

APPENDIX C

Recordings of Interviews with Teachers in the Three Secondary Schools

There are 6 main areas being programmed for the interview with the teachers and basically they are centred on the issues the teachers had dealt with in the questionnaires earlier. The idea is to get a better and greater insight of their involvement in the implementation of the 60:40 policy. Their responses to each main question are recorded and classified according to subcategories as shown below.

1. Is it feasible to encourage more students to study S/T in the Secondary Schools?

Table 1: Feasible/Not feasible to encourage more students to take up S/T

Teachers believe it is feasible: 48%		Teachers believe it is not feasible: 52%	
Teachers' reasons	%	Teachers' reasons	%
Good students/incentives	43.7	Students' attitude, perception, aptitude & intelligence	47.4
Seriousness of government	37.5	Poor quality students	23.7
Encouragement of parents or teachers	12.5	School situation	10.5
Teaching approach	6.3	Teachers	5.3
		Size of class	5.3
		Syllabus	2.6
		Tuition	2.6
		Parent	2.6
Total	100		100

It is found that 48% of the teachers said that it is “feasible” to encourage more students to take up S/T and their reasons are categorised into four aspects:

(a) Teaching approach

1. There are good, average and weak students. Focus on good and average students. As for the weak students give them extra classes during the holidays or after school in particular.^a

(b) Encouragement of Parents/Teachers

1. Parents want their children to take S/T even though the students are not good enough (especially the Indians).^a
2. Can encourage but cannot force. Certain parents want their children to study S/T. For those who are not sure, teacher should encourage doing science first and if they decide to switch they can still do so to the arts stream.^a

(c) Seriousness of Government

1. This is not something new because many developed countries have achieved it. It is a question of how serious the government wanted it to be achieved.^b
2. This depends on how much encouragement is given to get the students to be interested to take up S/T and what is offered to them if they do so.^b
3. It is a question of how much support is given to encourage the students to do S/T and the future job prospects is important.^b
4. The teachers are there. Other factors must also be put in place like good quality students and parental support, to make the policy come true.^b
5. Provided changes are made in the existing situation to make it possible. It needs the concerted and coordinated efforts of the policy makers and the teachers. Besides having good committed science teachers, more time should be given for the teaching and learning of science in the secondary school.^b
6. Teachers should be relieved of administrative works in order to concentrate in teaching to make the policy come true. Have administrative assistants to do the administrative works.^b

(e) Students' quality

1. By selecting only good students to do S/T, then students will see the value to study S/T. If incentives are also provided to such students then other students can be motivated to do S/T.^b
2. This is the time for S/T. Learning S/T is gaining knowledge. Students' quality is important too. Should encourage more technical subjects in the school. Students prefer more on hand-on things.
3. The world is moving in terms of S/T. More students should be taking S/T to fulfil the demand for S/T knowledge workers.^c
4. Opportunities are available for higher education to students with S/T knowledge.^c
5. The developed countries are having many scientists, engineers, technocrats and professionals and they are able and capable to bring about so many innovations to serve the needs of the people.^c
6. As a policy it is so. S/T is everything in one's life.^c
7. Students must be motivated to study S/T or else they will go to the Arts.^c

On the contrary 52% of the teachers said that it is "not feasible" to encourage more students to take up S/T. Their reasons are categorised into eight aspects:

(a) Attitude, perception and aptitude and the intelligence of students

1. Students do not have the right attitude and aptitude and the intelligence to study S/T.^a
2. Students' attitude and perception in class become indifferent – no respect for teachers and moral value is not there. They rely more on tuition teachers than the school teachers. They look down on the school teachers.^a
3. Students generally have negative perception about S/T.^a
4. Not able to apply what they learnt or being taught.^a
5. Students are exam-oriented and have difficulty when they come to problem solving.^a
6. Students prefer hands on with more lab works but this is limited to demonstrations.^a
7. Students have the tendency to have the teachers to tell them everything and want only to know how to answer in exams (being exam-oriented) but not for the sake of knowledge.^a
8. Students do not have the quality, analytical ability, the attitude or the interest to take up S/T studies.^b

