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# NEUROLINGUISTIC PROGRAMMING (NLP): ITS OVERVIEW AND REVIEW IN THE LENSES OF PHILOSOPHY AND PEDAGOGY

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## ABSTRACT

*Standing for Neurolinguistic Programming, the acronym 'NLP' has become an emergent approach to communication and personal development which has gained worldwide interest. Containing a set of strategies that is highly claimed to be effective in enhancing oneself personally, NLP has also become progressively more recognisable in the education sector. Nevertheless, NLP is still considered to be virtually absent from the academic realm, particularly in relation with learning and pedagogy. This silence suggests a dire need to expand academic practices studying and discussing NLP. Hence, this paper depicts the current state of knowledge regarding NLP in both the philosophical and the pedagogical aspects. This review suggests that there exist the bridging links between NLP, its philosophical foundation and pedagogy through certain theories like Constructivism and Information Processing. Some pedagogical relevance of NLP is also discovered in catering to its widespread into the educational world at all levels. Besides offering practicable knowledge to the teaching and learning stakeholders, this article is anticipated to create a more dialogic discourse within the academia, especially to add to the dearth of the discussion pertaining to NLP in philosophy and pedagogy.*

**Keywords:** *Neurolinguistic Programming, Philosophy of NLP, NLP in Pedagogy*

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## **INTRODUCTION**

The acronym ‘NLP’ has burgeoned into various professionals and individuals. Standing for Neurolinguistic Programming, NLP has gained worldwide interest. NLP is seen as a model that contributes to the development of the field of human communication and behaviour (Harman & O’Neill, 1981). Despite a few provoking debates highlighting its scientifically undemonstrated concept (Witkowski, 2012), NLP remains a set of strategies that is believed to be highly effective in both a personal enhancement method and a therapeutic procedure (Sahi & Maatta, 2013; Kong & Farrell, 2012).

Since its first public training seminar in 1975, NLP training is provided to popularly known companies such as NASA, McDonald’s and Hewlett-Packard. This is not to mention its wide recognition in public administrative and educational institutions in most parts of the globe including the United States of America, United Kingdom and Asian countries like Malaysia, Thailand and Singapore. The claimed effectiveness has resulted in growing number of NLP practitioners around the world and this could explain the high commercial value it has.

Nevertheless, NLP is still considered to be virtually absent from the academic realm (Witkowski, 2012; Peker, 2010; Tosey & Mathison, 2010). This silence suggests a dire need to expand academic practices studying and discussing NLP. Hence, this paper aims at briefly revisiting the history of NLP and describing it as to allow readers to comprehend the nature of its underlying elements. Then, the paper reviews NLP from the perspectives of philosophy and pedagogy thus recommending readers to have a critical dialogue over the discussion.

## **NLP: AN OVERVIEW**

### **A short history of NLP**

It was in the mid-1970s at the University of California that Richard W. Bandler, a Mathematician and later a Gestalt therapist, and John Grinder, a psycholinguist began to develop a methodology which is intended to allow

human capabilities be modeled by others (Tosey & Mathison, 2010). They systematically studied the performance and practices, or what Stipanovic, Renner, Schutz and Dond (2010) term as cognitive and behavioural patterns, of highly successful therapists namely Fritz Perls, Milton H. Erickson and Virginia Satir. This methodology development was later joined by Leslie Cameron-Bandler, whose background is psychology, and Judith De Lozier, trained in religious studies. Other early developers who also contributed significantly include Robert Dilts and David Gordon. The combination of diverse knowledge expertise with the intention of disseminating the identified behaviours of highly excellent people (in order to enhance individuals' personal and professional life) has resulted in a procedure known as 'modeling', which then produces a set of formulated NLP tenets.

## **Defining NLP**

From the early development of NLP, we come to learn that NLP is an art of achieving excellence or success. It revolves around how people think, act and interact. This reflects how the brain functions and how the language is used to perform at a peak level, both intrapersonally and interpersonally.

The discussion brings us to look into the definition of NLP terminology in a discrete manner. The word 'neuro' refers to the mind and how mental life is organised (Sahi & Maatta, 2013). Stressing on the nervous system comprehensive function, all behaviours stem from neurological process, in which information is absorbed in through the five senses and processed by the brain. This process, according to Kong and Farrell (2012), occurs both consciously and subconsciously.

If 'neuro' means the way human experience the world through their senses, the term 'linguistic' reflects the way we use language to make sense of the world. In other words, it is used to capture and conceptualise the processed absorbed experiences and later communicate them to others. Through language, not only we transmit our thought to people, but also to consider the point of how we are affected.

As for the word 'programming', it implies the control an individual has over his or her own desired behaviour. Sahi and Maatta (2013) explain

that thoughts, feelings and actions are subconscious programs which are alterable in adjusting to the context of being. The idea of changing the program or simply known as ‘reprogramming’ reflects the flexibility element NLP propagates.

Hence, the title NLP denotes the interconnection between the brain (neuro), the language (linguistic) and the behaviour (programming) of a person. This suggests the view that an individual is a whole mind-body system proposing a tagline “What I think, What I feel, What I say and What I do is one system”. However, albeit the name and its discrete and holistic connotations, Tosey and Mathison (2003) remind their readers that the term NLP has no direct connection to neuro-science, or to computer programming.

