The Challenges in The Development of Ethics and Moral Values Among Technical and Vocational Education and Training (TVET) Undergraduate Students

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Abstract

The development of ethical and moral values is one of the elements in strengthening the Higher Education Development Plan (2015-2025). Yet there are various challenges and solutions in implementing the application of these ethical and moral values. The objective of this literature review is to examine the challenges and solutions in developing ethical and moral values among Technical and Vocational Education and Training (TVET) undergraduate students. This literature review analyzed 50 references obtained from various sources based on predefined keywords. The references were then analyzed using Nvivo software to code according to several key points. Based on the literature review, there are many challenges in developing ethical and moral values for both lecturers and students including the teaching and learning process of ethical and moral values, no guidelines to assess the ethical and moral aspects of students, and lack of exposure to soft skills. . However, there are several forms of solutions in developing students' ethical and moral values. These include improving the pedagogical skills of the application of ethical and moral values, developing instruments of ethical and moral values of TVET students, and empowering TVET students through the application of soft skills. It is hoped that this literature review can provide useful input and guidelines to organizations involved such as university administrators, industry, lecturers and students in realizing the development of ethical and moral values both in the university and in the field of employment later.

Keywords: Ethical and moral values, Development, TVET

Introduction

The field of engineering is one of the components of education in Technical and Vocational Education Training (TVET) contained in the Malaysian Education Development Plan (2015-2025). In line with that, this desire will also lead TVET to bring Malaysia forward based on the National Transformation 2050 (TN50) agenda. In the 12th Malaysia Plan (RMK12) the government has emphasized the need to empower the field of TVET through the development of quality and highly skilled human capital to meet the needs of the industry.

Ethics and morals are an element that is often debated by scholars and researchers in the application of these core values to human capital development. Ethical and moral aspects have a strong relationship with the development of a country. The public is aware that nowadays there is a lot of moral decline among students both locally and abroad such as the symptoms of drugs, rape, stealing, murder, bullying, cyber bullying and so on. Recognizing this fact, the problems that arise must be addressed seriously. The findings of a study conducted [1] prove that engineering students have a lower level of ethics compared to social science and science students. This is also supported by a study [2] showing that almost 9.6% of students admitted to committing ethical and moral problems many times while at their institute of study. If viewed globally, there are study reports stating 70% of students in higher education institutions in Romania practice unethical behavior [3]. Moreover, the evidence received shows that this problem is constantly increasing from time to time [4].

Studies conducted by researchers in the country show that there are some findings that are in

line with the global level. This is stated in a study [5] in a Private Institute of Higher Learning (IPTS) found that students' behavior towards unethical aspects is high. The findings of this study are also supported [1], [6] where his study of students at Universiti Awam Malaysia found that students' awareness of ethical aspects varies, namely a mixture of high and low. Nevertheless, this study shows that engineering students have a lower level of awareness compared to students of science and social science streams. In addition, [7] also compared the ethical awareness of engineering and non -engineering majors in universities. They found that engineering students show a lower level of ethical awareness of business and workplace ethics compared to non -engineering students.

The problems that occur should be taken into account by all parties to find solutions to overcome the problem of development of ethical and moral values among these students. Furthermore, the findings of the study [8] found that some constraints and obstacles that need to be overcome in applying ethical and moral aspects are lack of reference materials, no clear guidelines in assessing aspects of ethical and moral values, lack of infrastructure and environment that promotes ethical development and student morale and stated that most courses emphasize technical aspects over ethical aspects.

Therefore, this study aims to identify the challenges in developing the ethical and moral values of TVET students. It is hoped that this study can help various parties to resolve issues that arise related to problems in the application of ethical and moral values among TVET students.

ETHICAL AND MORAL CONCEPTS

Various definitions have been given regarding ethics and morals. This concept of ethics can be summarized as a set of rules of human life that are the basis and guide in living a principled life and following the correct rules [2]. While in the moral context, [9] argues that it is something that has to do with a good attitude and can be accepted in a society. Morality also refers to values defined as choices by individuals; the value that must be possessed; and values shared in a cultural, religious, secular or philosophical society.