9. Students' attitude is to depend on getting answers from teachers and tuition teachers. They are not keen to look for the answers by themselves. Students are not really learning as they should especially the S/T subjects where they are required to make enquiry and exploration as part of their learning.^b
10. The attitude of students is also causing the problem – they do not like to do homework, they are waiting for answers to be given to them; they depend on tuitions and they are exam oriented.^c
11. Students themselves have no confidence; they do not want to struggle to get things by themselves. The Chinese students will go for accountancy but the Indians will go for science.^c
12. Students are more interested in entertainment rather than taking up challenges in S/T studies.^c
13. Students consider S/T to be tough and do not like to think or solve problems.^c
14. Students do not like to do homework and the teacher has to get them to do it in school.^c
15. Many are doing part-time works and their study is not given that importance.^c
16. Students get free education and do not appreciate the value of education.^c
17. Students life style has become too easy.^c
18. Easy to get jobs and help their parents' businesses.^c

(b) Quality of students

1. Students are not able to do the science subjects due to lack of competency.^b
2. The quality of students is declining each year.^c
3. They do not like to engage in problem-solving.^c
4. They like to talk about games.^c
5. Do not have the quality students in the school because good students from Form 3 leave to go to other schools or institutions.^c
6. Not feasible because of poor quality students.^a
7. Lack of discipline among the students.^c
8. It is noted that they learnt too much in the primary school and so when in secondary school they lost interest.^c
9. Easy to enter into the science class, even with grades D in science and maths, in Form 4.^c

(c) Size of class

1. Many students in a class e.g. 50.^a
2. Too many students in a class and there is lack of time to conduct experiments and teachers do not want to take risk.^a

(d) Syllabus

1. It is difficult to score. Syllabus has been revamped and becomes more difficult.^a

(e) Tuition

1. Students go for tuition to have a head start for the following year subjects e.g. students learn the Form 4 syllabus in November and December after Form 3 examination.^a

(f) Parents

1. Parents are not encouraging their children to do S/T because it is difficult and they will face problems when their children could not do well.^b

(g) Teachers

1. Teachers do not encourage because they think students cannot do science.^a
2. PMR is not the criterion to choose students for S/T studies. Teachers know the students who are good enough to get As.^b

(h) School situation

1. The actual situation in the school should be given due consideration first but cannot just follow what happened in overseas and just played with statistics.^a
2. Feels that good students should not leave the school but to proceed on the Form 6 in the same school.^c
3. There must be attractions to draw the students in the early years towards the sciences such as good job prospects, incentives and scholarships.^c
4. Good students after Form 3, leave to go to other better schools.^c

2. What is your state of readiness towards the 60:40 Policy?

State of readiness means state of being motivated.

Table 2: Teachers' readiness for the 60:40 policy

Teachers said they are: 28%		Teachers said they are not ready: 72%	
Reasons	%	Reasons	%
Importance of the policy	57.1	Stagnation of the policy	45.4
Teachers teaching S/T are versatile & capable	42.9	Quality of students	24.3
		Syllabus	18.2
		Teacher's incentives	9.1
		Size of class	3.0
Total	100		100

It is noted that 28% of the teachers are ready for the 60:40 policy and their reasons based on what they said are categorised into two aspects:

(a) Importance of S/T today

1. S/T is life. Pollution of environment requires resolving the issue. Progress of industries depends on S/T.^a
2. I want to know the outcome as I have come to know of the policy since my school days (more than 10 years ago).^a
3. I know that it is important for the development of the country.^b

4. Job market is limited for S/T graduates to reach top positions e.g. S teachers are difficult to become HTs or top management positions. Hoping this situation will change.^b
5. According to Muslim teaching studying science is closer to God.^c
6. S/T create opportunities for jobs.^c
7. S/T is needed in all aspects of development.^c
8. It is good for the country because S/T can provide more job opportunities.^c

(b) Teachers teaching S/T

1. S teachers are more versatile and for R & D.^b
2. Challenging to teach S/T and has to keep up with the latest batches of students.^b
3. It is easy to teach maths to science students in my experience. Since students have been forced to take up science due to the policy the situation has changed. PMR students with low pass grades in maths and science are allowed to do science in Form 4. Students' attitude has become a problem they do not show great interest in their study as their lives have become easy (parents are well off). On the other hand, well-educated parents show more concerned of their children's education.^b
4. When talking to the poor students or advising them it has to be done in a strict manner. Those students who have developed positive attitude show improvements. The noncreative students are good only in logical and mathematical studies.^b
5. Excited to share S/T knowledge with the students.^c
6. S/T can create more thinking students.^c

