Bridging the Cultural Gap: Strategies for Multicultural Teaching and Learning in Malta

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Abstract. The growing reality of multicultural education in Malta is critical for Maltese teachers to develop skills necessary to deliver a culturally sensitive curriculum for the students under their care. Often teachers feel confused as to the roadmap they should undertake to ensure that they are equipped enough to face the challenges of multicultural instruction. This study aims to facilitate this enterprise by undergoing a literature review on the cultural dimensions of learning and, through the construction of a cultural framework, establish a common set of precepts that should serve as guidelines for teachers to critically examine the relationships with their students and to device strategies for bridging cross-cultural differences. The Bilateral Framework for Multicultural Teaching and Learning (BFMTL) based on the works of Hofstede (1980, 2001, 2005), Hall (1983), Levine (1987), Lewis (2006) and Hampden-Turner and Trompenaars (1997) was created and the use of the BFMTL questionnaire is advocated as a tool to help both teachers and students to critically examine the range of cultural differences present in their classrooms, the challenges they present and the range of strategies needed to overcome these challenges.

Keywords: Bilateral Framework; Multicultural Teaching and Learning.

The need for multicultural education

Banks and Banks (2002) argue that multicultural education is a necessary ingredient for quality education. Such necessity demands culturally adaptive learning approaches that spurs every individual in the learning situation to achieve his/her full potential. Students who study in an environment which is dissonant to their own culture experience significant hindrances and can be a source of serious conflict (Pincas, 2001). Cultural awareness is a two way process. Teachers should be critically aware of their own culture and how their culture is affecting the way their students perceive learning. This also puts teachers in a position to examine their underlying assumptions as to how should respond to the learning situations they present, while at the same time keeping an open mind as to possible unexpected responses. Teachers should then be in a position to strike a careful balance between helping students to adapt to the demands of mainstream culture while at the same time embracing the challenges of the 'new' culture the student is presenting.

What is culture?

Culture includes those modes of thinking and behaviour which are transmitted from one generation to another, developed through direct interaction between groups, family members, friends, work colleagues and community (Hofstede & Hofstede, 2005). Culture also includes

> ... how people express themselves (including shows
> of emotion), the way they think, how they move,
> how problems are solved, how their cities are planned
> and laid out, how transportation systems function
> and are organized, as well as how economic and
> government systems are put together and function.
> (Hall, 1981, pp. 16-17)

Cultural preferences are an essential part of our existence because our strong urge to belong in groups. Parrish and Linder-VanBerschot (2010), in their research about Cultural dimensions in learning argued that layers of culture exist within workplaces, family and community structures on a regional, national and even international level. These are based on traditions, folklore, shared heritage, language, and others. Notwithstanding the strong ties between human elements and individual culture, people have demonstrated willful and creative responses to the world around them, frequently adapting and modifying their natural and cultural tendencies. Cultural influences are a two way process. Even though we are products of our cultures, we are also actors within our own cultures and so we have a profound influence on our own culture. Hence by interacting within our culture we are influencing those around us and contributing to a dynamic changing culture. We influence our culture through our beliefs, our deep rooted assumptions, values, and behaviors developed through an infinite series of interactions with the acquaintances of our own culture as well as through a range of both positive and negative interactions with other cultures.

The respect for and the conservation of students' culture is an important precept for teachers to consider in their daily interaction with their students since they are in a position of influence on their learners (Schwier, Campbell & Kenny, 2004). Whenever we teach, we are teaching culture. It may be a conscious deliberate process or it may take place on a subconscious level. Awareness, knowledge, attitudes, and skills are all manifestations of culture. Culture is not only embedded in teaching and learning processes but is an agent by which teaching and learning are transmitted. In multicultural teaching environment settings, educators must reflect on the balance needed between acculturating students within the dominant culture but without hindrance to the pedagogical process and the targets set for learning.

For such a challenging process to take place teachers and school administrators must infuse theoretical and practical multicultural concepts into the very heart of school leadership, curriculum instruction, policy making, classroom environment, student guidance, counselling, assessment schemes, festivities,

holidays and all other school procedures. Moreover, being culturally adapt to the needs of the student would mean that teachers feel the urge to infuse multicultural content into the subject matter. Good practices have been cited in Mathematics (Joubert & Andrews, 2010), Foreign Language Learning (Andrawiss, 2004), Science (White, Altschuld & Yi-Fang, 2006) and Engineering management (Young, 1992). For example teachers could demonstrate mathematical concepts such as bar graph representation by capitalising on the ethnic composition present in the classroom. Concepts such as probabilities, ratios, percentages, statistics, and graphs could be taught in a similar manner. Also literature in schools could be taught by studying the contributions of various cultural groups.

There are numerous reasons that advocate for effective multicultural teaching and learning. The expansion of world trade, industrial globalization, marketing, technology and many other factors have created a situation where cross-cultural interaction is inevitable. Increasing specializations, joint programs and internet communication has brought people closer than ever before. Many undergraduate and postgraduate studies have a wide range of students coming from different countries and professionals wishing to guide their students need to develop a range of specialized skills which aim at reaching all students irrespective of their cultural origin. According to (Nisbett, 2003), cultural diversity is of crucial importance to the teaching and learning process, because of its deeply rooted cultural values and modes of thinking that are difficult to separate from the learning processes itself.

The compelling need for higher educational and vocational qualifications leads students to demand culturally responsive learning experiences that would allow them to full develop their individual potentials (Visser, 2007). Teachers experiencing difficulty in engaging themselves in this challenging experience should gear themselves towards developing the skills necessary to deliver culturally sensitive and responsive instruction (Gunawardena & LaPointe, 2007). For teaching to be beneficial to students, teachers must be cognizant towards the cultures of their learners and able to interpret and analyse how those cultures manifest and impinge themselves in learning processes (Nisbett, 2003).

Teachers and educational stakeholders should be acutely aware of their own culture because their world views shaped by their own culture, cannot be separated from the training they develop (Thomas, Mitchell, & Joseph, 2002). Being aware of how their own cultural perspectives, how they impinge on the pedagogical decisions they make has an effect how learners respond to the teaching process. After an extensive literature review, the paper will examine the cultural differences which exist between teachers and students across a number of dimensions. These differences are then analysed using quantitative methods of investigation. Conclusion and recommendations follow, based on findings.

The Bilateral Framework for Multicultural Teaching and Learning

Many authors contributed to literature on cultural differences. Hall (1959, 1976) studied time-orientations across continents and categorized people as

monochronic (m-time) and *polychronic* (p-time). On a similar framework, Lewis (2006) distinguished between *linear time*, *multi-active time* and *cyclical time*. Similarly Graham (1981) offers categorization of time orientations as *linear-separable*, *circular-traditional* and *procedural traditional*, while Levine (1997), dichotomizes time into *clock time* and *event time*. Hofstede (1980, 2001, 2005) identified a framework for describing cultural differences based on five value dimensions: High Power Distance versus Low Power Distance, High Uncertainty Avoidance versus Low Uncertainty Avoidance, Individualism versus Collectivism, Masculinity versus Femininity and Long Term Orientation versus Short Term Orientation.

The High Power Distance vs Low Power Distance dimension (Hofstede, 1980) measures the extent to which the members of a particular institution accept that power is being distributed equally. Hence, in a society with large power distance, superiors are inaccessible to those inferior in position while a society with a small power distance, superiors are accessible and there is a feeling of equal distribution of power. In a classroom situation this dimension is characterized as follows:

Table 1: Manifestations of Power-Distance Dimension (Hofstede, 1980) in the classroom.	
Low power distance (more equality)	**High Power Distance (less equality)**
Teachers treated on an equal par to students. They can be engaged in argumentation and even challenged.	Teachers are treated as unchallenged authorities
Students take responsibility for their own learning.	Teachers are the sole source of knowledge and are fully responsible for what is taught in class.
Dialogue is central to the teaching activity	Communication flows down from teacher to student.

The *High Uncertainty Avoidance vs Low Uncertainty Avoidance* dimension (Hofstede, 1980), illustrates the extent to which people feel endangered by unpredictable situations. They either seek to avoid these by enforcing strict norms of behaviour and affirming beliefs in absolute truths or else they express ability to accommodate to new situations by modifying the prevailing rules into more flexible ones. The hallmarks of strong *uncertainty avoidance* are higher anxiety and stress, need for written laws and consequences for non- abidance, resistance to change and strong desire to reach consensus. A society characterized by weak uncertainty avoidance will attempt to accommodate new incumbents and situations of uncertainty. Rules may be broken for practical reasons and there is less emotional resistance to change and more tolerance for disagreement and greater willingness to take risks.

Table 2: Manifestations of High Uncertainty Avoidance vs Low Uncertainty Avoidance (Hofstede, 1980) in the classroom.	
High Uncertainly Avoidance	**Low Uncertainty Avoidance**
Students prefer structured learning situations.	Students prefer unstructured learning situations.
Students prefer questions with a 'yes' or 'no'.	Students prefer open answers.
Learning builds on previous experience.	Learning ventures to new routes and pathways.
Emphasis is on accuracy of answers.	Emphasis is on creativity of answers.