Ethics is the study of morality [10]. A review of research articles shows that ethics has been conceptualized differently due to its ambiguous nature [11]. According to [12] ethics is the study of morals and vices. Thus, this relates to what is right, what is wrong and justice [13]. In addition, ethics and morals have been applied by [14] to elaborate on standards and rules of behavior as well as moral considerations.

Interestingly, ethics is also defined as the science of right or wrong human behavior by [15].

In addition, the concept of ethics needs to be understood in more depth where there are three basic dimensions that support the concept of ethics itself, namely the cognitive, affective and psychomotor aspects. If we refer to figure 1, it can be explained that the relationship between these three dimensions complement each other and make an individual in a state of alertness in terms of behavior and action in accordance with the norms of life. These three dimensions are also able to determine whether a behavior and action is ethical or not. This is evidenced when a person can think using his cognitive rationally, then it will be translated in the form of correct behavior and actions accompanied by the feelings of the individual so that the actions performed are moral in nature. However, the opposite is true if an individual act as a result of irrational and emotional thoughts [2]. This causes them to tend to do things that are outside the norm of life. In short, a person who is unethical and immoral does not care about his environment. Therefore, the three dimensions need to be interrelated or influence each other so that the construction of a student with high ethical values can be produced and shaped. Figure 1 explains about the classification of ethical dimensions.
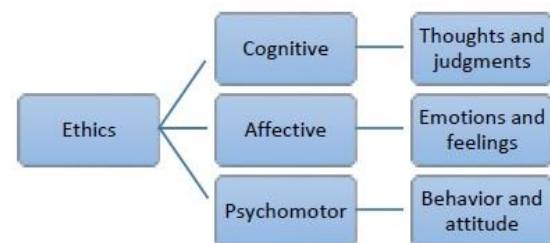

Fig. 1. The classification of ethical dimensions.

Methodology

The writing of this literature review has focused on research that has been carried out in ethical and moral values. Various databases have been used to find information related to this topic, such as Google Scholar, Scopus, Sci Direct, Mendeley and LearnTechLib. Some of

the keywords used to find information include "ethical and moral value: challenges in the development among Technical and Vocational Education and Training (TVET) Undergraduate Students". The literature selected is limited to studies in Malay and English because these languages can be understood by the researchers. The selected studies date from 2016 until today. Many studies were found; however, only 50 studies were selected, focusing on the challenges in the development of ethical and moral values among TVET

undergraduate students. Based on the selected studies, the next step was to collect the main points based on the keywords, using Nvivo. The findings from the coding in each article were compiled and formulated into this paper.

The following research questions will be addressed in this literature into this review:

1.   What are the challenges in the development of ethics and moral values among TVET Undergraduate Students?

2.   What is the solution in the development of ethics and moral values among TVET Undergraduate Students?

The research questions were designed to determine the focus of writing, to stay on the right track, and to make the writing more relevant. The focus of the first question is on the challenges in the development of ethics and moral values among TVET Undergraduate Students. For the second question, the focus is on the solutions in the development of ethics and moral values among TVET undergraduate students.

TABLE I: SUMMARY OF THE STUDIES SELECTED

Experimental design	Location	Research focus	Area
Qualitative (10) Quantitative (15) Quasi experimental (5) Concept paper (20)	Malaysia(20) USA (9) UK (7) Indonesia (2) China (1) Greece (1) Australia (1) Ireland (1) Kemboja (1) Filipina (1) Sudan(1) South Africa (1) Jerman (1) Nigeria (1) India (1) Korea (1)	Educators (20) Students 30)	Development of ethical and moral value (30) Instrument (20)

FINDINGS THE CHALLENGES IN THE DEVELOPMENT OF ETHIC AND MORAL VALUES

In developing the application of ethical and moral values to students, there are challenges from various angles. This also needs to be taken into account in parallel with the concept and classification of ethical dimensions. In this study, researchers have identified several challenges in developing ethical

and moral values towards students. The following sections describe these challenges in more detail.