## **DESCRIBING NLP**

In NLP, there are a set of assumptions which are familiarly known among its practitioners as ‘NLP presuppositions’. These presuppositions, according to Peker (2010), need not be accepted as absolute truths. However, if they be regarded to underlie every thought and action of an individual, there is a probability of him or her to see himself or herself as a responsible individual in leading life. Listed below are the presuppositions:

- The map is not the territory
- Life and mind are systemic processes
- Every behaviour serves a positive intention
- Every behaviour is useful in some contexts
- The meaning of one’s communication is the response one gets
- There is no failure, only feedback
- Resistance is a sign of lack of rapport



- If one human has done it, that means it is humanly possible
- All genius, excellent and amazing achievements have a structure and a strategy, thus can be learned
- The person with the most flexibility and choices of behaviour rules the system
- There are no resistant clients, only flexible communicators
- We have all the resources we need
- We create our own experience
- Communications are non-verbal as well as verbal

Learning about the presuppositions as the nature of human behaviour, we would like to also highlight the four pillars of NLP. The execution of any strategies in enhancing one's life or in promoting positive changes is basically based on these four pillars (Figure 1):

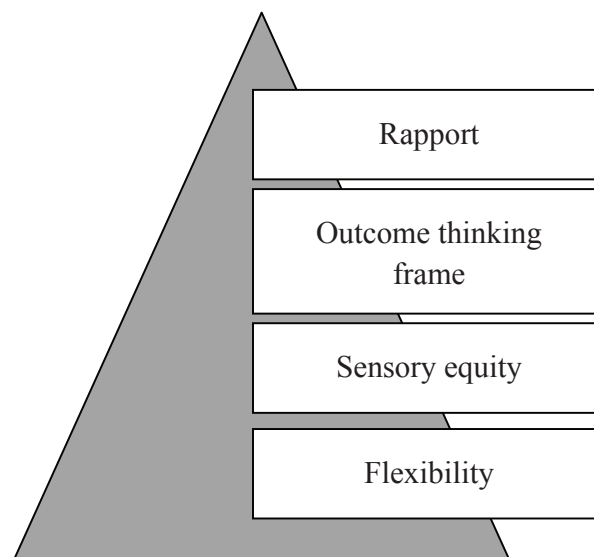


Figure 1: Pillars of NLP

Establishing rapport is among the key ingredients to a successful communication. NLP believes that having a good rapport increases the possibility of influencing others as it assures individuals trustworthiness and the desire to listen and interact. Besides rapport, NLP focuses on the outcomes or the solutions rather than the causes of certain problems. With its goal-oriented belief, NLP is claimed to challenge the assumption that personal change necessarily involves long-term therapy and is only possible with insight into the past (Bandler & Grinder, 1979 as cited in Tosey & Mathison, 2010). NLP also makes sensory awareness as its pillar. This includes utilizing the senses to understand a person's cognitive and behaviour patterns. The senses in this context refer to visual, auditory, kinesthetic, olfactory and gustatory (VAKOG). Another important concept in NLP is the matter of flexibility. Having a range of skills and techniques would allow individuals to choose the available options in reaching the goals or meeting the outcomes.

From the observation made on the leading therapists, Bandler and Grinder postulate NLP's 'meta-model', which is generally deemed to be the core model of NLP. It identifies language patterns that are believed to manifest basic cognitive process (Tosey & Mathison, 2003). In this article, we will describe the three main elements of meta-model: Deletions, distortions and generalizations.

Generally, deletions, distortions and generalizations are ways in which individuals inadequately or inaccurately represent their experiences (Harman & O'Neill, 1981). A person is said to demonstrate deletions in his or her speech when he or she says "I'm not good". This statement has some missing parts – not good at what? Another way deletion is experienced is when a person is focusing too much on certain thing or matter till he or she misses other things or matters. To illustrate, a young man is focusing on getting himself a blue book that he deletes books with colours other than blue.

As for distortions, Harman and O'Neill (1981) describe them in two situations: (1) a linguistic process called nominalization and (2) an experience in which individuals assign outside themselves responsibilities that are within their control. Nominalization happens when a person represents an ongoing process (which is alterable) as if it were a fixed or an unchangeable event. Meanwhile, the second situation could be

comprehended through this example: “My friend makes me sad”. NLP believes that it is not possible for another person to ‘make’ anyone feel a certain way. A distorted thought portrays that a person is not holding responsibility for experiences under his or her control.

Another element in meta-model, generalisation, refers to situations when individuals are not specific enough in describing certain experiences. To illustrate, when a person says, “Everybody hates me”, he or she is making a generalization in which it is almost impossible that he or she is hated by all people, while he or she does not even know everybody in the world.

These three elements of meta-model: generalizations, distortions and deletions, function as filters to the external experiences absorbed by the five senses (VAKOG). The failure of filtering the experiences the right way would possibly result in failures in setting the internal representation, thus affecting one’s state of mind and this could further impact one’s physiological reactions (one’s behaviour).

Other than the presuppositions, the pillars and the meta-model, NLP, too, stands on the notion of Preferred Representational System (PRS). The founders of NLP argue that every experience is composed of information absorbed via the sensory systems (VAKOG) (Witkowski, 2012). According to Harman and O’Neill (1981), if our PRS is visual, that is taking in experiences through seeing, then it follows that we store information (memory) in the same system and the same applies to retrieving the information. A visual person is likely to have a mental image when remembering. However, it is essential to note that people do use all their representational systems, yet they are believed to have a favoured system that they rely on mostly.

Another fundamental property of NLP is ‘Accessing Cues’. NLP practitioners use these accessing cues to determine their clients’ PRS in order to enhance rapport and communication effectiveness. One way of doing it is by listening to the predicates (verbs, adverbs and adjectives) people use. For instance, a visual person would probably say, “I don’t *see* what you are saying. I don’t get the *picture*.” An auditory client would respond, “I don’t *hear* what you are saying. It doesn’t *sound* right to me.” Meanwhile, a kinesthetic says, “I don’t *grasp* what you are saying. It seems out of

my reach.” Besides paying attention to the language used, watching eye movements is another way to identify one’s PRS. Looking upwards indicate a person’s visual cognitive activity whereas a person who is auditory would have the tendency to look horizontally. On the other hand, eyes downwards reflect the kinesthetic PRS of a person. In brief, individuals’ language and eye movements may tell us their PRS and this may help establish a good rapport.

