can only have a positive impact, not just for individuals and communities, but for the entire nation and the part it can play in a rapidly changing global economic community.