The *Individualistic vs Collectivistic* dimension examines the extent to which individuals are integrated into groups or not. In an *Individualistic* culture people have a restricted family structure, look after themselves and their immediate family, and adhere to strong norms to maintain self-respect and self esteem. In a *Collectivistic* culture people belong to groups. Loyalty is the principal norm of the group. A collectivistic society values extended families and 'saving face' is of vital importance. On the same lines, Hampden-Turner and Trompenaars (1997) expanded this dimension to include whether societies focus their attention on the collective or on the individual. In the classroom this dimension can be manifested as follows:

Table 3: Manifestations of *Individualistic vs Collectivistic perspectives* (Hofstede, 1980) in the classroom.	
Individualistic Perspective	**Collectivistic Perspective**
Students work independently. Helping others may be viewed as cheating.	A collaborative stance is the norm. Every students is a team player and works for the success of the group.
Discussion, argumentation, and critical thinking form the basis of learning.	Students sit quietly and attempt to internalize what the teacher is delivering.
Property belongs to individuals. To avail oneself of someone else's property one has to ask formal permission.	Property belongs to everybody. No permission is needed to avail oneself of someone else's property.
Students are expected to take control of their learning environment.	Students assume that the teacher has the absolute authority of what goes in the classroom.
Parents partake and involve themselves actively in their child's education.	Parents accept teachers' expertise and guidance.
Students speak up readily.	Students speak up not so readily.
Learning how to learn is very important.	Learning how to do is very important
Students' opinions are highly	Students' are expected to integrate

valued.	their opinions with the prevalent line of discussion.
Students work towards individual gain.	Students work towards communal gain.

The *Masculinity* vs *Femininity* dimension (Hofstede, 2001) refers to the extent to which a society emphasizes achievement or nurture. *Masculinity* is perceived to be the attribute which focuses on acquisition of wealth, ambition and differentiated gender roles. On the other hand, *Femininity* is seen to be the trait which emphasises lasting caring behaviours, promotes sexual equality, and advocates for more fluidity in gender role acquisition. Striving for consensus, maintaining healthy relationships, and developing sympathy for people who are in difficulty are the hallmarks of a feminine culture. In a classroom situation this dimension is characterized as seen in table 4:

Table 4: Manifestations of *Masculinity vs Femmininity* dimension (Hofstede, 2001) in the classroom.	
Masculine Perspective	**Feminine Perspective**
Students come from a traditional family structure.	Flexible family structure.
Boys don't cry. Girls cry.	Both boys and girls cry.
Girls don't fight. Boys do fight.	Nobody fights.
Making mistakes is catastrophic.	Making mistakes is part of life
Teachers openly admire best students in the class.	Teachers praise team efforts.
Certification is of primary importance.	Group accomplishments are most important.
Students like competitive tasks.	Students like cooperative tasks.
Students compare themselves (academically) to other students.	Students compare their ethnic group performance (academic) to other ethnic groups.
Students make themselves 'visible' in the classroom.	Students do not care about their 'visibility' in the classroom.

Hall (1959, 1976) categorises time-orientations into *monochronic* (m-time) *and polychronic* (p-time). M-time people are sequential and tend to perform one thing at a time, favouring a greater reliability on time-tables, itineraries, diaries, and schedules while P-time people are distinguished by undertaking a series of activities simultaneously. People who adhere to monochromic time orientations have a strong future orientation, whereas people who are polychromic who have a strong present and past orientations.

Hofstede (2005) dichotomizes time as '*Long Term*' versus '*Short Term*' orientation. In his own words: "Long Term Orientation stands for the fostering of virtues oriented towards future rewards, in particular perseverance and thrift. It's opposite pole, Short Term Orientation, stands for the fostering of virtues related

to the past and present, respect for tradition, preservation of 'face' and fulfilling social obligations." (p. 33). Societies with a short-term orientation value traditions with very little regard for the future and have a sharp focus on achieving quick results (Geert Hofstede, 2001, quoted in geerthofstede.com/dimensions.html). In societies with a long-term orientation, people value and adapt traditions according to changed conditions, with a strong interest in investing for the future and a strong focus on achieving desired results. According to Levine (1997), different people in different cultures view time differently. He dichotomizes time into *clock time* and *event time*.

While western cultures and the US are dictated by the *clock* to execute important functions, other cultures are dictated by *events* to execute the same functions. Lewis (2006) distinguishes between *linear time*, *multi-active time* and *cyclical time.* In *linear time* cultures such as the USA, time simply flows from past to present to future. In Lewis (2006) own words, 'the past is over, but the present you can seize, parcel and package and make it work for you in the immediate future.' A lot of talk is consumed over *spending* and *saving* time. There is simply no place for lingering or to put it simple- time is money! In Lewis's (2006) model, the *past* is to be forgotten and a lot of importance is given to the *present* and how it (the present) is going to be profitable in the near *future*. In *multi-active time* societies (Lewis, 2006) such as southern Europeans, people tend to do many things at the same time. Table 5 below shows an adaptation of the time dimensions described above with reference to the classroom environment:

Table 5: Time Orientations (Hall, 1959, 1926; Hofstede, 2001, 2005; Levine, 1997; Lewis, 2006) as manifested in the classroom.	
Monochronic	**Polychronic (multiactive)**
Students perform one task at a time.	Students perform multiple tasks simultaneously.
Students rely on established schedules.	Students rely on information they get from peers.
Long Term Orientation	**Short Term Orientation**
Students design a long term plan of study.	Students design short term plans of study.
Students are prepared to give long term sustained efforts in their study.	Students are more likely to study on the eve of exams.
Students are likely to give up life pleasures to study.	Students balance carefully study and life pleasures.
Clock Time	**Event Time**
Lessons start on time and finish on time.	Lesson time can be flexible.
Class time is regulated by a time-table.	Class time is more fluid and flexible.
Emphasis is on strict procedures.	Procedures exist only as guidelines.
Assignments to are meet deadlines.	Assignment deadlines are fluid.
Linear Time	**Cyclical time**
Time is not to be wasted. One should be quick if s/he is to get results	Reflection and contemplation are not a waste of time. Rushing through

	activities will not lead anywhere.
Time has to managed	Adapting to time is important.
Opportunity knocks once!	There will be opportunities in the future.
Past experiences are <u>not important</u>. It is the *present* and the *future* which counts.	*Past* experiences are a reflection of one's performance(s) *now* and in *future*.

Building on Hofstede's (1980) model, Hampden-Turner and Trompenaars (1997) expanded the definition of national cultures to include factors such as historical, political and social dimensions which, in turn, have an effect on 'business values'. The *Universal* versus the *Particular* dimension (Hampden-Turner & Trompenaars, 1997) represents a culture's view of principles. While the *Universal dimension* places emphasis on rules and regulations, the *Particular dimension* places more emphasis on relationships within the group. The *Neutral* versus *Affective* dimension (Hampden-Turner & Trompenaars, 1997) emphasizes the extent of which an individual (or a group) is objective and detached (neutral) from influences around him/her. Displays of affection indicate that individuals (or groups) is/ are more inclined towards the *affective* dimension. The *Specific* versus *Diffuse* dimension (Hampden-Turner & Trompenaars, 1997) represents a culture's blending of work and personal life. The *Specific* aspect of this dimension implies that the person is more inclined to separate work and personal life. On the other hand, the *Diffuse* aspect suggests a blend between work and personal life. The *Achievement* versus *Prescription* dimension (Hampden-Turner &Trompenaars, 1997) describes a society's style of assigning status. The *Achievement* aspect of the dimension places emphasis on performance and flexibility, whilst the *prescription* aspect emphasizes age, education, gender, and personal characteristics as other possible agents of success. The *Individual* versus *Collective* dimension (Hampden-Turner & Trompenaars, 1997) is similar to Hofstede's (1980) dimension of *Individualism* versus *Collectivism* where the collective focus is either on the individual or on the collective The *Time as Sequence* (Hampden-Turner & Trompenaars,1997) sees events as consecutive whereas *Time as Synchronization* (Hampden-Turner & Trompenaars, 1997) sees events as occurring in parallel. This is similar to *multi-active time* societies (Lewis, 2006) and to Hall's (1959, 1976) *polychromic time* societies. The *Internal* versus *External* dimension (Hampden-Turner & Trompenaars, 1997) relates to the environment dimension and measures the extent of which an individual or group has over his/ her environment. Inner-directed societies believe that although complex, nature can be controlled. In an externally oriented society, members believe that they can harmonize themselves with nature and thus have little control over it. Members of internal societies inculcate more dominating attitudes and are uncomfortable with change while members of external societies apply flexibility and are at ease with change and more willing to harmonise themselves with nature. In a classroom situation these dimensions might manifest themselves as follows:

Table 6: Historical, political, and social dimensions (Hampden-Turner and Trompenaars, 1997) as manifested in the classroom.	
Universalism	**Particularism**
Emphasis is placed on classroom regulations.	Emphasis is placed on classroom relationships.
Neutral	**Affective**
Students are not affected by what happens around them.	Students are easily affected by what happens around them.
Specific	**Diffuse**
Students do not share their school experiences with family members.	Students share their school experiences with family members.
Achievement	**Prescription**
Students count only upon their achievements to move up the social ladder.	To move up the social ladder, students count also upon a number of characteristics such as age, gender and personal characteristics.
Internal	**External**
Students find it *difficult to adapt* to changes (eg: time-table.	Students find it *comfortable to adapt* to changes (eg: time-table).

The literature review provided the researcher with a solid basis on which to construct a methodology based on the dichotomous nature of the cultural dimensions.