Discussing NLP and its ostensible discoveries, in this paper, we would also like to expose readers to other NLP’s popular techniques: Matching and mirroring; anchoring; and reframing. These techniques are derived from the presuppositions, the pillars and the meta-model of NLP. As described earlier, NLP pays much attention on establishing rapport. To meet this objective, other than exercising accessing cues, practitioners practice the technique of matching and mirroring. This technique refers to the activity of establishing similarities or pacing clients’ verbal and non-verbal behaviour (Witkowski, 2012). The anchoring technique, on the other hand, is a process of attaching a desired emotional state with a specific stimulus (Harman and O’Neill, 1981). Stimuli such as a sound, a touch and a facial expression are deliberately inserted at a time when a person is fully in touch with certain experiences. Unwanted behaviours, too, could be removed through anchoring and be replaced with useful ones. As for reframing, it refers to the process of changing the meaning one holds of certain things or experiences. According to Jemmer (2006),

*Pure experience has no meaning. It just is. We give it meaning according to our beliefs, values, preconceptions, likes and dislikes. The meaning of an experience is dependent on the context. Reframing is changing the way you perceive an event and so changing the meaning. When the meaning changes, responses and behaviour will also change (p. 17).*

## **NLP THROUGH THE LENS OF PHILOSOPHY**

Being a provocative concern in today’s arguments on NLP, Bandler and Grinder omitted the critical stage of empirical verification of their assertions (Witkowski, 2012). They believed that the process was partly redundant

and deemed it unnecessary, thus directly formulated the model and put it into practice. Questions and debates arise seeking for further informed perspective on the nature of NLP (Tosey & Mathison, 2003). Taking this as a concern in the current scholarly needs, we believe that discussing NLP from the perspective of philosophy would contribute to extending its academic literature. We openly invite readers to respond to this young attempt at bringing NLP to a philosophical dialogue. This discussion would revolve around the three main philosophical branches: Ontology, epistemology and axiology.

To begin with, NLP is highly interested in the way people construct their experiences through cognitive processes (Kong & Farrell, 2012). From the lens of ontology, or the nature of reality, this idea of experience construction is basically a nature of human development. This suggests that NLP is a part of the study of mankind and its nature, or philosophically termed as humanology (Abdul Rahman, 2005). There may be arguments propagating that Bandler and Grinder's intention was to remain close to experience and avoid abstract discussion about the truths of human experience (Tosey & Mathison, 2003), yet we do believe that as knowledge expands, its stance ought to be made solid. NLP, in a deeper ontological perspective, is believed to belong to the psychological component, in which it draws much attention to the study of cognitive – impacting the domains of affective and psychomotor of a human being.

While we are clear that NLP concerns about human and their personal development, it is undeniable that many are still arguing its vague theoretical foundation. To illustrate, Tosey and Mathison (2010) agree that NLP is difficult to define succinctly. Regarded to be transdisciplinary, NLP is seen to apply the element of pragmatism as it was not intentionally developed to create a theory (Tosey & Mathison, 2003). This brings us to discuss NLP's epistemological dimension, for epistemology deals with approaches to knowledge and knowing.

To relate to the epistemological streams, we would like to suggest that NLP stems within almost both mainstreams: Rationalism (logic) and empiricism (senses). The central philosophy of the NLP model, which is summed up in the phrase 'the map is not the territory' (Witkowski, 2012) explains how a person bases his or her behaviours on the unique element

of logic and rationalism. Every person's thoughts differ from one another as rationalism considers subjectivity in the ability of thinking (which does not apply to animals since they do not possess the ability to rationalise) (Abdul Rahman, 2005).

On the other hand, NLP, too, is said to portray the element of empiricism because of the emphasis on sensory equity outlined in its pillars. According to Abdul Rahman, (2005), the philosopher Epicurus holds onto the belief that senses are the sources to true knowledge and even if there is a mistake, it is due to the mistake in the rational judgment. Nevertheless, it is essential to note that the presuppositions of NLP do indicate that the model does not rely solely on the senses as the sources of knowledge.

Hence, in facing the conflict between the rational and the empirical sources, the philosophical studies are enlightened with the establishment of eclectic philosophy. It highlights the need of the combination of both rational and empirical elements in attending any humanly problems. The diverse expertise of its founders has impacted on eclecticism in building the NLP tenets. Within NLP, according to Tosey and Mathison (2003, 2010), we can identify the influences of Gestalt therapy, person-centred counseling, transformational grammar, behavioural psychology and cybernetics, the Palo Alto school of brief therapy, Ericksonian hypnotherapy and the cybernetic epistemology of Gregory Bateson.

To add to that, in the light of epistemology, Tosey and Mathison (2003) note two aspects of how NLP is related to an individual's reality construction. First, NLP regards that verbal reports are possibly be literal accounts of individuals' inner experience. In lieu of this, people use all the senses to code experience internally and the uniqueness lies in how the internal representations result in certain thought processes and related behaviours. Second, NLP holds onto the conception that people's language patterns reveal some of their epistemological processes that is reflected through the ways we map our territory of experiences and thus guiding our actions.