The process of teaching and learning ethical and moral values

The thing that should be emphasized to produce ethical and moral students is the implementation of the application of values in a more systematic teaching and learning process [16]. According to [17] the need for course

content to be compiled and planned so carefully so that students can be exposed to knowledge of ethics and morals to produce high moral students. A study conducted by [18] found that there is a moderately low relationship between ethics and morals with trust values. This shows that professional ethics and moral skills can be trained or taught through formal or informal methods and it is one of the effective methods to expose students to the importance of ethics and morals. Meanwhile, according to [8] the barriers to ethical and moral development in courses offered at Universiti Teknikal Malaysia faced by students are lack of references, materials and documents related to ethics and morals. This finding is also supported [19] who stated that the moral behavior of e-learning declines due to lack of necessary factors in e-learning where the need for a model showing how this deficiency can be overcome by educational institutions for the development of student ethics in higher education institutes.

[7] in his study stated that students need to be taught and exposed to the concepts of right and wrong in the teaching of ethical and moral values before they begin to undergo industrial training. This is because students will be affected by ethical errors that often occur and become a habit in every organization if they are not given a proper understanding regarding ethics and morals in the workplace. The results of a study conducted [20] found that there are lecturers who are less efficient in guiding TVET students. This is of great concern as lecturers play an important role in ensuring the quality of TVET institutions especially in the application of these ethical and moral values.

There are no guidelines for assessing the ethical and moral aspects of TVET students

Assessment should be part of the teaching and learning process. According to [21] and [22] there are not many instruments that assess non -cognitive aspects built in Malaysia especially the assessment of morals, ethical and moral values. Furthermore, the study conducted [8] proved that 68.8% of the respondents (lecturers) stated that there are no clear guidelines to assess the ethical and moral aspects of students. The results of a

study conducted [23] related to the evaluation of students' ethical development in undergraduate civil engineering courses using standard instruments explained that the survey of Engineering Ethical development -Practical Assessment (SPEED-PA) which is a practical instrument to evaluate individual ethical initiatives in courses, co-curriculum, or a single intervention stage is very helpful.

According to [24] and [25] in their study they found that an instrument should be developed to improve academic performance at secondary and tertiary levels. This is to change the absence of a comprehensive measurement mechanism so far to be assessed especially for technical and vocational students. Studies conducted [26] also stated that insufficient resources are a major problem of classroom assessment implementation. Therefore, lecturers must seek initiatives through outside courses to gain additional knowledge on the evaluation or purchase of learning materials at high prices.

Lack of exposure to soft skills

One of the elements of students 'soft skills measured was moral and professional ethics. The level of mastery of engineering students on the elements of soft skills during the teaching and learning process is also often debated. Based on studies conducted by [27], [28], [29] and [30] found that the level of mastery of soft skills among technical and vocational students is at a high level. However, the findings of a study from [31] stated that the mastery of soft skills among engineering students is at a moderate level only. Studies [32] also stated that institutions of higher learning should provide more comprehensive exposure to the issue of mastery of soft skills in order to improve students' abilities in problem identification, constraints and involvement that can contribute to increased motivation in problem solving.

A study conducted [33] also found that 82% of the respondents stated that they were dissatisfied with the skills training received while studying at the skills institute but could not be applied in their current employment sector.

THE SOLUTIONS REGARDING APPLICATION OF ETHIC AND MORAL VALUES

Improve pedagogical skills in the application of ethical and moral values

According to [34] the findings show that lecturers and students are prepared to face technological changes and descriptions of values because they are constantly following the latest technological changes in improving pedagogical skills of the application of

ethical and moral values. The implementation of active learning is one of the elements contained in the concept of 21st Century Education (PAK 21) [35]. The findings of the study show that active learning activities are suitable to be applied especially in ethical and moral practice to move the psychomotor dimension. In addition, the curriculum of professional studies should contain content related to the inculcation of ethical and moral values in students [19]. These findings are also supported by studies [36], [37] and [38] proving that active learning is an effective teaching methodology for imparting ethical knowledge and social responsibility to technical students. These technical students need to be equipped with ethics and social responsibility to build ethical awareness because technical subjects are not ethical.

