# Constant changes or reforms

Educationin Malaysia has gone through extended alterations throughout the old ages. These changeless alterations or 'reforms ' are carried out with possibly merely one vision in head, and that is to better the current bing instruction and acquisition processs in schools and higher establishments of larning. Such action high spots the authorities 's endless attempts in seeking to better the quality of instruction for its people. After a decennary into the New Millennium, the instruction scenario is more pressed to set about even more betterments in seeking to get by with the demands and outlooks of instruction in the twenty-first century. We can no longer be satisfied with what we have, but alternatively there is a demand to constantly compare ourselves to that of more developed states, and this is particularly true with the field of instruction. This is to guarantee that our people will be able to vie internationally in this borderless universe.

This is really much in-line with the vision of our longest-serving Prime Minister Tun Mahathir Mohammad. Tun, back in the 90 's shared his vision anddreamsfor this state through `` Wawasan 2020 '' or Vision 2020. Harmonizing to his article `` Malaysia on Track Vision 2020 '' , as a physician he is attracted to the optometrist measuring of Vision 2020 which indicates 100 per centum perfect vision. He farther explains that Vision 2020 in relation to the hereafter of this state would be the quest for Malaya to hold clear vision of our hereafter as in where we want heading and what we want to be in the New Millennium. As Malaysia plans to transform into fully-developed state, instruction becomes the precedence of the authorities since it is one of the most powerful entities that would find the success orfailureof the state. The hereafter of any state depends on its people. It is hence of

import to guarantee that everyone is equipped with the necessary cognition, accomplishments and values to last in this extremely competitory and globalised universe which is impacted by rapid development in scientific discipline, engineering and information.

The importance of instruction has become more overriding particularly in our State 's procedure of traveling from an economy-based on labour-intensive and lower-end manufactured merchandises to k-economy or knowledge economic system. The Ministry of Education ( MOE ) and The Ministry of Higher Education ( MOHE ) are two organic structures which are responsible in guaranting that state is traveling towards the specified mark. This is clearly outlined in the 2 cardinal pushs under the National mission ( `` Mid-term Review of Ninth '' , 2008 ) ;

Thrust 2: to raise capacity for cognition and invention and raising foremost category outlook.

Thrust 3: to turn to relentless socio-economic inequalities constructively and fruitfully.

In line with the thrust towards developing the state 's K-Economy, the current economical tendency is to concentrate on the promotion and rise in accent on the country of scientific discipline and engineering. As a step to accomplish this vision, the authorities has adopted a holistic attack in Malayan instruction system by stressing on command cognition, rational capital and developing engineering and entrepreneurial accomplishments. Since scientific discipline and engineering play a major function in lending to a more developed state, the authorities seems to give more accent on

instruction and larning procedure of scientific discipline in the primary, secondary and higher instruction. It is consistent with Malaysia 's purpose which to bring forth more experts in scientific discipline or in general to bring forth a future coevals of intellectuals.

Therefore, as scientific discipline pedagogues, it is of import to be cognizant of the demand of the state. There is a demand to guarantee that the instruction and acquisition procedure is focused in bring forthing persons who fulfill the authorities 's aspiration. Hence, it requires instructors to hold passion, creativeness, intelligence and finding to do certain that the bringing of cognition is genuinely effectual. Among other things, methods in instruction, teacher's cognition and public presentations are often being observed to guarantee that instructors remain first-class in their instruction. This is because ; instructors play a major function in guaranting the effectivity and the success of the existent bringing and execution of the Malayan course of study. Therefore, when be aftering a lesson, instructors need to be cognizant of the aims of the course of study by integrating good content values into the lesson, implement the course of study designed by the ministry and at the terminal of it all, assess the results of the course of study. But it is non plenty to concentrate merely on the instructor without looking at the relevance of the Malayan scientific discipline course of study, which really contributes to the success or failure of scientific discipline instruction. In fact, it is really a major issue that is invariably discussed among scientific discipline pedagogues and academicians in Malaysia. Is the Malayan scientific discipline course of study mensurable to that of the criterions of other states? This is pertinent inquiry that needs to be

answered. Therefore it would be utile to compare Malayan scientific discipline course of study with other developed states in order to find the criterion of Malayan course of study.

## 1. 1 Background of Study

This comparative survey between the Malaysian scientific discipline course of study and the Steiner Waldorf in scientific discipline course of study was conducted chiefly to derive penetrations on the much-researched and discussed about Steiner course of study. Having experienced the Malayan scientific discipline course of study and after prosecuting an awards ' grade in scientific discipline instruction, the research worker is really familiar with the state 's scientific discipline instruction course of study, particularly issues refering to its content and pedagogical attack. However, the research worker is with the sentiment that new cognition of new educational course of study can be utile in guaranting better quality of scientific discipline instruction. This is of import in position of supplying the best in scientific discipline in the context of Malayan schools. In position of seeking to better the bing course of study it would be interesting to happen out the criterion of Malayan scientific discipline course of study in comparing to other developed states. This is of import to guarantee that our pupils will be able to vie globally.