As to view NLP from the perspective of axiology, it is crucial that we revisit the history of its development. It is now known that NLP is born from the intention of modeling a set a cognitive and behavioural patterns of successful people. This meaningful aim manifests the importance of

‘values’. In the earlier discussion of NLP epistemology, we did touch on the element of pragmatism promoted in NLP. According to Abdul Rahman (2005), a pragmatist focuses on what he or she is able to do, its benefits and its practicality when it comes to situational and reality contexts. Besides, from another viewpoint, we could also see the congruence between the NLP presuppositions and the value of self-responsibility in leading life. In other words, NLP indoctrinates the value of ‘pulling one’s own weight’ in its principles of achieving success.

## **NLP IN A PEDAGOGICAL VIEW**

To date, other than therapists and counselors, the academic community has also shown interest in NLP (Tosey & Mathison, 2003). With the pragmatic philosophy NLP portrays, Tosey and Mathison (2003) believe that it holds immense potential for education at all levels including higher learning. In this paper, we discuss the pedagogical possibilities of NLP according to these respects: Knowledge acquisition, teacher training and classroom management.

In regard to knowledge acquisition, we would like to first attend to the matter of related learning or educational theoretical underpinnings. Craft (2001) highlights that NLP draws on the fundamental assumptions of the social constructivism framework. This is due to its nature of promoting learning in an experiential and social manner. Besides, NLP bases its principles on actions following the negotiation of meaning construction attached to certain experiences of an individual. The concept of every person creates his or her own ‘map’ is also agreed by Tosey and Mathison (2003) to underpin the constructivist approach.

Following the idea of knowledge construction, Kong and Farrell (2012) view the process of acquiring knowledge through the principle of information processing theory. As learned in NLP preferred representational system (PRS), the five senses (VAKOG) play vital roles in aiding a person’s learning. Identifying individuals’ PRS would allow them to learn effectively. Besides, from the viewpoint of teaching and learning, recognizing the learners’ PRS helps teachers or instructors to enhance their teaching styles and techniques. According to Kong and Farrell (2012) too, NLP enables

continuous learning among learners as they may use the information and feedback to improve what they are doing. In this respect, we would like to add that NLP is also seen possible to promote independent learning when learners are exposed to the concept of meta-learning or simply known as 'learning how to learn'. Knowing the best strategies that suit ones' PRS is a key to learning effectively.

Besides, NLP is found to be pedagogically relevant in teacher training. With the model of communication it promotes, we do believe that NLP may help future teachers to instill the right philosophy of teaching when it comes to the notion of knowledge sharing. Perceiving knowledge as a constructed process, we do hope that teachers view education more than a process of merely giving and recalling the information. Not only that, we agree with Peker (2010) who claims that NLP prepares a platform for teachers to reprogram their teaching in the classroom. This refers to the communication style of the teacher, specifically in building a good rapport with the learners (Stock, 2010), establishing quality teacher-learners relationship, developing fun and engaging teaching techniques and not to forget enhancing the teachers' classroom management.

## **CONCLUDING REMARKS**

In this article, we have attempted to briefly introduce the history of NLP and discussed its general background. Addressing the scarcity of its discussion in the academic realm, we made the endeavor to discuss NLP from the perspectives of philosophy, particularly in the views of ontology, epistemology and axiology. Besides, we also review some pedagogical relevance of NLP in catering to its widespread into the educational world. This article is anticipated to create a more dialogic discourse within the academia, especially to add to the dearth of the philosophical and pedagogical discussion pertaining to NLP.

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# WRITING QUALITY OF NON-NATIVE MA THESIS: PERCEPTIONS AND PRACTICES OF EXAMINERS AND STUDENTS

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## ABSTRACT

*Amongst extensive research on thesis writing quality, few provide a detailed account of common writing challenges/errors as perceived by examiners vs. students. In this study, eight recent English theses marked-up by examiners and defended in Iranian universities were selected randomly among those thesis made available (n=45). Based on an appraisal of comments written by examiners, a set of common challenges were drawn, which was confirmed by observations made by the researcher in viva voce sessions and then inspired questions about thesis writing quality. When administered to twenty examiners and seventy students, the most recurring themes in their practice were confirmed. The results draw a more precise picture, than previously available, of what examiners actually expect of a thesis and found four major areas of challenges in thesis writing, classified under lack of clarity in explaining, thesis formatting, grammatical errors and organisational inconsistencies. Findings also discussed the most significant practices in writing each chapter and reveal differences in perceptions of students/examiners.*

**Keywords:** *writing quality, thesis examination; examiner expectations; writing challenges; research training*

## **INTRODUCTION**

Writing theses is an important showcase of excellence in all fields of study, and the expectations are high particularly in the context of Teaching English as a Foreign Language (TEFL) since many Iranian students are/will be either teachers of English or have their jobs related to English teaching. Therefore, postgraduate students and their supervisors and/or examiners of their writing are anticipated to be aware of high standards of writing. These concerns make the quality of dissertation writing in TEFL even more serious than other fields of study. In second language writing research, few studies have focused on exploring thesis writing in contrast to essay writing. There are at least two important reasons for the neglect of thesis text as a unit of research, one being less accessible than other publications (books and articles) and another, is the huge size of the thesis as unit of analysis.

Quality of Second Language Writing is an important expectation in university settings, especially in writing a postgraduate thesis. Examiners and postgraduate students writing their thesis have differing perceptions and expectations of writing quality. Their relationship is comparable to expert and novice writers, or native and non-native writers. Understanding the perceptions and practices of students is vital because it can set a localised plan of corrective action towards writing errors. The examiners' practices are also important and thus quality of writing is determined according to their perceptions and expectations. Thus, a double amount of challenge can be envisaged for English-related majors in non-English-speaking countries who should write in English as a second or foreign language, and their first lengthy piece of serious writing is their MA thesis in English. Moreover, students at postgraduate level are expected to produce similar levels of writing quality as native speakers because academic writing of dissertations or theses cannot be compromised because of non-native status of the writer. Moreover, second language (henceforth L2) writing quality is often assumed to be a key factor for success in career prospects as well as everyday work.