Methodology
The snowball sampling method was used to engage participants in the study. Teachers were recruited from five post secondary schools in Malta who were initially contacted following a call by the researcher for volunteers. The teachers were then asked to indicate other teachers who had students of multicultural origin in their classes and who wished to participate in the study. In total, a cohort of thirty-nine teachers together with their students participated in the study, of whom 27 were male (69%) and 12 were female (31%). A total of 445 students took part in the study. Based on work of Hofstede (1980, 2001, 2005), Hall (1983), Levine (1987), Lewis (2006) and Hampden-Turner and Trompenaars (1997), the Bilateral Framework for Multicultural Teaching and Learning (BFMTL) was constructed and a questionnaire was designed mirroring the interpretations given to the dimensions by the researcher.

A meeting was held and the questionnaire and dimensions were clearly explained both to teachers and students. The teachers and the students were given the questionnaire simultaneously so as not to leave room for extraneous variables. Both the teachers and the student's questionnaires consisted of 42 statements in which participants were asked to circle their preference on a seven

point Likert scale. Statements 1 to 3 were related to the *Power-Distance* Dimension (Hofstede, 1980); statements 4 to 7 were related to the *High Uncertainty Avoidance vs Low Uncertainty Avoidance* dimension (Hofstede, 1980); statements 8 to 16 were related to the *Individualistic vs Collectivistic perspectives* (Hofstede, 1980); statements 17 to 24 were related to the *Masculinity vs Femininity* (Hofstede, 2001); statements 25 to 37 relate to the *Time Orientations* (Hall, 1959, 1926; Hofstede, 2001, 2005; Levine, 1997; Lewis, 2006) while questions 38 to 42 refer to the *Historical, political and social dimensions* (Hampden-Turner & Trompenaars, 1997).

Each question on the teachers' questionnaire had a corresponding counterpart on the students' questionnaire. This allowed for easy question by question comparisons and computations. The average teacher's score (depicted in red) and the average student's score (depicted in blue) was computed for each dimension. Modal scores (depicted as yellow lines) were computed to determine where the majority of scores are concentrated. These modal scores were computed for each dimension (i.e. 13) and for each class (i.e. 39) forming a total of 507 graphical representations. The SPSS (Statistical Package for the Social Sciences) was used to conduct t-tests. The null hypothesis (H_0) in the study states that the means between the teacher's score and the students' mean are not statistically different from each other. A series of t-tests was conducted to test this hypothesis and to determine whether it is accepted or rejected. From these, a few were chosen for illustration purposes. Classes were arbitrarily named from Class A to Class L. The criteria for the selection of graphical representations were based on the disparities of dimensional scores, which proved to be ideal platform for analysis, taking care to include all dimensions. Score number one, marked in red, represents the teacher's score while the other scores represent student scores. Analysis now follows based on findings.

Analysis and Interpretation of Results
All questionnaires were returned. Analysis now proceeds by highlighting similarities and disparities between dimensions.

Low Power Distance vs High Power Distance Dimension
Class A represents an interesting situation in which the class exhibits a bimodal characteristic (mode 1 = 6.25, mode 2 =2.00). It is clear that the majority of students scored on the lower side of the *Low power vs High power Dimension Graph.* On the other hand however, other students scored high indicating that they expect the teacher to maintain a high power distance in the classroom with the teacher scoring of 4, thus indicating that the teacher is currently adopting a flexible approach and is aware of the *Power-Distance* disparities which exist among students and is able to gauge how much *power* s/he is willing to concede to students ($\bar{x}$ = 3.077, t_{obt}= 1.54 at t_{crit} = 2.179, α=0.05). A t_{obt}<t_{crit} indicates that the teacher's score is not statistically different from the two modal scores. However it must be stated that there is a statistically significant disparity between the modal scores of the two 'groups' of students.

Low Power Distance vs High Power Distance

Fig 1: Graphical representation of Class A

The *High Uncertainty vs Low Uncertainty Avoidance* graph indicated a clear disparity between teacher's and students' value scores. While the teacher scored a 6.75 the modal line for students indicate a score of 2.75, while the average score of students x̄ was 2.938 (t_{obt}= 8.06 at t_{crit} = 2.131, α=0.05). The result shows a statistically significant disparity between the teacher's score and the students' score, with the teacher scoring high (ie low tolerance) on *Uncertainty Avoidance* and students exhibiting an inclination towards low *uncertainty avoidance* (Fig 2). This result calls for a plan of action for both teachers and students to examine critically their own culture and device plans of actions aimed at reducing such differences.

High Uncertainty vs Low Uncertainty Avoidance

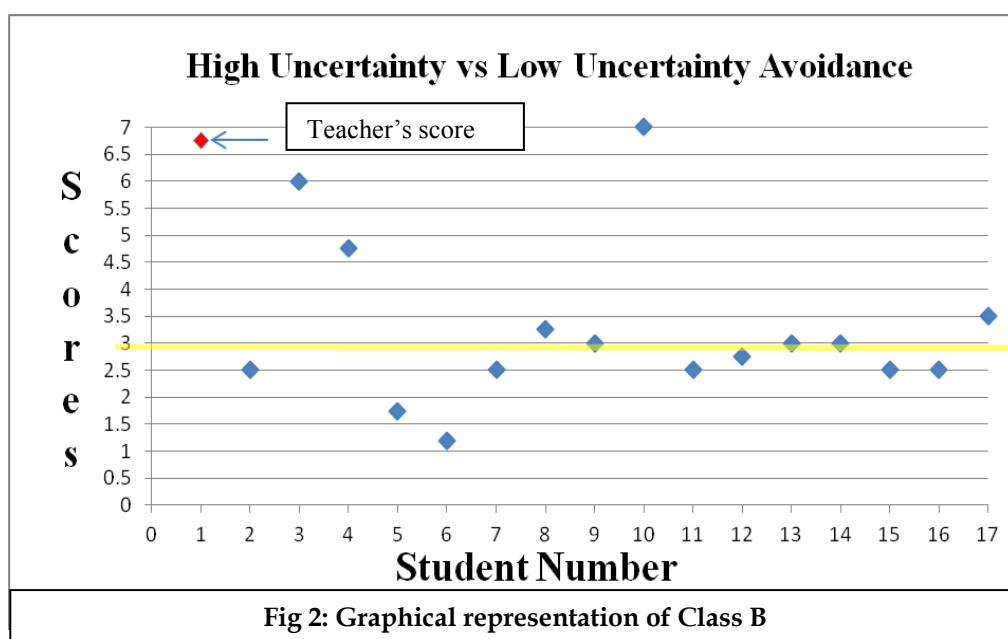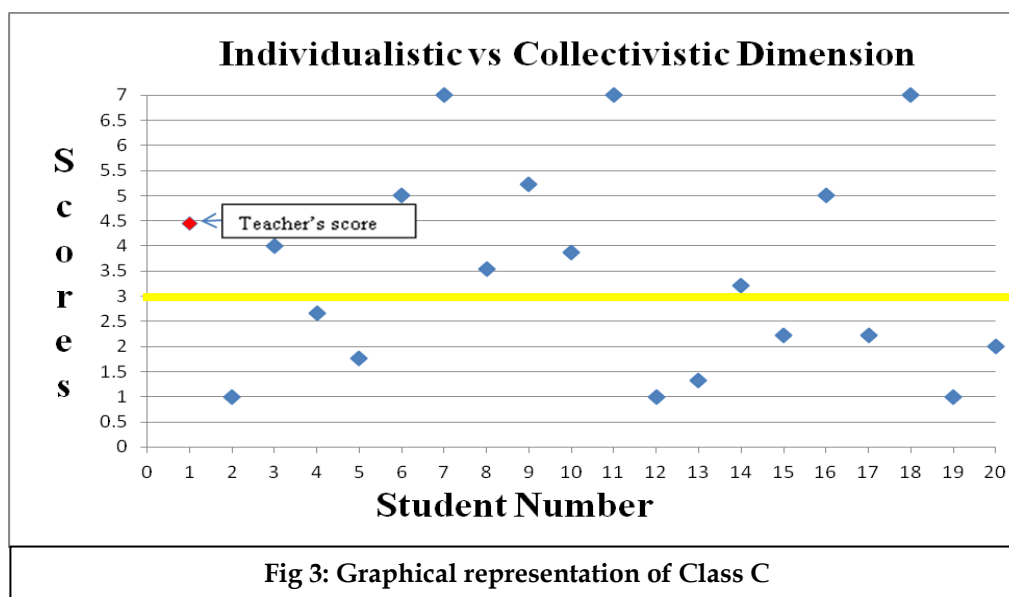**Fig 2: Graphical representation of Class B**

Figure 3 shows the graphical result of the *Individualistic vs Collectivistic* perspective. The graph shows a somewhat dispersed scatter plot of the dimension clearly indicating a variety of responses to the questionnaire. Students in this class came from a wide variety of background characteristic and hence demonstrated a variability of scores (a shown by the yellow modal line). This represents a major challenge for the teacher who needs to interact with a variety of perspectives. It would be helpful if the senior management team of the school screens the particular cultures existing within this class and provide opportunities for both teacher and students to interact more effectively. They would also benefit from using the instrument to clearly examine other dimensions featuring in the questionnaire. This would shed new light on how the various dimensions interact and the resultant of these interactions. From the results of the questionnaires one can construct tailor-made training opportunities for both teachers and students. The mean score of students ($\bar{x}$) = 3.263, (t_{obt}= 1.53 at t_{crit} = 2.101, α=0.05) shows that the student's mean is not statistically different from the teacher's score. However, the difference of scores between students themselves (eg: student numbers 7, 11 and 18 scored a 7 while students 2, 12 and 19 scored a 1) indicate extreme positions in the *Individualistic vs Collectivistic* dimension. Hence it is imperative for all students and teacher to examine the roots of their cultural background and the reasons behind the different perceptions.