On the contrary 72% of the Teachers are not ready for the 60:40 policy and their reasons are categorised into four aspects:

(a) Stagnation of policy

1. The policy has never moved until now.^a
2. It is not easy to achieve the policy.^a
3. Not much has been said about it.^a
4. Science is needed for growth of the country. Hope for it but implementation is an issue.^a
5. Have involved with the policy before. So far it does not seem to work.^b
6. Not so realistic in the Malaysian world. Not really wanted to achieve the policy e.g. PPSMI changed again to Bahasa Malaysia.^b
7. Not following the developed world.^b
8. Culturally we are not forward thinking, e.g. fighting for Chinese language instead of English. They are selfish rather than for the country.^b
9. It has been there for so long but not hear anything much so far.^c
10. The policy has been in existence for so many years but nothing has been achieved and in fact less students are taking up S/T studies. More students are doing social science studies.^c
11. Knowing that the policy is difficult to achieve.^c
12. The environment is not encouraging too.^c
13. Government policy is not in tune with the needs of the people.^c
14. Has no idea about the background of the policy.^c
15. Teachers are not really interested because they have not been in real contact with the policy.^c

(b) Syllabus

1. The syllabus level is too low.^b
2. PMR standard is too low.^b
3. As with regard to the Form 6, its syllabus still maintained though there have been some minor adjustments, the students still find it difficult.^b
4. In Primary School the level of science is not good and this creates a ‘domino effect’ to the secondary school. The PMR trial examination is state based and is open and more realistic. However the PMR examination from the Ministry is closed and is not realistic.
Students who have not done well at the state PMR trial examination could pass the Ministry’s PMR examination and entered the science stream in Form 4.^b
5. I have involved with the policy programme. The Ministry only looks at marks but not the quality of students to study science. PMR standard is too low.^b
6. Science syllabus has become easier.^c

(c) Quality of Students

1. Students are given the choices.^a
2. The way it is handled just to create the number but it is actually putting strain on the students and parents. Students find difficulty in their studies of S/T and parents have to get help from other places such as tuition centres.^b
3. Should have students capable to do science. By just filling the class to achieve the policy leads to lowering the standard and quality of students.^b
4. The number of students per class can be 50 e.g. 140 students are placed in 3 classes.^b
5. There should be more transparent encouragements to the students to do S/T by providing more scholarships or incentives and job wise.^b
6. Do not have the quality students but forced to fill the requirements as a result they do not perform but create problems in not doing their works and in their exams passed up blank papers. Students getting 0 mark quite common.^b
7. Students do not have the right attitude to do science or technology.^c
8. Quality of students doing S/T has declined.^c
9. Students do not want to think or to solve problems.^c

(d) Teachers’ Incentives

1. Not only the students but the teachers too should be given some incentives for their efforts.^c
2. S/T teachers do not get promotion that fast.^c
3. There is no real encouragement from the government as no incentives are given to the S/T teachers compared with those in teaching accounting and economics.^c

3. Should the teaching of S/T be strongly emphasized in secondary schools?

Table 3: Teaching of S/T should be strongly emphasized in Secondary Schools

Teachers agreed 80%		Teacher disagreed 20%	
Reasons	%	Reasons	%
1. Deciding factors – SPM, Language, need people qualified in S/T	23.7	Most students are not capable to study science	100
2. Students are matured enough to do S/T	21.0		
3. Advantages of studying S/T	18.4		
4. Community's/society's/country's needs for S/T	15.8		
5. Scope for studying S/T is wider	13.2		
6. More time for teaching S/T	7.9		
Total	100	Total	100

It is found that 80% of the teachers “agreed” that the teaching of S/T should be strongly emphasized in secondary schools and their reasons are categorised into six aspects:

(a) Maturity of students

1. Students are mature and this is time to expose them to more S/T.^a
2. Sc. students can move around to arts but not the other way.^a
3. If students are not certain of what they want, then do S/T.^a
4. The progress of a country depended on S/T. The secondary school is where the students are mature enough to begin seriously to learn S/T.^b
5. Because of the policy. But the student quality is not there for the S/T. Students do not focus.^b
6. Some students are willing to do S/T but are forced by circumstances to do other studies because of family background. Students from poor families or breakdown families help their parents through part-time working. They earn some money to enable them to get what they need such as handphones and for their food. They become more interested to earn whatever money they can and study becomes less important to them.^c
7. Students do too many subjects and so their interest for S/T could be diverted.^c
8. Students want convenience, they look for answers instead of finding them through problem solving. However, good students (few of them) want to solve problems and want to know why.^c