Despite such evidence of the importance of L2 writing, comparatively little research has been conducted in this area. It is given that any writing task in a second or foreign language can become very challenging if they are lengthy and there are high expectations. Writing a thesis is an inevitable writing task that meets both of the above-said criteria of difficulty. Moreover,

writing a thesis is of an urgent nature because postgraduate students should write one in a limited time and with guidance. In Iran, the MA students are only allowed 6 months to complete a thesis with a possibility of six months as extension. Most supervisors have many postgraduate students and extensive hours of teaching commitments which are higher than standard practices elsewhere due to increase in population at higher education. Thus, writing a MA thesis is one of the most challenging tasks non-native writers would face in their academic life. Therefore, as expected, many EFL/ESL writers commit errors in writing and finding, and treating those errors from the examiners' point of view could be a contribution to failure in postgraduate education. This study sheds some light on the differences between examiners and postgraduate students perceptions by clarifying their criteria for judgments of quality of writing.

### **Rationale for the study**

The quality of writing reflects the quality of thesis itself. Most research in the area of thesis quality has been conducted in English as the native language of the students, e.g. in Australia, Mullins and Kiley (2002) studied a sample of 30 experienced examiners, or Holbrook et al. (2004) who focused on corpus of examiner reports. Their method was followed by Stracke and Kumar (2010) in a similar study. Examiners in Iran are not required to formally submit detailed reports before viva. Rather, they fill in checklists, authorise viva sessions to be held and then write most of their detailed comments on the margin of thesis apart from examining during viva.

This study situates itself in the Iranian context of booming higher education, especially the recent sharp rise in postgraduate and MA level student intake. In this context, as well as many similar contexts, the examiners comment according to the indicators of thesis quality, on which they also base their recommendations.

### **Research aims and objectives**

The objectives of the study are divided into general and specific. The overall goal of the research is to find out the predictors of quality by

classifying and categorising the errors that affect the quality of L2 writing, dissertations in this case, from the point of view of examiners as well as students. Two major components of these specific objectives are the views expressed and actions conducted by the examiners and students. The views are aimed to be elicited from the observations of the examiners drawing on their knowledge as well as experience and the actions through actual comments and notes written by the examiners on the submitted drafts of theses and subsequently through corrections made by the students on the final version of theses. Being an examiner is said to be a big responsibility with little promise, according to Pearce (2005: 1). This study is thus ultimately aimed at improving understanding between students and their examiners in Pearce's (2005: 2) terms 'deflated' or 'dispirited'. A study in a similar context conducted by Sadeghi and Khajepasha (2015) revealed that theses mainly suffer from style and language problems, rather than, content and methodological and far less from organisational problems.

What this study does not aim to, is to emphasise the ubiquitous however insignificant instances in the practice of some examiners, such as what is called 'nit-picking' or focusing on trivial points. However, this cannot further be trivialised as Pearce contends that the thesis student is often faced with series of minor writing problems while the major expectation is that the student should be prepared to defend the thesis as a whole. Anyhow, the significance of style and presentation cannot be underestimated in the eyes of examiners. If examiners feel irritated about writing style, they may use it 'as an excuse not to engage with the substance of the text' (Pearce, 2005: 3). The writing errors are more easily targeted even in the case of a second common scenario explained by Pearce (2005: 4), when a jealous colleague is appointed as internal examiner. In any case, the common writing problems should be given the attention they deserve to avoid unwanted consequences.

## **Research Questions**

Based on the suggestions made in literature and the need perceived in the local context, the following research questions are proposed.

1. What are the most common writing errors examiners find in EFL Iranian students dissertations?
2. Is the perception of the quality of L2 writing dissertations the same among students and examiners?

## REVIEW OF LITERATURE

Studies have investigated the difference between perceptions of native and non-native English speakers (NNS) in evaluating students' writing (James, 1977; Hughes and Lascaratou, 1982; Santos, 1988; Kobayashi, 1992; Hinkel, 1994) some have also explored the difference between expert writings of native English speakers and nonnative English speakers (Connor-Linton, 1995b; Kobayashi and Rinnert, 1996; Hamp-Lyons and Zhang, 2001). However, few studies have focused on the perceptions of thesis examiners as they assess and comment or students as they write and respond. The perceptual difference between these two groups who need to understand each other closely is of crucial importance because if their understanding varies, the results might be unfavourable for writing dissertations. Hinkel (2004) argues that inadequate knowledge of second language grammar and vocabulary as well as the complexity of the task of writing dissertation itself are the reasons for the lower quality of theses written by non-native speakers as compared with native speakers in general even if highly advanced NNS writers improve their writing quality by decreasing the number of errors. Therefore, it is safe to assume that students alone may not be able to face this challenge. NNS students usually resort to several strategies to fill this gap, from attempting to learning useful writing patterns (Okamura, 2006), as well as obtaining feedback from their peers or supervisors (Tsui and Ng, 2000; Liu and Sadler, 2003; Burrough-Boenisch, 2003), avoid difficult structures by using simple language (Hinkel 2002). Limited research has been conducted in each area, and there is a gap in researching the comments written by the examiners on submitted theses.