Comparative survey of course of study across states provides background information about how to understand bing strengths and failings of the present course of study ( Moosa & A ; Che Azura Che An, n. d ) . Therefore, this research can propose ways to assist pupils to execute in the topic of scientific discipline and besides assist scientific discipline instructors in their instruction. This is important as over the past few old ages, there have been

a batch of jobs discussed about the Malayan scientific discipline course of study and the major portion of the treatment revolves around the instruction and acquisition procedure. As a consequence, it raised the research worker 's involvement to look into the affair so that the research worker could detect ways to better the Malayan scientific discipline course of study in order to make effectual lessons yet in gratifyingenvironmentfor the pupils to larn scientific discipline.

In Malaysia, the thought associated with scientific discipline instruction is intended to be in-line with bing policies which is specifically to fix pupils for scrutiny. There are a few officially recommended patterns for scientific discipline instruction such as constructivist instruction, command acquisition, scientific discipline procedure accomplishments, believing accomplishments, and metacognition, autonomous, self-paced and self-assessed acquisition and others that, if carried out decently can guarantee the successful and effectual lessons. Current thought in scientific discipline is looking towards a paradigm that is more inclusive of the diverseness that exists in our life-worlds ( Revathi, R et Al, 2003 ) . Scienceis besides perceived as a procedure of meaning-making and states such as the United States, Canada, Australia and South Africa ( Aikenhead, 2000 ) are implementing scientific discipline learning attacks that incorporate scholars ' cultural and lingual bearings. For illustration the scientific discipline schoolroom needs to be one that is interesting and multi-discursive which permits the instructor and pupils to work together in making cognition. However, such an attack or a characteristic is non common in the Malayan scientific discipline course of study.

The thought to bring forth a coevals that is ideally competent in scientific discipline seems hard and this seems to propose that there is demand for Malayan scientific discipline course of study to be reviewed. From the aims of the course of study to the issues of appraisal, everything becomes important and needs thorough reevaluation. The characteristics and map of scientific discipline discourse include explicating hypotheses, planing probes, roll uping informations, pulling decisions and pass oning consequences ( Chamot & A ; O'Malley, 1994 ) and these are the accomplishments which are fundamentally being emphasized by the instructor in the schoolroom. Sadly, the application is non obvious in the pupils ' day-to-day life particularly in the context of Malaysia.

By carry oning this research, the research worker hopes to be able to acquire some penetrations into the Steiner Waldorf course of study and the Malayan scientific discipline course of study. Having done this, it is hoped that the research suggestions may foreground bing spreads in curricular, pedagogical or other facets through comparing between Malayan scientific discipline course of study with Steiner Waldorf instruction. From the suggestions made, hopefully the instruction and acquisition of scientific discipline will be more effectual and more gratifying for the pupils. By holding a good clip in larning scientific discipline through effectual methods employed by the instructor, the research worker believes that it will assist pupils to execute better in all the scientific discipline topics and at the same clip get scientific cognition in a wider position. Apart from that, it will besides assist to bring forth all rounded pupils as outlined in the National EducationPhilosophy.

## 1. 2 Statement of the Problem

The Integrated Curriculum for Secondary School ( Kurrikulum Bersepadu Sekolah Menengah, KBSM ) is the continuance of the New Primary School Curriculum ( Kurikulum Baru Sekolah Rendah, KBSR ) . This alteration in the course of study construction is the authorities 's scheme to switch the accent of instruction that existed in 1970s to a more modern-day holistic construct of larning that encompasses moral, spiritual, societal, physical, and rational development of a individual ( Rosnani. H, 2004 ) . In scientific discipline instruction, holistic instruction purposes to bring forth pupils who are able to associate the content that they learned in the schoolroom to their day-to-day life. It refers to their ability to utilize scientific thought and processes in a wider context so that it will foreground the effectivity of the KBSM which subscribes to the rules of womb-to-tomb acquisition. After holding informal interviews with a few seniors ' instructors and talks with scientific discipline instruction background, the research worker found out that Malayan scientific discipline course of study somehow does non back up the holistic instruction as being mentioned and fails to accomplish the intended results. The followers is the sentiment given by the senior lector who was interviewed by the research worker ;

`` My intuition is the general population of the pupils does non associate what they learn to everyday state of affairs because many surveies have shown that pupils do non like scientific discipline and they find scientific discipline isolated or make non tie in with them. So we can deduce from that the pupils do non related what they learned nor pattern their scientific attitudes. '' ( personal communicating )