(b) Advantages of studying S/T

1. S/T enables students to be more capable, inquisitive and creative.^c
2. Students do experiments and try to reach conclusions or findings.^c
3. Students do not take short-cuts in their learning just to pass exams.^c
4. Students can develop intellectual abilities.^c
5. Students in S/T are more disciplined and creative and respectful to their teachers.^c
6. Students in S/T are of better quality and competent.^c
7. Students in S/T have better opportunities to enter the universities and greater flexibility.^c

(c) Field of profession

1. Field of profession is wider for S/T students.^a
2. Everything we do has S/T in it. Study S/T can be applied in our life. Generally people look up to science more than Arts.^b
3. Everything in our life is so much related to science.^c
4. Job opportunities for science is so much greater.^c
5. Many things like the IT come from S/T.^c

(d) Deciding factor – SPM, Language, People

1. SPM is the deciding factor because if they missed the study of S/T they will not have the opportunity to do so in the study of S/T.^a
2. A concerted effort must prevail to want it to be. Language becomes an issue if not in English. Most information about S/T is available in English and available in the internet.^b
3. More people qualified in S/T are needed for the development of the country. The secondary schools are the initial sources for the creation of S/T graduates.^b
4. To provide the S/T students for the higher learning institutions or the job markets.^b
5. S/T can benefit the students in terms of creativity in the long term as maths involves basically problem-solving.^b
6. Schools should therefore produce students of S/T.^c
7. The students' future requires S/T or else they will be left behind.^c
8. In fact S/T gives the students more choices to study in other institutions e.g. technical schools, colleges.^c
9. To get more scientists, professionals and technocrats.^c

(e) Community's/society's/country's need of S/T

1. S/T is required to keep things going in the community e.g. supply of water & electricity, buses and trains, cars and lorries, hospitals and so on.^a
2. S/T is needed for the country to progress in this competitive world.^a
3. S/T students are needed for the growth of the country.^a
4. The society demands for it.^c
5. For the development of the country.^c
6. S/T is getting more and more important because the country is always short of S/T people for the development of the country such as doctors, engineers and technocrats.^c

(f) Time frame for Teaching of S/T

1. Science used to be 5 periods per week but now it has been reduced to 4 periods. This is discouraging to complete the syllabus.^b
2. Teachers should be given more time in the teaching of S/T and not involved with other administrative works which actually interfere with teaching and their plans.^c
3. The study of S/T is so exam-oriented, and due to time constraint it becomes the concern to complete the syllabus. Students' learning whether it is effective can become secondary.^c

On the other hand, 20% of the teachers did not agree that the teaching of S/T should be strongly emphasized in secondary schools and their reasons are based on one aspect:

Preference of students

1. Should not be emphasized. However T should be emphasized as more students are for it. Teachers are frustrated by the quality of the students doing S.^a
2. Do not believe it. Only a minority of students could do S/T.^b

3. Students are not interested to do S/T and many prefer the social sciences. There are plenty of choices in the private colleges.^b
4. Students are not ready for it. They prefer the arts.^b

4. Is the study of S/T at the secondary schools crucial for the success of the 60:40 policy?

Table 4: Study of S/T is crucial in Secondary Schools

It is crucial: 80%		It is not crucial: 20%	
Reasons	%	Reasons	%
Schools are the sources for teaching S/T	55.2	Not just the number but affective qualities count	80
Promoting the study of S/T	34.5	Curriculum for S/T too lower at secondary schools	20
Curriculum can be improved	6.9		
More time for teaching S/T	3.4		
Total	100		100

It is found that 80% of the teachers said that it was crucial for students to study S/T in secondary schools as it is necessary for the success of the 60:40 policy. Their reasons are arranged into four aspects:

(a) Curriculum

1. Curriculum for S/T must be appropriate to match the needs of the policy to succeed.^a
2. The syllabus need to be improved and more time should be given to the teaching of S/T subjects.^b