Fig 3: Graphical representation of Class C

The Masculinity vs Femininity dimension (fig 4) provides a unique opportunity for teachers and students to examine core values within their cultures. The figure presents a situation where the teacher adheres mostly to *Masculine dimension* of Culture. While a small group of students tend to mirror this culture by scoring values close to the teacher's, a larger group of students revealed scores near to the 5.75 modal group. This graph shows a large disparity between the teacher's tendency towards the *Masculinity* dimension as opposed to the *Femininity* dimension exhibited by some students (t_{obt}=-8.14 at t_{crit}= 2.16, α= 0.05).

While the teacher emphasised strong academic performances where failing is perceived as catastrophic, some students tended to see failure as an opportunity to grow. Also, while the teacher orchestrated competitive tasks for his/her students highlighting individual achievement, most students adhered more to a culture of cooperation where the achievement of the group is perceived of a higher value than that of the individual. Students who conformed with the cultural precepts of the teacher were more 'visible' and hence acquired more attention from the teacher. The use of the BFMTL can be used productively by making both teacher and students aware of the disparity existing within this cultural dimension and to highlight possibilities as to how this can be bridged in the interest of all concerned.
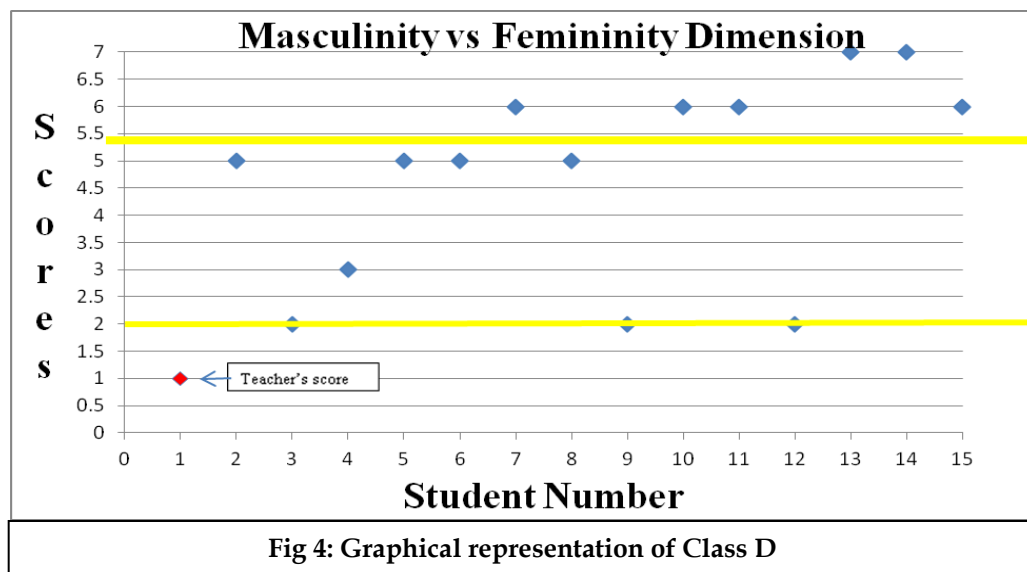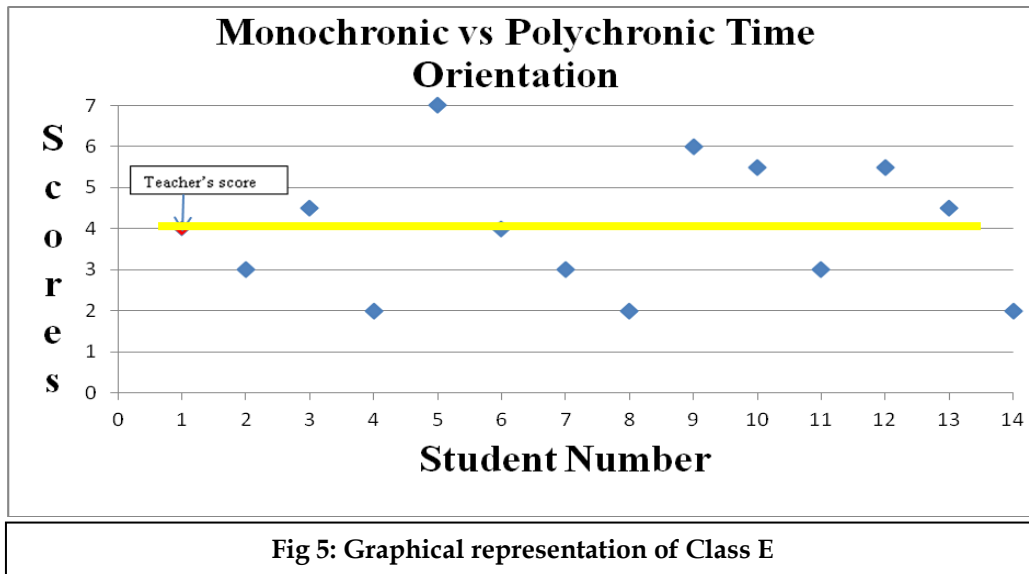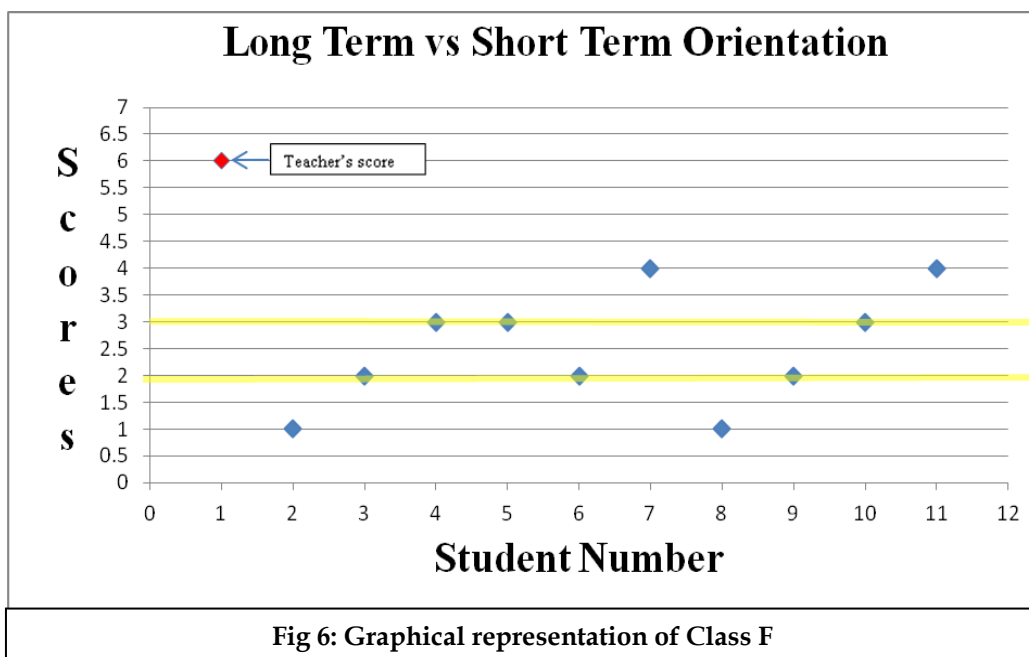

Fig 4: Graphical representation of Class D

Figure 5 examines Hall's (1959, 1976) *Monochronic* and *Polychronic* time orientations. A line of best fit (modal line) was passed through the teacher's score. It is observed that the points are dispersed but balanced. The teacher preferred the middle score in this dimension. A number of student scores were close to the teacher's score and hence no statistically different result was obtained (t_{obt} =0 at t_{crit}=2.179).

Other scores however, were distant from the modal score of 4 at both ends of the dimensions. In particular three students out of 13 scored a score of 2 and one student gave a score of 7. These results serve as springboards for researchers, teachers, managers and other stakeholders within the Maltese Educational System to identify those elements which pose variations in how practical tasks within the class are executed and to research mechanisms to establish whether the *monochronic vs polychromic* cultural dimension could be the underpinning responsible for such variations.

Fig 5: Graphical representation of Class E

An interesting but complex situation occurred in Class F (fig 6) with the teacher exhibiting a strong long term orientation and the students showing an inclination towards short term orientation. This is a situation which can cause conflict if not tackled appropriately by both teachers and students. The modal score lines in the graph represents a cluster of scores which show dissimilarity in the *long term vs short term orientation*. The scores show that it is vital for both teachers and students to be aware of these differences, foster a positive attitude towards each other, seek, and study literature on time orientations and work towards the embedded skills necessary to bridge these dissimilarities. Though it is recognized that this is a challenging enterprise, more needs to be done to provide the necessary fabric which would guide college professionals and students with the necessary linchpins upon which they can critically examine the impact of their own culture on the teaching and learning process.