[39] stated that one of the ways out to solve the problem related to the inability of university students to master soft skills in ethical and moral aspects is by ensuring that teaching and learning methods should be student-centred. Problem -based learning, case studies, modules and projects can be applied compared to the lecture, tutorial and laboratory methods commonly used by lecturers. A study conducted [40] found that the use of cases as a method for learning the subject of developmental ethics. This method gives students the opportunity to think actively and apply ethical principles. Thus, the use of current cases allows students to gain knowledge of the ethical issues they potentially face after entering the real world of work and industrial environment.

Develop instruments of ethical and moral values of TVET students

An assessment of the instrument of ethical and moral values may be able to change students 'attitudes for the better. The results of studies conducted by [21], [22], [41] show that very few researchers produce either instruments as well as models in measuring students 'ethical and moral values. [42] also found that there is a need for quality instruments in measuring good psychometric properties in terms of validity and reliability using Rasch analysis. According to [43], developing instruments to assess learning efforts is important in providing a better understanding of students from various disciplines. In this case, the application of ethical and moral values must go hand in hand during the teaching and learning process. Studies conducted [44] prove that the need for moral and ethical instruments as a measure of value to be an individual is more ethical and moral where moral elements such as trust, fairness, punctuality, honesty, love, sympathy, integrity and kindness can be as a construct in measurement.

[45] stated that instruments developed to measure in terms of attitudes and perceptions towards academics

and personality need to go through instrument reliability testing so that each item assessed has a high level of reliability. In contrast to studies [46] proved that there is a need for instruments of environmental awareness and ethical moral reasoning in the engineering profession. This study describes one possible strategy for evaluating the effectiveness of educational interventions aimed at increasing students 'awareness of environmental problems and moral reasoning skills. The results of studies conducted [47] and [48] also indicate that the importance of instruments of measurement of ethical and moral values. Findings prove that the instrument for assessing the level of ethical and moral values of teachers and nurses is also measured to see the level of career stress as teachers and nurses in the workplace.

Empowering TVET students through the application of soft skills (Soft Skills)

The success of the first -class human capital development agenda is highly dependent on the quality of the national education system. Increasing global competition requires a workforce that is competent, ethical, creative and highly competitive [49]. According to [50] confirmed that religious factors are significant in influencing the formation of engineer ethics. This shows that in addition to the application of soft skills during teaching and learning in the university, religious factors also play an important role as a bulwark for an individual to commit an offense that is unethical and moral. Accordingly, for professionals such as engineers, they should act based on religious values such as practicing good ethics in their careers. Low ethical knowledge and awareness makes the individual more susceptible to unethical acts such as abuse of power, corruption, fraud, breach of trust, selfishness and so on [51].

[52] and [53] also suggested in their study related to the elements of ethical and moral formation that need to be applied in terms of soft skills are beliefs and religion, family, thought, arts, literature and science technology. All these elements are very necessary to foster understanding, respect and harmonious life among the Malaysian society of various races and religions. In contrast to the study conducted [54] found that male students got higher mean scores in all items of soft skills compared to female students. Based on MANOVA analysis, it has been found that there are significant differences across genders. Conducive environments such as teaching and learning approaches, especially ethical and moral values as well as co-curricular activities through applied models of soft skills need to be enhanced to encourage female students to be more actively involved.