This is farther supported by the consequences of Trends in International Math & A ; Science, TIMMS appraisal in scientific discipline taken by Malayan pupils in 2003. The TIMMS appraisal is designed to assist to better pupils ' acquisition in math and scientific discipline where the appraisal by and large focuses on the pupils 'mathematicsand scientific discipline accomplishments. In the appraisal, our pupils scored an norm of 504 which exceeds the international norm of 474 ( Martin et al, 2004 ) and placed Malaysia to be at 19th out of 44 take parting states. The public presentation really is non genuinely impressive if compared to the public presentation of pupils from other developing states in Asia Pacific such as Singapore Chinese-Taipei and Republic of Korea. The line of statement is what are the facets that missing in Malayan pupils since those states secured the top 3 placing and hence have clearly performed better than our pupils.

Another interesting penetration which the research worker gathered through informal interviews with the senior instructors and talks, every bit good as hispersonal experienceas a scientific discipline pupil and in-service instructor is the fact that Malayan instruction system gives excessively much focal point on scrutiny. In order to last in the Malayan instruction system, pupils need to stand out in public scrutinies ( UPSR, PMR, SPM ) . Somehow the state of affairs affects learning and larning procedure which is a portion of the course of study. Teachers admitted that the focal point is merely to complete the course of study within the clip allocated by the school disposal. Through informal interviews with the pupils, the research worker besides discovered that pupils think it is easier for them to concentrate and fix

themselves for the scrutiny alternatively of prosecuting in meaningful acquisition.

The research worker besides found out that because of the demand to complete up the course of study, the lessons were non conducted decently by instructors. Teachers seldom make contemplations on their instruction. Even though the achievement of the aim and acquisition results are the measuring to a successful lesson in Malayan instruction system ; most of the clip, instructors do non hold effort to happen out whether their pupils have really acquired the specified acquisition results. An effectual scientific discipline schoolroom should be able to do pupils believe and treat the cognition received in the schoolroom. Ironically, the scenario does non go on in most Malayan schoolrooms. Because of the scrutiny affair, the research worker believes that instructors tend to pretermit their method in learning scientific discipline. In true fact, a scientific discipline category should be filled with interesting and variable activities so that pupils will bask the category. However, in world most science lessons, more frequently than non, are non merely field and dull but besides could kill pupils ' exhilaration in larning the topic. This is another concern of the research worker since there is a inclination that the state of affairs mentioned supra could do the pupils to lose involvement in larning scientific discipline.

The Steiner Waldorf instruction is similar to the Malayan instruction system in footings of its accent on the development of human existences and in the proviso of holistic instruction. What is different is in footings of the execution and the effectivity of the course of study. Scieffer and Busse ( 2001 ) in their research discovered that the pupils from Steiner school did better than

pupils in province school in United States. Other research ( Easton, 1997 ; Oberman, 1997 ; Uhrmacher, 1993b ) besides suggested a positive relationship between Steiner school instruction, larning and pupils accomplishment. Furthermore, research on Steiner instruction besides mentioned about consistence of Steiner pupils public presentation in National trial from 2000 to 2004. Ogletree ( 2000 ) in look intoing the originative ability among the pupils in England, Scotland and Germany through the usage of Torrance Test of Creative Thinking Ability ; found that by and large Steiner school pupils obtained significantly higher creativeness tonss than their province school equals. It really reflects the effectivity of the accent on creativeness in Steiner course of study. Jalinek and Sun ( 2003 ) in research that they conducted which aimed to compare the instruction in Steiner and mainstream schools revealed that, the Steiner kids who tested in logical logical thinking and scientific discipline activity which developed by TIMMS international comparative survey performed better than pupils from other schools. The scientific logical thinking of Steiner school pupils was found to be outstanding.

The research suggested that the consequence of the trial is really influenced by the civilization of the Steiner instruction which taught less content to the pupils and the Steiner instruction itself creates less examination force per unit area to the pupils. Indeed, the Steiner Waldorf scientific discipline course of study has its ain alone attack and method which proved to promote effectual larning. Such a state of affairs ceases to be in the Malayan scientific discipline course of study. It is with this job in head that the research worker has decided to ship on this comparative research survey

with the hope to pull on some of the best patterns to be incorporated into Malayan schoolroom.

## 1. 3 Research Aims

The chief aim of the research is to compare the Malayan instruction and Steiner Waldorf instruction in scientific discipline course of study with regard to objective, content, execution or direction and the appraisal. In comparing both course of studies, the research worker want to happen out the features of Steiner instruction scientific discipline schoolroom and wish to look at their strengths and singularity which is present and seek to see how this is different from the Malayan scientific discipline course of study. From the information gathered, a thorough analysis will be made by the research worker, and the findings of the research could be the footing for the research worker to give suggestions for the improvement of Malayan scientific discipline course of study every bit good as to bridge the spread between these two course of studies.