(b) Promotion

1. Promotion about the importance of S/T is important.^a
2. Parents lack the mentality to give attention to their children in the study of S/T especially to their weak children.^a
3. Attitudes and perceptions of the children to go for easy courses especially now with many more choices available to them in so many private colleges in the country.^a
4. Should not be based on quantity but quality in the study of S/T. E.g. recently Japan has problem with its nuclear power plants and its scientists are able to resolve the nuclear leakage problem caused by earthquake.^a
5. Yes because of the need of S/T skills.^a
6. Yes, without S/T is it not possible to do so.^a
7. Necessary for the country to grow faster and meet the needs of the industries.^a
8. For the country to develop, S/T is necessary.^b
9. There must be real effort and concern to see it comes true.^b
10. Many developed countries based on S/T for their success.^c

(c) Schools as the source of supply

1. Yes because it is at the school that the students begin to learn about S/T. It is difficult to imagine how and where else students can learn about S/T, if not at the secondary schools.^a
2. School is the place but not the ratio. Just cannot get the quality students to fill the number and so others are allowed to come in to make up the number.^b
3. Need to have S/T students to make the policy possible.^b
4. Yes. There is no doubt about it.^b
5. Schools are the sources of supply for the policy.^c
6. In school, emphasis on the importance of the policy should be given regularly e.g. no incentives for teaching S/T or students.^c
7. S and T are the sources to provide the needs of the policy.^c
8. To develop creative students for the policy to be successful.^c
9. The education system has to change.^c
10. Fundamentally students in the secondary schools are the sources for making the policy to be realised.^c
11. To get the scientists or technocrats for the country as the policy has aimed to do, the universities or colleges are responsible to produce them. However the universities or colleges depend on the schools to provide them the necessary students to fulfil the 60:40 policy. As a consequence, the schools become the basic sources of supply of students to the universities and other higher institutions.^c
12. If it is not done in schools, how could the students get exposure to S/T.^c
13. S/T knowledge is important in our daily life; students need to learn it from the schools where there is proper teaching and guidance from the trained teachers.^c
14. Industries and higher institutions of learning required S/T knowledge from the students when they leave the schools.^c
15. If students are not forced to do S/T, they would prefer to do arts or social sciences.^c
16. S/T is more demanding of the student's intellectual ability and time. Students tend to take life easy. They have been spoon-fed and pampered by their parents. However there other students who are really interested to do S/T and they really do well on their own. These are from more affluent families.^c

(d) Time

More time should be given for the students to learn S/T.^b

On the contrary, 20% of the teachers said that it is “not crucial” to study S/T in secondary schools for the success of the 60:40 policy. Their reasons are categorised into two aspects:

(a) Not just the number, affective qualities count

1. Not the way it has been done by just filling the number without considering the human factors such their passion, interest, attitude and aptitude.^a
3. It should be based on quality but not quantity.^b
4. The ratio is too high, may be 40:60 or 50:50 at this point of time. Needs to build up gradually over time.^b
5. Students are not ready somehow.^c

(b) Curriculum

The science curriculum for secondary school has become so easy. Furthermore

STPM students cannot get into the public university for the choice of courses, while matriculation students could e.g. students with 3 As in the STPM could not get into the courses they wanted but others could.^b

5. Are you confident that the 60:40 policy will come true?

Table 5: Confidence of the 60:40 Policy will come true

Teachers not confident 96%		Teachers confident 4%	
Reasons	%	Reasons	%
1. Changes be made by government, parents & others	37.5	Time will make it possible	100
2. Nature of students	29.1		
3. Policy already there for many years	16.7		
4. Administration work	8.3		
5. Quality of teachers/poor exposure to science	4.2		
6. Education system	4.2		
Total	100		100

It is found that one teacher (4%) is confident that the 60:40 policy “will be achieved in time^a.”