Discussion

Based on the highlights of the above writing, the researcher would like to emphasize that the concept of ethical and moral values is very important in the development of ethical and moral values of students. The application of these ethical and moral values not only takes place in the teaching and learning process alone but needs to be emphasized outside the teaching session in line with the TVET system and industry may be an efficient strategy to foster career development, aspirations and student choices in building effective relationships between TVET. and industry [55]. However, the courses offered related to ethics and morals at the university should also be given priority. This is because the concept of ethics and morality itself combines internal and external values in the development of students' personality in line with the dimensions of ethics as a whole, namely cognitive, affective and psychomotor. In the Malaysia Education Development Plan 2013-2025, aspects of the National Education Philosophy continue to be supported by providing a balanced education through elements of values, ethics and spirituality that should be nurtured in teaching and learning (Ministry of Education Malaysia, 2013).

Appropriate efforts must be made to find a way to overcome the challenges of developing ethical and moral values. Understanding in terms of ethical and moral dimensions needs to go hand in hand with the ethical and moral development of students. The issue of social problems among students should not be taken lightly because the real goal of the educational process is to produce students with good morals. According to [5] the process of human development begins with self -awareness i.e. begins with spiritual development. Having a high spiritual development in themselves, human beings will be motivated to master everything in their lives. Therefore, by emphasizing the educational process based on spiritual development will be able to be a solid foundation for producing balanced, comprehensive and integrated students in line with the goals of national education [56].

Follow-up action by HEIs is very necessary to improve the elective courses offered as well as strengthen teaching and learning pedagogy that focuses on the ethical and moral values of students. This is because the course also has the potential to develop ethical and moral values among TVET students even though the new course offered is already available, namely Philosophy of Ethics and Civilization. [57] also stated that a guideline to measure and evaluate the ethics, morals and ethics of students should be developed in all HEIs to facilitate lecturers and instructors to evaluate and measure each

student holistically to obtain high student personality not only while in studies and even in the world of work later.
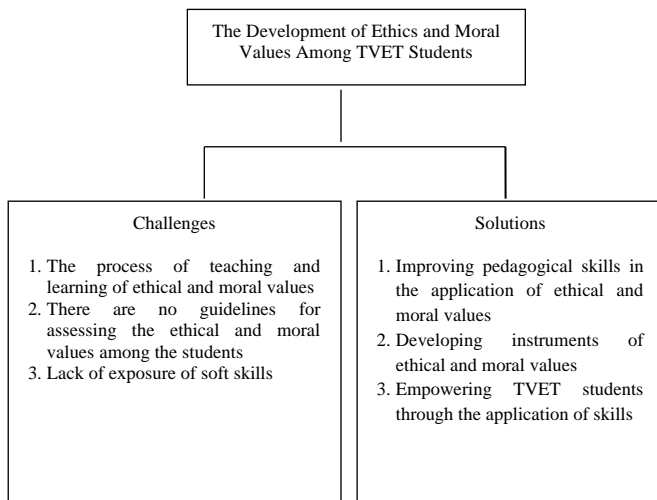

Fig. 2. Summary of the challenges and solutions the development of ethics and moral values among TVET students

Conclusion

In conclusion, based on the literature review of 35 selected articles, there are many challenges in the development of ethical and moral values for both TVET students and lecturers. Existing ethical and moral values should be nurtured and strengthened among students to achieve meaningful development to reflect the height of a student's civilization. A clear understanding of ethical and moral values should be taken into account by all students. This is because through ethical and moral values can give a great impact to students in self -regulation in the affairs of life. It should also be emphasized that the application of ethical and moral values needs to be implemented to give awareness to the development of civil society which emphasizes on the improvement of morals and integrity in the society system. Through the discussion presented, there is a gap that must be carried out by researchers related to the instrument of ethical and moral values towards students in higher level institution. In this context, skills on values and ethics should be taught through formal or informal methods and it is one of the effective methods to provide exposure to students or employees on the importance of values, ethics, morals and related issues.

Conflict of Interest

This authors declare that there is no conflict of interest regarding the publication of this paper.

Author Contributions

Ruslan analyzed the papers and wrote the draft of the article and Farid, Kaseh, Azmul Fahimi, Ezad Azraai and Nor Lailatul supervised the research, reviewed and improved the article. Kaseh Abu Bakar is the corresponding author and handled all the publication process. All authors had approved the final version of the paper.

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