There are linguistic features of quality of writing that were researched and suggested in previous research, although some predictors are non-linguistic. McNamara, Louwerse, McCarthy, and Graesser (2010) distinguished high quality from low quality texts using the linguistic criteria

and computational instruments. The three most important linguistic features of quality of writing are syntactic complexity, lexical diversity, and word frequency. In a study conducted in Japan, again the length of writing was correlated highly to writing quality (Mellor 2010). Despite the importance of linguistic features, other non-linguistic features are essential in writing quality of dissertations; such that Yu explains ‘the quality of a discourse, written or spoken, is defined and shaped by various linguistic features other than diversity in vocabulary (e.g., quality of handwriting, structural features of writing; good pronunciation or being fluent in speaking)’ (Yu, 2007: 80). The examiners, however, do not have time or tools to measure linguistic features of writing quality. Even if they could, they would not opt for an elaborate a statistical process of examining every single dissertation they encounter. They judge them intuitively.

Current practices of L2 writing are increasingly said to lack challenging environment to engage students who want to master L2 writing (Mirhassani, Samar, and Fattahipoor, 2006). The postgraduate students dealing with dissertation writing are those who do not learn much out of their classes, either, as their academic writing experience is extremely limited and are not as complex as it should be to meet the requirements of university and courses. When they are encouraged to improve their writing, there is only an emphasis on successful completion of writing rather than providing adequate support that students need to improve writing. Therefore, students may not receive necessary support for the university level writing. In such situations, students are left to teach themselves. The examiners are (or should be by law) detached from writing practice of students and comment on the product while in fact the supervisor or writing instructor should actively teach writing as a process and scaffold students in a step by step fashion (Atkinson 2003:10) and we suggest they can use insights from common errors, perceptions and practices to better achieve their goals. The comments on product may be repetitive and unclassified. If the errors students make are categorised locally, they can be a basis for teaching writing deliberately which in turn would guide them to improve the quality of writing. In short, the awareness of L2 writing is not easy to acquire from teaching in classroom alone and perceptions of writing quality diverge.



## RESEARCH METHODS

The research method are designed and triangulated to capture perceptions in multiple ways. In order to make the method robust and decrease the possibility of estimation error, a corpus-driven content analysis, viva voce observations, and questionnaire data are used in this study. An analysis of written products and examiners' notes and comments were gathered and supported with observations to confirm the examiners' comments. In other words, both qualitative and quantitative methodologies are used to explore and confirm the results. In following sections, the participants in the study, instruments of data collection and the procedures for data analysis are explained further.

### Participants and Instruments

To answer the first research question which is to find the most common writing errors EFL Iranian students have in writing dissertations in the perception of examiners, a pool of EFL dissertations with examiners' comments were collected as the corpus in this study. The theses were defended in four universities, namely University of Tehran, Shahid Beheshti University and Islamic Azad University (two Branches). The examiners' comments were usually written on the margins of the texts intended for examiners. The comments were explored and used as a basis to find the most common errors in writing dissertations from the examiners' points of view. The theses were all defended 2013 onwards, which indicate a relatively recent account. In total, eight full MA dissertations were randomly selected from the assessed theses in the English Departments of the universities. The criteria devised by Sadeghi and Khajepasha (2015: 362) were used initially as an instrument (See Appendix 1): All of the theses were written in English as a second or foreign in the field of Applied Linguistics within the English Department. The reason for the sampling, apart from the accessibility, is that the choice of a homogenous sample in terms of field of study, department, year and examiners, makes it easier to compare and draw implications from.

## **Preparing the questionnaire items**

As mentioned previously, the list of common error patterns was used as guiding themes to obtain further data in a few viva sessions where the respective students and examiners were present. The data combined from the corpus analysis and semi-structured observations are summarised in (Table 5). It provided the tool to answer the second research question, where the points of divergence in the perception of examiners and students began to take shape. The next sections will further explain how the questionnaire was developed, validated, administered, scored and analysed.

Since self-administered surveys reduced the chance of bias introduced by the interviewer, hence the next phase of the study was conducted through questionnaires. A collection of potential items created the item pool, which other than some verbal creativity, were mostly based on two sources. First, qualitative, exploratory data obtained from informants, e.g. notes taken after viva voce meetings (n=20) where the first researcher was the examiner, and second, brainstorming with colleagues who were examiners in the universities mentioned previously and most significantly from the comments examiners had written in the theses. Few questions were obtained from experienced colleagues. Then, a reductive process began where the researchers omitted repetitive questions and edited wordings to make them clearer. A pilot test was done with a few colleagues where items with ambiguous wording were revised and tested.

## **Instrument validation**

Reporting appropriate internal consistency is an absolute requirement and is the first index to be reported before indicating evidence from two types of validity. Thus, the questionnaire was administered two times with a few cases thought to be representative in the pilot phase. Test-retest reliability showed an internal consistency Cronbach  $\alpha = 0.74$ , which falls at an acceptable level (between  $0.8 > \alpha \geq 0.7$ ) according to George and Mallery (2003).

### **Content validity**

For the purpose of providing content validity evidence, the piloted version of the questionnaire was given to three experienced examiners to see whether they judged the items as valid and true representation of the perceptions and practices of examiners and students. They were encouraged to make comments and suggestions on the clarity of the wording, difficulties during completion, layout and style of the tool. Table 4 is the final version of questionnaire. Their comments were mostly to rectify style. A limitation of this method can be the mode of marking used by examiners in that the examiners employ the more traditional mode of writing in margins or commenting in a word processor or both. Johnson et al. (2012) confirms that the mode of marking did not affect marking accuracy.