Fig 6: Graphical representation of Class F

A similar situation but in rather reverse fashion occurred in the *clock time vs event time* dimension in class G (fig 7). While the teacher showed a clear tendency towards *clock time,* all his/her students exhibited an event time orientation. T-scores computed for this dimension showed a t_{obt} = - 8.57 as compared to t_{crit} = 3.012 (α= 0.01) and this suggests dissimilarities that there could be a potential source of conflict since while the teacher would show strictness in observing classroom timetables and be strict on assignment deadlines, students could be expecting more fluid time table arrangements and a margin of flexibility with regards to assignments and other classroom activities. The results make a case for the use of BFMTL as a tool for measurement and investigation of cultural discrepancies within the teaching and learning progression.

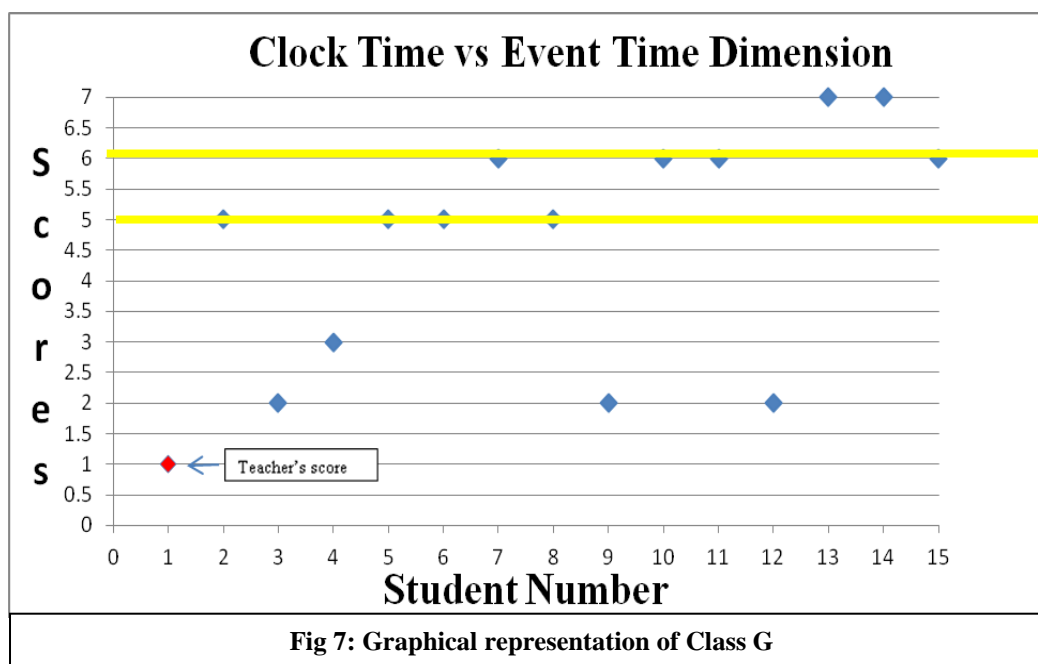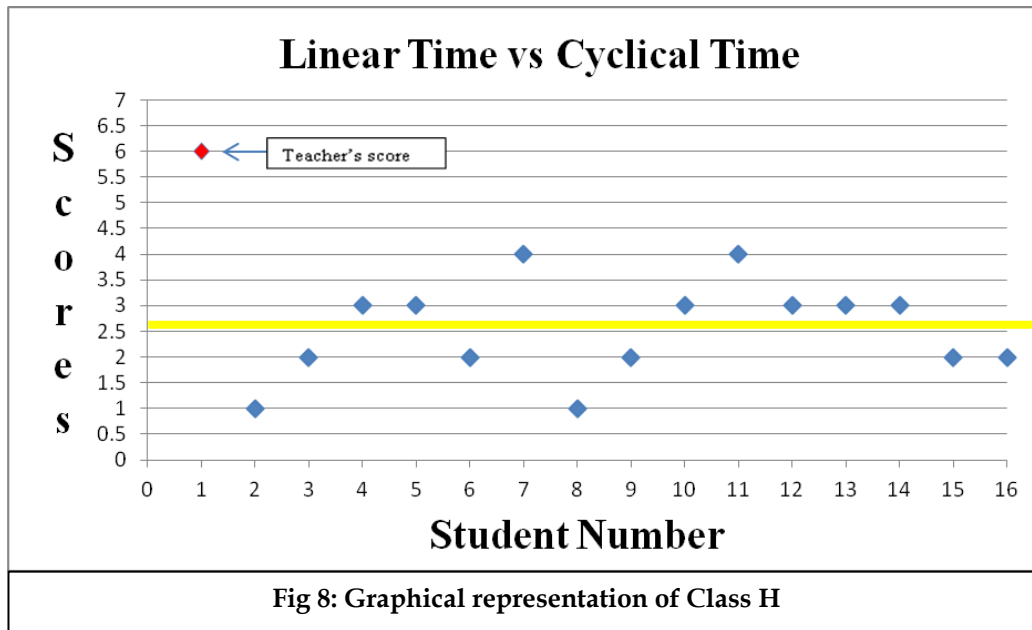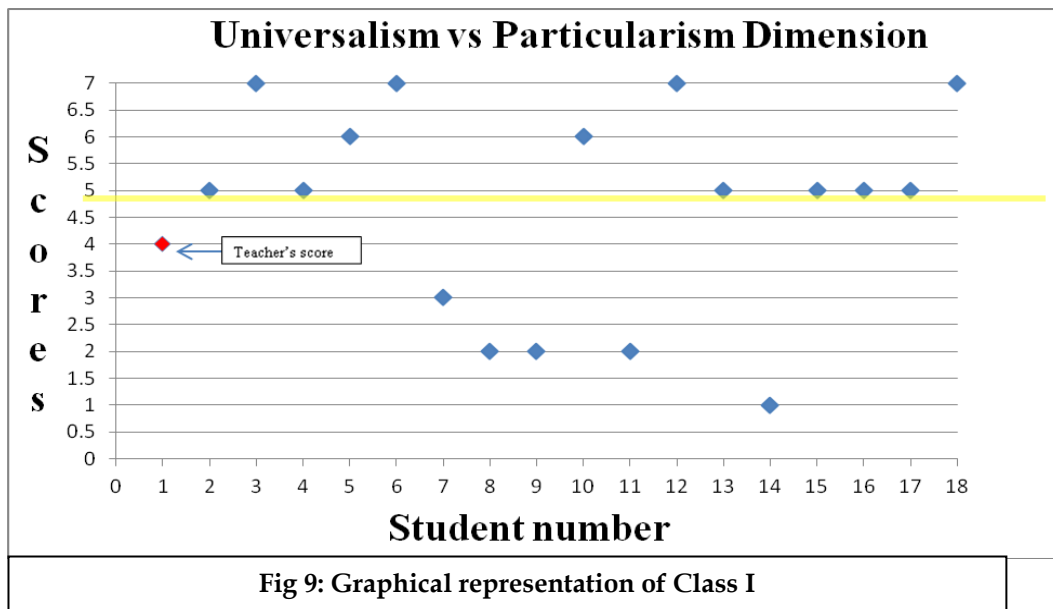**Fig 7: Graphical representation of Class G**

Figure 8 presents us with a picture of the *Linear Time vs Cyclical Time* dimension with the teacher scoring high on *Linear Time* and all the students scoring more towards *Cyclical Time*. The mean score of the students (x̄) was 2.53 which shows a statistically significant score when compared with that of the teacher (X= 6). This shows a clear disparity in *Time Values* between teacher and students. Most students showed the inherent need for reflective time, i.e. time to "digest" material before it actually makes sense. In this situation, however, the teacher score (X=6) was distant from student's perceptions which scored 1 and 2 respectively (t_{obt} = 15.18 at t_{crit} = 2.145, a=0.5). These disparities could be bridged by increasing awareness of different time orientations, stressing their values in different situations and by fostering an open attitude towards learning situations which demand different spans of reflection time. Experimenting with various student groupings, recording data from the BFMTL questionnaire and putting in practice the knowledge and skills acquired during the process would give both students and teachers an invaluable experience towards understanding the impact of culture on the teaching and learning mechanisms.

Linear Time vs Cyclical Time

Fig 8: Graphical representation of Class H

The *Universalism* vs *Particularism* dimension illustrates the complexity of the impact of culture on learning. The graphical representation of class I shows a diversified score, in terms of how students perceive their interrelationship with their teacher. About half of the students prefer to have a relationship based on rules and regulations while the other half expect a more dynamic and flowing relationship based on societal norms rather than an imposed set of in laws. The teacher score of 4 was close to the modal score of 5. The t-score for this dimension shows that the students mean score ($\bar{x}$=4.706) is not statistically different from the teacher score (X = 4 at t_{obt} =-1.506 at t_{crit} = 2.120 at α= 0.5).