On the other hand, it is found that 96% of the teachers are “not confident” that the policy will be achieved and their reasons are categorised into six aspects:

(a) Policy already there for many years

1. It has been there for many years. Ministry talked but not the walk. No real effort is seen but does something that is not useful e.g. sent teachers to go for IT programming but could not implement in the school due to lack of facilities or incomplete parts e.g. no screens for projectors. Maintenance is poor or lacking. Teachers also gave up because of the waste of time as the syllabus needed to be completed. The use of foreign English teachers to train local teachers did not turned out to be successful. There is no thorough evaluation of programmes implemented.^a
2. After so many years, the outcome has not been good. It is still uncertain about the outcome of the policy.^b
3. May be in ten 10 years. Teachers are not bothered; most teachers want to be in their own language (not affluent in English). It is said that 8% used English in schools in Malaysia. There are minimum practical lessons in the science subjects.^b
4. It is not an issue because it is just a number at the school. How many will eventually proceed to study at the higher level will be quite different.^b

(b) Changes must be made

1. The government will do something.^a
2. The government will make changes to make it possible.^a

3. The policy will succeed if certain changes are made such as taking into consideration the human factors but not based on supply and demand situation.
Look for quality students not just quantity. Opportunities should be given to STPM science students at the public Universities to do the courses of their choice.^a
4. If the government make the effort to make it possible.^b
5. New approaches are needed to ensure the success of the policy.^b
6. That changes will be made if the policy is that important to the nation.^b
7. The real effort has yet to be seen.^b
8. Based on experience and knowledge, changes are expected in order to make the policy come true. Parents and students should change their attitude and expectations. Training from primary school must be there to accept responsibility. Racial ratio is another issue. There must be equal opportunities for education for all races in the country. The good students after the PMR are taken away to other institutions and the others are left to continue in the school.^c

(c) Nature of students

1. Students not having the right aptitude, attitude and competency in S/T.^a
2. 20% of the students good in science want to go for Arts. Many parents do not encourage their children to go for science because science is difficult. School promotes good students to go to science but not all good students want to go for science.
Students' life so easy today, they do not think of having to study or work hard. They do not want to study science because they think it is difficult.^b
3. If only qualified students from PMR are selected and that more time is given for the teaching and learning of S/T subjects.^b
4. Give special treatments to S/T students then it can be achieved.^c
5. It is not really possible to visualize now that the policy can certainly come true in the near future. There are more students who are interested in S/T but they do not have the right attitude or interest. The real interested and capable students doing S/T are fewer than the arts or social science students all these years. Currently there are no incentives being provided for students studying S/T.^c
6. Number of students doing S/T getting less and less. Students have no confident to do S/T, they think S/T is difficult. Students, now-a-day are not prepared to meet challenges. They are being pampered. They want to do easy things e.g. using calculators.^c
7. Students do not have the right attitude and this probably comes from the early years in school. Many are interested in S/T but they are not capable. They have more challenges outside the school e.g. TV and computer games.^c
8. Not really certain in the sense that the students do not really have the right maturity to see the importance of S/T to make the policy becoming a reality. They do not want to think or solve problems and always ask for answers. Only the few good students who prefer to find the answers through their own effort. They are really creative.^c

(d) Administration work

1. It is affected by administration work rather than time spent fully for teaching the students.^b
2. Too much paper works but not enough time for teaching or preparation.^b

(e) Quality of teachers/poor expose to science

1. Good quality teachers have retired and new teachers have replaced them. Situation has changed. A boy school needs to have more discipline to make the policy come true. Facilities are not adequate because of the lack of funds. Maintenance funds are not given now. Students' S/T competency is not up to the mark. 2 out of 3 science classes in Form 4 can be considered to be good while the third class is bad, sitting on the fence. A minimum grade C in science/maths in PMR can do science in Form 4 in order to get the 60:40 ratio. Students are not getting enough exposure to science in the lower forms. For example students in Form 3 could not pass the school tests in science and maths but could pass them in PMR.^b

(f) Education system

1. The education system is not encouraging students to take up S/T. Students are given opportunities to do other studies. Students have other interests than to do S/T. S/T makes students to be creative but the system makes it difficult because it is exam-oriented. Not so much for the sake of learning by students but just to teach and finish the syllabus. Teachers should be teaching concepts but it is in conflict with the expectation of results. Teachers just want to finish the syllabus quickly whether the students understand or not and then proceed to do the revision and just give the students the answers. As a consequence, the students do not become creative and the value of the grades, even they are "As", are of no value.^c

6. Do you believe that the 60:40 policy is critical for the country to become a developed nation in 2020?

Table 6: The 60:40 Policy is for the country to become a developed nation.