## Research Questions

Two research inquiries are as follows:

What are the features of Steiner Waldorf scientific discipline category?

How does the Steiner Waldorf scientific discipline course of study differ from the Malayan Secondary Science Curriculum with regard to their aims, content, implementation/instruction, and evaluation/assessment?

## 1. 4 Significance of the Study

This research aims to look at the Malayan scientific discipline course of study. By making this, it will assist us to hold a clear image of how a course of study maps and at the same clip, it allows us to mensurate the success of the course of study. Many instructors have expressed their discontentedness over current jobs faced by the instructors and pupils in scientific discipline instruction, and the incrimination is normally on the ineffectualness of the course of study. This is an dismaying job as it could impact the figure of pupils who are interested in scientific discipline topics and if this happens, Malaysia will really rock from its attempts to accomplish Vision 2020.

This comparative survey of the Malayan scientific discipline course of study and the Steiner scientific discipline course of study is important in recognizing our dreams of bring forthing human existences who know their ability and self-potential. This is the nucleus value stressed in the Steiner Waldorf 's course of study which aims to supply scholars with meaningful acquisition and turn them into deep scholar. Steiner Waldorf pupils are encouraged to bring forth originative thoughts and this indirectly nurtures the pupils to be critical minds. Therefore it is really important for the research worker to happen out in what aspects that the Malayan scientific discipline course of study can be improved by accommodating the Steiner Waldorf instruction. Hopefully, the findings of the comparative research will assist to better scientific discipline instruction in Malayan schools.

## 1. 5 Research Restrictions

Time restraint is the major restrictions of this research. The research worker believes it is ideal to hold longer clip for the research worker to roll up

informations sing Steiner Waldorf instruction in United Kingdom, UK. Longer period of survey will able the research worker to make observations in greater deepness and visit more schools to be included in survey. Alternatively of clip restraint, pecuniary is besides one of the restrictions in this research. Since the research was funded by the university, the research worker has to finish the procedure of informations aggregation within the stipulated clip. However, what is done by the research worker is sufficient to hold a general image of the difference between the two course of studies.

## 1. 6 Scope of Study

The focal point of the research is merely to compare the Malayan instruction and Steiner Waldorf scientific discipline course of study. This survey involved informations collected from one school in Plymouth and a Steiner Waldorf Department in University of Plymouth. Since this is a preliminary comparative survey of these two course of studies, focal point will briefly highlight the four parts of the course of study which is the aims, contents, execution and the appraisal of both course of studies. However, excess accent will be given on the execution and assessment process as compared to the first two parts in the course of study. Though it would hold been ideal to be able to transport outobservationand interviews in more schools across the UK, these two chose are sufficient to give a clear preliminary image of what Steiner Waldorf instruction involves.

## 1. 7 Operational Definition

## Malayan scientific discipline course of study

Malayan scientific discipline course of study refers to science course of study which developed and implemented in Malaysia for secondary degree.

However, in order to demo the continuance and the development or patterned advance of this course of study the research worker wills erstwhile high spots the scientific discipline course of study at the primary degree.

## Steiner Waldorf Education

Steiner Waldorf Education refers to the instruction that founded by the Rudolf Steiner in 1919. This instruction is world-wide and does non refers or belong to a specific state. The portion of this instruction that being discourse in this research is its ' scientific discipline course of study.

## Science Education

Science can be defined as `` cognition attained through survey or pattern, '' or `` cognition covering general truths of the operation of general Torahs, particularly as obtained and tested through scientific method and concerned with the physical universe. '' It may besides mention as a system of geting cognition where the system uses observation and experimentation to depict and explicate about natural phenomena. Science besides term which can mention to the organized organic structure of cognition people has gained utilizing that system. Therefore, the term scientific discipline instruction that been utilizing in this research refers to the procedure of educating scientific discipline to the pupils or may refers to the field of scientific discipline itself. Which the field of scientific discipline in instruction that being discussed in this research covers the major subdivisions in scientific discipline such as biological science, natural philosophies, chemical science, general scientific discipline and natural scientific discipline.

Beginning: Webster 's New Collegiate Dictionary cited in hypertext transfer protocol: //www. sciencemadesimple. com

## 1. 8 Decision

As a decision, 'review ' and 'reform ' in Malayan scientific discipline course of study is necessary or possibly a demand as we refer to the current instruction 's status in Malaysia. It has been 53 old ages that Malaysia achieved its independency, and throughout the 53 old ages, Malaysia had gone through tonss of transmutation and alterations. However, the research worker believes that, in order for Malaysia to make to the degree of developed state, instruction should be the foundation of the aspiration. Education in Malaysia requires more alterations every bit good as ideal and realistic policies and execution, so that it will be able to bring forth human capitals that are scientific, knowing and competent.