Universalism vs Particularism Dimension

Fig 9: Graphical representation of Class I

The *Neutral* vs *Affective* Dimension (fig 10) shows that some students are affected by what happens around them while others are not. The middle score of 4 given by the teacher also illustrates the point that this dimension needs to be further

amplified to contain concrete examples upon which both teachers and students can build their perceptions. Researchers need to delve into deeper analysis as to what role can the *neutral* vs *affective* dimension have on the cultural impact on teaching and learning.
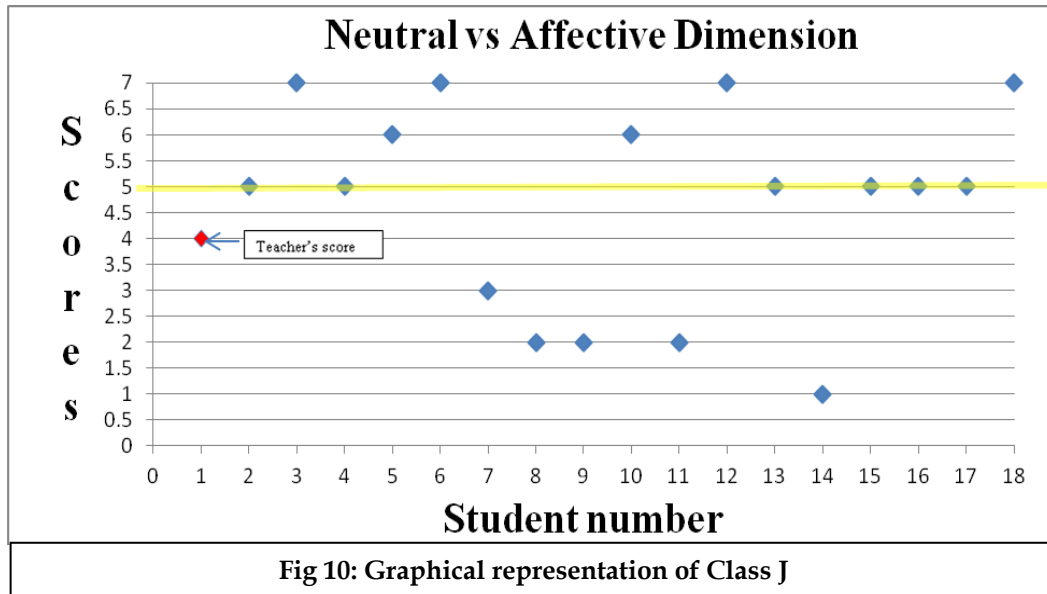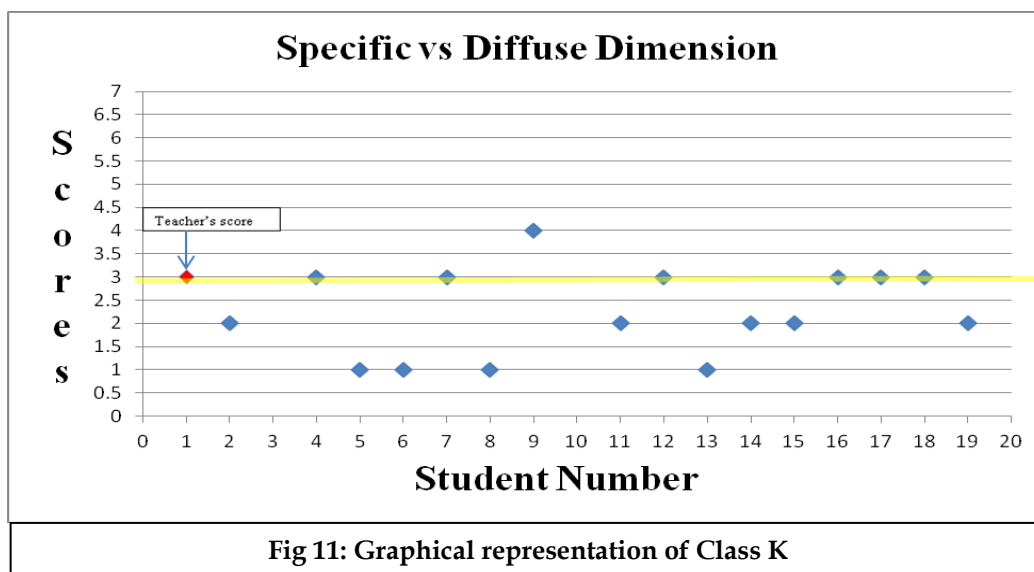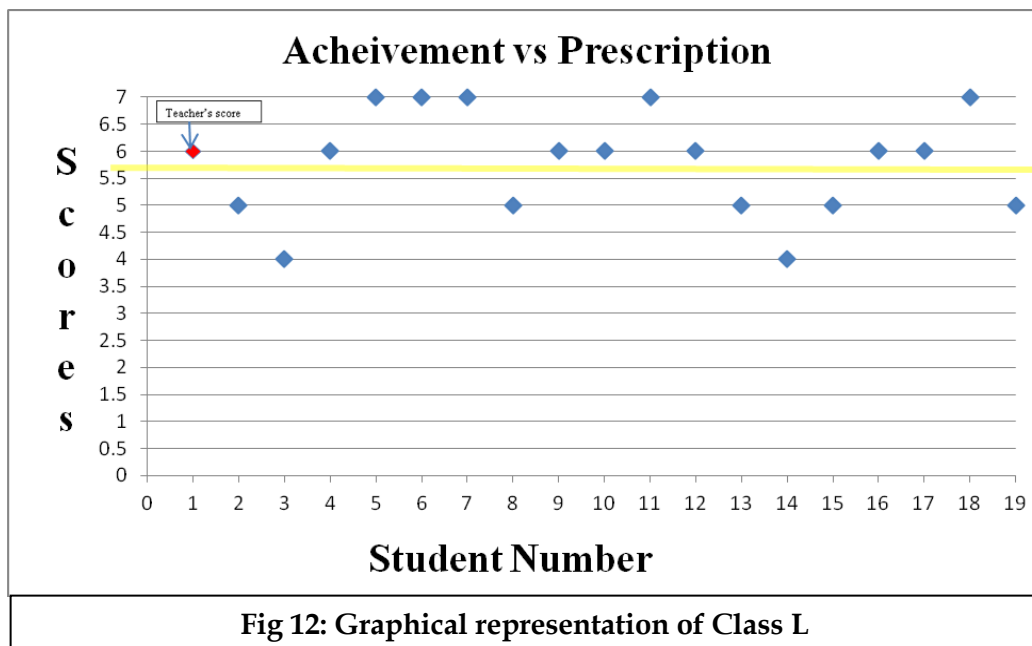

Fig 10: Graphical representation of Class J

Figure 11 represents the results of a culture which shows an inclination towards the *diffuse* aspect of this dimension. In class K, both teacher and students scored below 4 on the *specific vs diffuse* dimension. This illustrates a rather healthy situation where the individual components of the class communicate and share events and experiences arising from interaction in their work environments. This situation calls for direct intervention in helping the components of this class (teacher and students) to establish effective links between the work done in the classroom and its application in the working environment. Both the teacher's and the students' score indicate that a shift in orientation towards the more *specific* aspect of this dimension could prove beneficial.
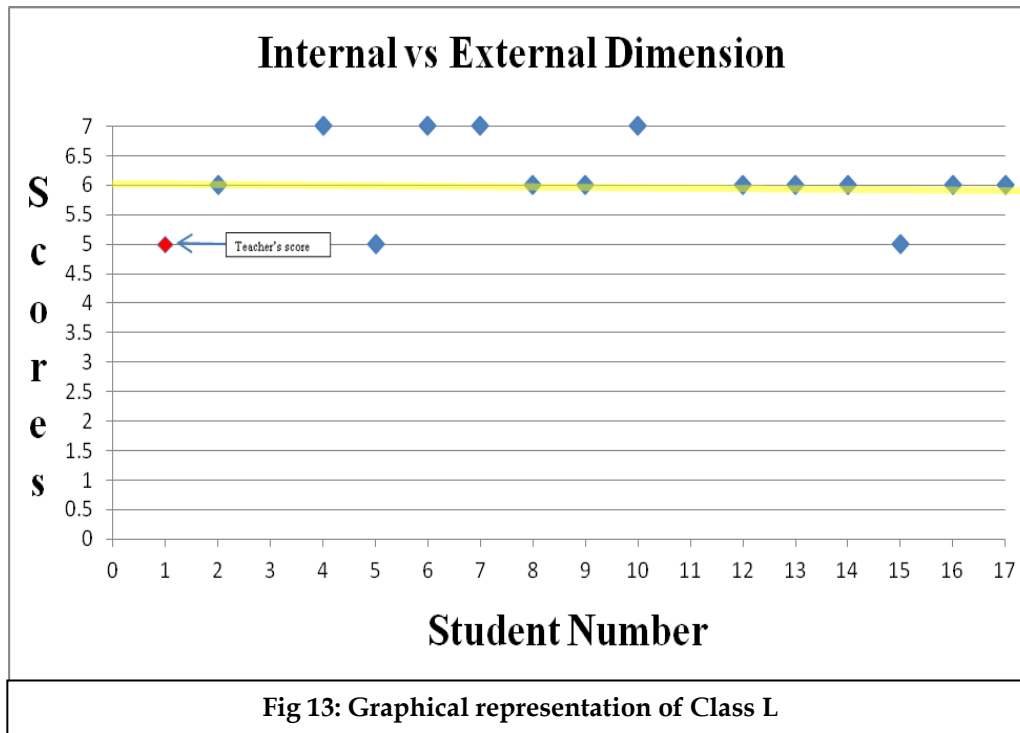

Fig 11: Graphical representation of Class K

The graphical result of the *Achievement* vs *Prescription* dimension highlights a situation where both teacher (X=6) and students (x̄=5.722) believe that *achievements* are the building blocks for success in life and not other factors such as age, gender and other personal characteristics (at t_{obt} = 1.076, t_{crit}=2.11, α=0.5). However, two particular scores (student numbers 3 and 14) show a significant shift from the rest of the class.