Teachers said critical: 88%		Teachers said not critical: 12%	
Reasons	%	Reasons	%
1. Importance of S/T	42.8	Can become a developed nation without the policy	50
2. Understanding of the policy	28.6	Students not up to the mark	50
3. As a developed nation	28.6		
Total	100		100

It is identified that 88% of the teachers said that the 60:40 policy is critical for the country to become a developed nation. Their reasons are categorised into three aspects and they are:

(a) Understanding of the policy

1. Because the success of achieving the developed status depended on achieving the 60:40 policy. S/T subjects are considered the backbone of the policy to produce the professionals in science and technology for the country.^a
2. To become a developed nation needs preparation. This means to have a policy for that. The 60:40 policy has not been promoted well enough for the people to know of its importance and urgency. Government needs to change the policy that students on scholarships must come back.^a

3. The country needs to have more scientists, professionals and technocrats and the policy is the backbone for all these people to be created and for the country to achieve the developed nation status.^b
4. Unless the government is really keen to do so, the 60:40 policy has been postponing for a few times.^b
5. The way the 60:40 policy is given the importance is doubtful. Not much talk on the policy has been given to the teachers.^b
6. The country needs many students in S/T to become a developed nation and this is where the 60:40 policy is for. The industries need such kind of workers.^b

(b) Importance of S/T

1. Because of the need of medical science graduates and other professionals in S/T.^a
2. Because S/T is needed to enhance productivity of the country as seen in the developed world.^a
3. S/T needed for industrialised state of the country. So many things come up, they need the knowledge of S/T e.g. the understanding about Tsunami. Science provides the understanding of how it occurred and how to set up systems of warning.^a
4. Without S/T many things cannot be developed/implemented from agriculture to automobile. Even though cars are made in the country, many parts for cars are imported.^a
5. For the country to become a developed nation but reality is an issue i.e. having the necessary type of people especially those in S/T.^a
6. A lot of jobs need people skilled in the field of S/T.^b
7. Industries need S/T workers as seen in developed countries.^b
8. S/T is important for any country to become a developed nation. This is to follow the developed nations.^b
9. Secondary schools should play the most important role.^b

(c) As a developed nation

1. Countries that are not developed have little job opportunities and low standard of living. Developed nations are progressive and produce creative and quality goods. Many professionals are leaving the country.^c
2. Without S/T the country cannot be really be developed and to move further ahead. This situation can be seen from many examples prevailing in the country today. The country has to depend from many developed countries to buy sophisticated equipment and machineries including cars and lorries. Our automobile industry has to depend on Japan and other countries for technology and parts and has not progressed well in terms of its technology to come out with new models.^c
3. Need more professionals for the developed nation. To achieve higher incomes, improved life-style, healthy life style. More opportunities for higher skill jobs.^c
4. Many equipment, machines, innovative hand phones and i-Pads and others come from developed countries. All these are the products of science and technology from developed countries. The policy must succeed first to generate enough scientists and technocrats to make things possible for the country to become a developed nation.^c
5. Like to live in a developed world. More open, interaction in almost everything – behaviour, more progressive and more civilised. Better job opportunities, higher skills and responsibility or trust.^c

On the contrary only 12% of the teachers said that the 60:40 policy is “not critical” for the country to become a developed nation.

Their reasons are categorised into 2 aspects:

(a) Become a developed nation

1. Malaysia will become a developed nation without even the policy.^b
2. S/T is important for the development of the country no doubt. Other aspects like spiritual and physical are important to perpetuate the beneficial development of the country brought about by S/T. There must be a proper balance between S/T with the other aspects of personal development in school.^c

(b) Quality of students

1. The school students are not up to the level of skill/knowledge in S/T. It is something that cannot at this moment considered to be possible within a short period of time. There must be more effort and greater interest to be given to the teaching of S/T in the schools. The teaching facilities in the schools for S/T must also be made adequate and up to the mark to pull students to do S/T studies.^c
2. Not getting enough quality students to fill up the 60%. Probably the reality is 30:70. Parents are more affluent and opportunities are plentiful, students’ lives are easy and their attitude to education is different i.e. not so important. They tend to take life easy. Education is not the main thing but other leisure activities become more important to them. Teachers’ encouragement is only effective to those students who are interested but not the majority. For example out of 70 good students in 2010, only 10 students continued their study in Form 6. Students are being spoon-fed most of the time because they are not creative and do not think creatively. Students like to use gadgets like the latest handphone, i-Pod but do not want to know how they are made.^b