### **Construct validity**

In this study, the respondents' psychological features, age, gender and other personal or demographic features were used due to two reasons. First, sufficient information was available of profiles of students and examiners. Second, other methods were more suitable for longer questionnaires which elicit data from larger number of participants. Inevitably, more statistical methods can be used in future studies when the questionnaire items and sampling get more diverse and beyond the preliminary level of trial.

### **Concurrent validity**

Parallel version questionnaire was used to collect some evidence on concurrent validity. Another version of the same questionnaire (See Appendix 1) was developed using SurveyMonkey templates. The results from administering it to similar respondents; students (n=10), examiners (n=5), show a strong positive correlation with the results obtained in the prototype main version. The correlation coefficient was at .80. Furthermore, the reliability was measured by Cronbach's Alpha and the results showed an alpha coefficient of .83 indicating a good level in the overall index of reliability (Clark & Watson, 1995).

## **Research Procedures**

In sum, the study was conducted in two phases. Phase I of the study, the exploratory phase, is when the most common writing errors EFL Iranian students were found. This procedure contained a content analysis of written academic theses in 2013 and 2014. The intervening variables were controlled (e.g. year of termination, field of study, number of examiners, etc.) to reduce the possibility of error due to variability in examiners views and departmental practices and norms. The analysis was based on the criteria illustrated in Table 1.

In Phase II of the study, which is the confirmatory phase of the study, a quantitative approach was used to describe the perceptions of examiners and students of the writing quality. The corrected version of the finalised theses submitted to university library were also sought to find out comments of examiners which were promptly dealt with by students and those which were not. The themes drawn from viva observation were combined with the themes of error analysis conducted in phase I.

**Table 1: Universal Framework for Thesis Writing**

Preliminary pages	<ul style="list-style-type: none"> <li>• Title page</li> <li>• Committee page</li> <li>• Dedication page</li> <li>• Acknowledgment</li> <li>• Abstract</li> <li>• Table of contents</li> <li>• List of Tables, Figures, abbreviations, etc.</li> </ul>
Chapter 1: Introduction	<ul style="list-style-type: none"> <li>• General background information on the study</li> <li>• Purpose and significance of the research</li> <li>• Research questions and hypothesis</li> <li>• Definition of key terms</li> </ul>
Chapter 2: Review of the literature	<ul style="list-style-type: none"> <li>• General review of relevant literature and report on theoretical frameworks relevant to the problem</li> <li>• Report on previous research relevant to the problem (major findings, how they were obtained and what can be learned from them)</li> <li>• Critique of previous research studies (problems in design, instrumentations and analysis techniques as well as their contribution to the literature)</li> <li>• Statement of the gap in the literature and the rationale for the study</li> </ul>
Chapter 3: Method	<ul style="list-style-type: none"> <li>• Research design</li> <li>• Participants</li> <li>• Research instruments</li> <li>• Procedures</li> </ul>
Chapter 4: Results	<ul style="list-style-type: none"> <li>• Statistical techniques for data analysis</li> <li>• Findings of the research</li> </ul>
Chapter 5: Discussion and conclusion	<ul style="list-style-type: none"> <li>• A re-statement of the research problem</li> <li>• A re-statement of the results</li> <li>• Discussion and interpretation of the findings in relation to previous research on the topic</li> <li>• Limitations</li> <li>• Implications</li> <li>• Suggestions for further research</li> </ul>
References / Bibliography Appendices	<ul style="list-style-type: none"> <li>• Comprehensive list of all sources</li> <li>• Questionnaires, tests, etc.</li> </ul>

## RESULTS

Some of the most common errors are found to be due to students' L1 Farsi influence. Eight theses were analysed for examiner comments (See Appendix for a sample of actual comments by examiners). Overall, the common errors are found at two levels; micro-level include unfamiliar grammatical elements like the use article (a/an/the), incomplete structures, etc. as well as macro-level issues with consistency and clarity of writing expression. The following areas were found as recurring areas of problem in the total thesis pool: lack of concern for APA style, incoherent writing, awkward writing style, acknowledgment, inappropriate headings, incomplete structures,

inconsistencies in presenting examples, inconsistencies in explaining treatment procedure (what is done for control group?), lack of clarity in presenting figures, lack of clarity in explaining the differences of treatment methods for groups, lack of clarity in explaining the differences of post-test with pre-test procedures and their results, lack of clarity in presenting discussions (needs revision), lack of clarity in theoretical framework.

The above points serve as a basis for the content analysis of the sampled dissertations (n=8) as commented by examiners and corrected by students. The means for each error category are presented in the first column in Table 2:

**Table 2: The Frequency of Comments Written by Examiners in the Dissertation Corpus**

<b>Recurring problem areas found in theses</b>	<b>Mean</b>	<b>T1</b>	<b>T2</b>	<b>T3</b>	<b>T4</b>	<b>T5</b>	<b>T6</b>	<b>T7</b>	<b>T8</b>
Lack of concern for APA style	1	1	0	0	1	1	2	1	2
Incoherent writing	1	1	1	0	0	1	1	2	2
Awkward writing style	1	0	0	1	0	1	2	2	2
No Acknowledgment	2	3	1	0	1	0	4	4	3
Inappropriate headings	2	3	1	2	1	2	1	2	3
Incomplete structures	4	2	3	3	4	4	5	5	6
Inconsistencies in presenting examples	3	3	3	2	3	2	3	4	4
Inconsistencies in treatment procedure	2	1	2	1	1	2	3	3	3
Lack of clarity in presenting Figures	2	2	0	0	2	2	4	4	2
Lack of clarity in explaining the methods	1	1	0	1	0	0	2	2	2
Lack of clarity in procedures and results	2	1	2	1	2	2	3	3	2
Lack of clarity in presenting Discussions	1	1	0	0	1	2	1	1	2
Lack of clarity in theoretical framework	1	1	0	1	2	0	1	2	1

Table 2 depicts the frequency of comments written by examiners in the corpus. The first column is the mean of statistics from eight theses in each column. The data were sampled from available theses drafts. Thus, there will be no claim on generalisability. Incomplete structures are found to be the most frequently occurring problem since in average there are 4 instances in each thesis. Inconsistency in presenting examples, with 3 instances on average, is the next frequent error that affects writing quality.