This indicates that these two students adhere to a culture where personal characteristics such as age and gender may have a significant influence on life successes. It would of benefit to both teacher and students to be aware of this data and to further investigate and appreciate the roots of such differences.

Fig 12: Graphical representation of Class L

The *Internal vs External* dimension measures the extent of difficulty in adjustment a person feels when s/he experiences changes in his/her immediate environment (for example a change in time table). Such change is also cultural since it tests the very ability of a person to adjust to circumstances. As shown in figure 13 (below), the scores recorded are on the upper side of the *Internal vs External* dimension. Statistical analysis of teacher and student data (X=5, x̄ = 6.143 t_{obt} = -6.69 at t_{crit} = 2.60, α=0.05) show that the whole group within the teaching and learning situation conforms more with the *internal* aspect of the dimension with students exhibiting a stronger tendency than their teacher.

Fig 13: Graphical representation of Class L

Discussion

The results of study have shed light on a number of cultural dimensions whose bilateral nature allowed the author to examine their presence in the classrooms. The results of this analysis suggest that there are significant differences among teachers' scores in cultural dimensions as opposed to students score within the same dimensions. These results also suggest that both teachers and students need to engage in reflective practices aimed at critically examining their own culture and how this influences their daily interaction. The results advocate for the use of the BFMTL questionnaire and to use the results as a springboard for the awareness of cultural dimensions present in the classroom and to understand the processes which influence the interaction between dimensions.

Student teachers need to be aware of research in cultural dimensions and their applications within the classroom environment. Field experiences should provide opportunity for cultural immersion and reflective practices. Teacher mentors within the Maltese educational system may act as mediators between NQTs (Newly Qualified Teachers) and students coming from different cultural backgrounds. The Ministry of Education and Employment in Malta may contribute by making all stakeholders within the educational system aware of existing multicultural teaching programs and theoretical frameworks and also lobby for funds directed towards training teachers in developing new and existing multicultural competencies.

Implications and Suggestions for Further Research

The study showed significant differences between teachers' and students scores across a number of cultural dimensions. The study implies that there could be other cultural dimensions which may be incumbent on the teaching and learning

process and which have not yet been studied. The establishment of focus groups consisting of teachers and students aimed at analysing particular aspects of specific dimensions is suggested. Further research could delve into particular aspects of *cultural dimensions* analysing interactive patterns between teachers and students, between students, between teachers, and also between management levels. How is our cultural programming conditioning us in acting the way we do? How is our cultural underpinning influencing our daily classroom and management decisions? What effect does our cultural upbringing has on the teaching and learning processes? How are various cultural dimensions influencing who we interact with?

Some teachers may have attended development sessions over a number of years where the impact of culture upon the teaching and learning process has been discussed and hence may have had the opportunity to practice acquired skills in their classrooms. Future research could capitalise on these experiences and use them as resources in the construction of multicultural training programs. Further research into the *cultural dimensions for teaching and learning* would provide opportunities for educational directorates to develop tailor made programs to address the specific needs of particular class groups. These may also include role play and discussions specifically targeting particular dimensions. Additional research could be carried out in determining which cultural dimensions have most influence on the teaching and learning process. Research could also be extended within the primary, secondary, and university sectors of education.

The author of the study has presented a number of snapshots across a number of cultural dimensions and expressed them in graphical format. It must be emphasized, however, that cultural dimensions are in a state of fluidity and can never be 'freezed' in time. Hence, replication of studies using test-retest procedures is suggested as good practice in understanding variations in cultural dimensions. Studies such as this one provide local authorities with the means to support teachers in their "struggle towards inclusion of multicultural students" (Giordmaina, 2000). Future teacher education programs and courses need to focus on preparing teachers for the challenge of teaching students of multicultural origin. Students need to be provided with induction courses aimed at familiarizing themselves with the cultural precepts of their fellow peers and those of their tutors.

Future research could be carried out linking the *cultural dimensions of teaching and learning* to other factors such as student's learning style, academic achievement, pedagogical styles, teacher cultural competency and others. Besides, during research, the author encountered cultures within cultures (subcultures) which could also have influenced teacher- student interactions, but this goes beyond the scope of this paper. Further research could delve into these subcultures and models should be reconstructed to include influences from such subcultures. Also future research could delve into the mechanisms which give rise to change in teachers' and students' cultural perceptions over particular periods of career or study.

Limitations of the Study

The study provides information on teachers already employed within the Maltese educational system and is prone to a number of limitations. The first limitation is the small sample size involved and the snowball sampling method used. The current study targeted specific classes which were known to contain teachers and students of a culture different from mainstream culture. This makes it difficult to generalize the results for teachers and students outside the sample. As with all self-reporting studies results are limited by the participants' responses. Participants may have felt the need to provide responses the researcher was looking for rather than what they perceived to be true. It must be stated that these dimensions represent extreme snapshots of stereotypical cultures. In reality cultures are dynamic and the scales presented in this paper are a continuum of what the author perceives and interprets as existing within classroom environment. It must be stated that no attempt is made to categorise cultures according to these dimensions. The literature review, however, provided a good fabric upon which to study cultural difference and their impact on teaching and learning. This paper celebrates the spectrums of variability rather than attempts to generalize differences between cultures. The Bilateral Framework for Multicultural Teaching and Learning does not purport to address all possible cultural dimensions. The intricacies and complexities of cultural dimensions, their evolutionary impact on teaching and learning and their inherent role in education and cultural transmission makes any attempt at constructing a framework impractical and elusive.

Conclusion

Multicultural education in Malta is still in its inception. Managers, teachers and students involved in multicultural settings may find the model useful to study and prepare themselves for the potential differences that they encounter as 'actors' in the teaching and learning process. The descriptions of thirteen key cultural dimensions in the BFMTL are suggested as a tool for culturally based learning differences so that can be recognized when they manifest themselves in class situations. The BFMTL questionnaire is a tool for educational stakeholders to critically examine their own cultural biases and analyse the magnitude of their impact in the classroom situation. Being cognizant of one's beliefs and behaviours and where they manifest themselves along a spectrum of differences can help construct different pedagogical approaches and hence create more nurturing school and classes.

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Appendix 1

Students' Questionnaire

Dear Students,

The aim of the questionnaire is to find ways and means to bridge cultural disparities which may exist between you and your teachers. Following your responses, a series of strategies to address these disparities will be suggested, based on findings. There are no right or wrong answers. Simply circle that best indicates the statements below. Responses range from 1 to 7. A **1** response indicates that you fully agree with the statement on the left while a **7** indicates that you fully agree with statements on the right. Thank you for your answers.

Example	**I take part** in class *decision making*.	**I do not take part** in class *decision making*.
	1---2---3---4---5---6--⑦	
1)	*Classroom power* is to shared between teachers and students.	*Classroom Power* should be in the hands of the teacher.
	1---2---3---4---5---6---7	
2)	**I** *take responsibility* for my own learning.	The **teacher** is the sole *responsible* for my learning.
	1---2---3---4---5---6---7	
3)	I prefer *dialogues* to top-down teaching.	I prefer *top-down teaching* to discussions.
	1---2---3---4---5---6---7	
4)	I prefer *structured* learning	I prefer *unstructured* learning
	1---2---3---4---5---6---7	
5)	I prefer *YES or NO* answers.	I prefer *OPEN-ENDED* answers.
	1---2---3---4---5---6---7	
6)	I build my learning on *previous experiences.*	I build my learning by *'exploring new territories.'*
	1---2---3---4---5---6---7	
7)	Homework should follow *strict instructions.*	Homework should be *a creative output.*
	1---2---3---4---5---6---7	
8)	I prefer to work *independently.*	I prefer to work in a *group.*
	1---2---3---4---5---6---7	
9)	In the class I prefer to *argue* rather than *listening*.	In the class I prefer to *listen* rather than *arguing*.
	1---2---3---4---5---6---7	
10)	I *don't like sharing* my	I *like sharing* my personal property.

	personal property.	
	1---2---3---4---5---6---7	
11)	I *take* initiative in class	I *do not take* initiative in class.
	1---2---3---4---5---6---7	
12)	In my family, *roles* are *rigid*.	In my family, *roles* are *flexible*.
	1---2---3---4---5---6---7	
13)	In my culture, *girls cry, boys don't*.	In my culture, *both boys and girls cry*.
	1---2---3---4---5---6---7	
14)	*Failing* at school is *disastrous*.	*Failing* is an *opportunity*.
	1---2---3---4---5---6---7	
15)	Teachers should admire *best students* in class.	Teachers should admire *team efforts* in class.
	1---2---3---4---5---6---7	
16)	A *personal certificate* is desirable at the end of the year.	*Class achievement* is <u>more important</u> than a *certificate*.
	1---2---3---4---5---6---7	
17)	I like *competitive* task.	I like *cooperative* tasks.
	1---2---3---4---5---6---7	
18)	I compare *myself* to other students.	I compare *my ethnic group* to other students.
	1---2---3---4---5---6---7	
19)	I make myself *heard* in the classroom.	I <u>don't</u> make myself *heard* in the classroom.
	1---2---3---4---5---6---7	
20)	I perform one task at a time.	I perform many tasks concurrently.
	1---2---3---4---5---6---7	
21)	I rely on established schedules.	I rely on information I get from peers.
	1---2---3---4---5---6---7	
22)	I prepare *long term* study plans.	I prepare *short term* study plans.
	1---2---3---4---5---6---7	
23)	I start <u>studying</u> *immediately at the beginning* of the year.	I <u>study</u> *just before* exams.
	1---2---3---4---5---6---7	
24)	I *give up* life pleasures to study.	I *balance* between life pleasures and study.
	1---2---3---4---5---6---7	
25)	I like it when lessons start <u>on time</u> and fish <u>on time</u>.	I prefer lesson time to be <u>flexible</u>.
	1---2---3---4---5---6---7	
26)	Class time has to be clearly scheduled on a time table.	Class time has to be fluid and flexible.
	1---2---3---4---5---6---7	
27)	Procedures have to be strict.	Procedures have to be fluid.

	1---2---3---4---5---6---7	
28)	Assignments have to meet deadlines.	Assignments deadlines have to be fluid.
	1---2---3---4---5---6---7	
29)	Time is not to be wasted. One should be quick if s/he to get results.	One should reflect before rushing through an activity.
	1---2---3---4---5---6---7	
30)	*Time management* is important.	*Adapting to time* is important.
	1---2---3---4---5---6---7	
31)	Opportunity knocks once !	There will be other opportunities.
	1---2---3---4---5---6---7	
32)	*Past* experiences in learning are not important. Let's work <u>now</u> !	Reflecting on *past* experiences is important for a good performance *now* and in *future.*
	1---2---3---4---5---6---7	
33)	Classroom regulations are more important than development of relationships.	Development of relationships are more important than classroom regulations.
	1---2---3---4---5---6---7	
34)	I am *not affected* by what happens around me at school.	I am *very much affected* by what happens around me at school.
	1---2---3---4---5---6---7	
35)	I *do not share* school experiences with family members.	I *share* school experiences with family members.
	1---2---3---4---5---6---7	
36)	I rely *solely* on my own achievements to succeed in life.	Besides achievement, age, sex and other qualities will help me to succeed in life.
	1---2---3---4---5---6---7	
37)	I find it *difficult to adapt* to changes (eg: time table)	I find it *easy to adapt* to changes (eg: time table)
	1---2---3---4---5---6---7	
38)	Class regulations are more important than relationships.	Relationships are more important than class regulations.
	1---2---3---4---5---6---7	
39)	I <u>do not care</u> about events happening around me.	I do <u>care</u> about events happening around me.
	1---2---3---4---5---6---7	
40	I <u>do not</u> share my school experiences with family members.	I <u>do</u> share my school experiences with family members.

	1---2---3---4---5---6---7	
41)	To move ahead in life you need to focus on <u>achievements</u>.	To move ahead in live you also need to focus on personal characteristics such as age, gender and personal experiences.
	1---2---3---4---5---6---7	
42	I find it <u>difficult</u> to adapt to changes (eg: time table changes)	I find it *easy* to adapt to changes (eg: time table changes
	1---2---3---4---5---6---7	

Teachers Questionnaire

Dear Teachers,

The aim of the questionnaire is to find ways and means to bridge cultural disparities which may exist between you and your students. Following your responses, a series of strategies to address these disparities will be suggested, based on findings. There are no right or wrong answers. Simply circle the number that best indicates the statements below. Responses range from 1 to 7. A **1** response indicates that you fully agree with the statement on the left while a **7** indicates that you fully agree with statement on the right. Thank you for your answers.

Example	*Decision making* **in class is** <u>**entirely my responsibility**</u>	**I** <u>**involve students**</u> **in** *class decision making.*
	1---2---3---4---5---6--⑦	
1)	*Classroom power* is to be <u>shared</u> between teachers and students.	*Classroom Power* should be in the <u>hands of the teacher.</u>
	1---2---3---4---5---6---7	
2)	**I** *take responsibility* for what my students learn.	Students are responsible for their own learning
	1---2---3---4---5---6---7	
3)	I prefer *dialogues* to top-down teaching.	I prefer *top-down teaching* to discussions.
	1---2---3---4---5---6---7	
4)	I prefer *structured* teaching.	I prefer *unstructured* teaching.
	1---2---3---4---5---6---7	
5)	I construct *YES or NO* type of answers	I construct *OPEN-ENDED* questions.
	1---2---3---4---5---6---7	
6)	I urge students to build their learning on *previous experiences.*	I urge students to '*exploring new territories'* while learning.
	1---2---3---4---5---6---7	
7)	I give assignments with clear *strict* guidelines.	I give assignments requiring a *creative output.*

	1---2---3---4---5---6---7	
8)	I urge students to work *independently.*	I urge students to work in a *group.*
	1---2---3---4---5---6---7	
9)	In the class I encourage *discussions* more than *listening.*	In the class I urge students to *listen* rather than to *discuss.*
	1---2---3---4---5---6---7	
10)	I <u>do not</u> *encourage sharing* in the classroom.	I <u>urge</u> students *to share* personal property.
	1---2---3---4---5---6---7	
11)	I *promote* initiatives in class.	I <u>*do not*</u> promote initiatives in class.
	1---2---3---4---5---6---7	
12)	In my family, *roles* are *rigid.*	In my family, *roles* are *flexible.*
	1---2---3---4---5---6---7	
13)	In my culture, *girls cry, boys don't.*	In my culture, *both boys and girls cry.*
	1---2---3---4---5---6---7	
14)	I perceive <u>*failing at school*</u> as <u>*disastrous*</u>.	I perceive <u>*failing at school*</u> as an <u>*opportunity*</u>.
	1---2---3---4---5---6---7	
15)	I admire *best students* in class.	I admire *team efforts* in class.
	1---2---3---4---5---6---7	
16)	I put more emphasis on *certification* rather than class achievement.	*Class achievement* is <u>more important</u> than a *certificate.*
	1---2---3---4---5---6---7	
17)	I prepare *competitive* tasks.	I prepare *cooperative* tasks.
	1---2---3---4---5---6---7	
18)	I compare *myself* (academically) to other teachers	I compare *my ethnic group* (academically) to other ethnic backgrounds.
	1---2---3---4---5---6---7	
19)	I make myself *heard* in the classroom.	I <u>don't</u> make myself *heard* in the classroom.
	1---2---3---4---5---6---7	
20	I perform one task at a time.	I perform many tasks concurrently.
	1---2---3---4---5---6---7	
21	I rely on established schedules.	I rely on information I get from peers.
	1---2---3---4---5---6---7	
22)	I prepare *long term* schemes of work	I prepare *short term* schemes of work.
	1---2---3---4---5---6---7	
23)	I urge students to *start studying early* through the	I urge students to study *just before* exams.

	academic year.	
	1---2---3---4---5---6---7	
24)	I urge students to *give up* life pleasures in order to study.	I urge students to *balance* between life pleasures and study.
	1---2---3---4---5---6---7	
25)	Lessons have to start <u>on time</u> and finish <u>on time</u>.	Lesson time has to be <u>flexible</u>.
	1---2---3---4---5---6---7	
26)	Class time has to be clearly scheduled on a time table.	Class time has to be fluid and flexible.
	1---2---3---4---5---6---7	
27)	Procedures have to be strict.	Procedures have to be fluid.
	1---2---3---4---5---6---7	
28)	Assignments have to meet deadlines	Assignments deadlines have to be fluid.
	1---2---3---4---5---6---7	
29)	Time is not to be wasted. Students have to be quick if s/he wants results.	There should be opportunity for reflection and contemplation before attempting a task.
	1---2---3---4---5---6---7	
30)	Time management is important	Adapting to time is important.
	1---2---3---4---5---6---7	
31)	Opportunity knocks once !	There will be other opportunities.
	1---2---3---4---5---6---7	
32)	I urge students to forget about their *past learning* experiences and start working from …. <u>now</u> !	I emphasize the importance of reflecting on *past learning experiences* and use these experiences *now* and in *future.*
	1---2---3---4---5---6---7	
33)	Classroom regulations are more important than development of relationships.	Development of relationships are more important than classroom regulations
	1---2---3---4---5---6---7	
34)	I am *not affected* by what happens around me at school.	I am *very much affected* by what happens around me at school.
	1---2---3---4---5---6---7	
35)	I *do not share* school experiences with family members	I *share* school experiences with family members
	1---2---3---4---5---6---7	
36)	I rely *solely* on my own achievements to succeed in life	Besides achievement, age, sex and other qualities will help me to succeed in life
	1---2---3---4---5---6---7	

37)	I find it *difficult to adapt* to changes (eg: time table)	I find it *easy to adapt* to changes (eg: time table)
	1−2−3−4−5−6−7	
38)	Class regulations are more important than relationships.	Relationships are more important than class regulations.
	1---2---3---4---5---6---7	
39)	I <u>do not care</u> about events happening around me.	I do <u>care</u> about events happening around me.
	1---2---3---4---5---6---7	
40	I <u>do not</u> share my school experiences with family members.	I <u>do</u> share my school experiences with family members.
	1---2---3---4---5---6---7	
41)	To move ahead in life you need to focus on <u>achievements</u>.	To move ahead in live you also need to focus on personal characteristics such as age, gender and personal experiences.
	1---2---3---4---5---6---7	
42	I find it <u>difficult</u> to adapt to changes (eg: time table changes)	I find it *easy* to adapt to changes (eg: time table changes
	1---2---3---4---5---6---7	