After analysing the submitted version of the theses marked by the examiners, the final version submitted were accessed through the library and reviewed again to analyse which comments were taken into account or discarded. Since students do not comment on the examiners' comments, we could not have a detailed explanation of why they revised in the way they did. The final revised version served as an indicator of their performance which might not always be in line with their perceptions. Observations made in some of the viva sessions served to triangulate the data and draw out the common themes. Table 2 shows the number of errors corrected by the students in each category in the dissertations corpus.

Table 3 categorises the comments of examiners corrected by students in the corpus. All the inconsistencies and lacks of problems were listed in Table 2 are re-grouped into four main problem areas, namely Lack of clarity - in explaining or presenting; Thesis formatting; Grammatical errors; and Inconsistencies in presenting with examples and details for each subcategory. Two raters were given the marked and final copies of the thesis to judge how many comments were actually implemented. Comparing Table 2 and Table 3 shows that students could only partially correct their theses based on the comments of examiners.

**Table 3: The Comments of Examiners Corrected by Students in the Corpus**

Main problems		Examples/details
Lack of clarity - in explaining/ presenting	the differences of/between/ among	Treatment methods for groups Post-test with pre-test procedures and their results
	theoretical framework Discussions (needs revision) Figures	
Thesis formatting	Writing style	Incoherent/awkward
	Special sections	e.g. Acknowledgment
	Categorization	e.g. Inappropriate headings
	Lack of concern for APA style	
Grammatical errors	Micro	Article use (the/a/an)
	Macro	Incomplete structures
Inconsistencies in presenting	Presentation	Margins
	Content	Examples

The information obtained from the last two tables prompted the development of a questionnaire applicable to a wider audience or data points. Notably in Table 4, at least one choice out of each multiple choice item in the questionnaire was related directly and explicitly to writing quality. The choice regarding writing quality could be spotted by the students if they perceived them as more important than other thesis quality features. This served to avoid the research artefact of responses being made necessarily focused on a writing quality at the expense of other stylistic and organisational themes that examiners usually focused. The data obtained from the students and examiners served as a triangulation of research data with corpus analysis. The same common themes were the basis of the questionnaire where the resulting mean and standard deviations confirmed the results obtained from the analysis. Table 3 shows the questions developed based on the feedback received from the student participants. The themes that compose item stems and responses were drawn from a content analysis of comments written by examiners.



**Table 4: The guiding questions used and the themes drawn from examiners**

<b>What examiners most probably focus on/ ask examinees in an English defense session in Iran?</b>		<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
1	In Chapter 1	Research Question	Limitations of the study	Key terms	
2	In Chapter 2	Proper citation	Coverage of topics	Coverage of local studies	Other
3	In Chapter 3	Randomizing participants	Low number of participants	Prejudiced writing	Other
4	In Chapter 4	Monotonous writing	Lack of skill in APA style	Redundancy in Figures & Tables	Other
5	In Chapter 5	Mistaking the Results with Conclusions	Wrong or inaccurate Implications	Little real argumentative writing or Discussion	Other
6	Which Chapter is generally more focused on in Defence Session of Thesis?	Chapter 1	Chapter 2	Chapter 3	Chapter 4
7	What are the most frequent grammatical errors in Iranian students' dissertation writing?	Passive Constructions	Incomplete Structures	Improper use of Tenses	Article use (the/a/an)

Over 70 students and 20 examiners completed the questionnaires. The results are depicted in Table 5, with a mean shown for students and examiners separately. The percentage clearly shows a mismatch between the perceptions of examiners and students in a meaningful way, yet the difference is not statistically significant. Paired sample t-test also concluded that there is no statistically significant difference between the two groups. The difference could be due to chance. The questionnaire results shown in Table 5 compare teacher-student perceptions in the most significant writing points in each chapter of the theses. The significance computed is two-tailed and the p-value is 0.005. The result of the t-test showed 0.9 which is above 0.05 and therefore difference is not statistically significant.

**Table 5: The questionnaire results comparing examiner-student perceptions in the most significant points in each chapter of the theses**

Student and examiners perception		Students' perception (n=70)				Examiners' perception (n=20)			
		a	b	c	d	a	b	c	d
1	In Chapter 1	27	16	19	8	10	4	4	2
2	In Chapter 2	34	17	13	6	6	3	10	1
3	In Chapter 3	31	30	9	1	4	10	3	3
4	In Chapter 4	33	29	7	1	5	10	4	1
5	In Chapter 5	29	17	10	4	11	4	5	0
6	Which Chapter is generally more focused on in Defense Session of Thesis?	11	15	18	26	17	1	1	1
7	What are the most frequent grammatical errors in Iranian students' dissertation writing?	24	20	7	19	12	3	3	2
Total Mean		27.00	20.57	11.86	9.29	9.29	5.00	4.29	1.43
Percentage		<b>39%</b>	<b>29%</b>	<b>17%</b>	<b>13%</b>	<b>46%</b>	<b>25%</b>	<b>21%</b>	<b>7%</b>

As per the second research question, the following data analysis was done based on the results obtained in Table 5. Pearson product-moment Correlation coefficient, shows that in at least three out of the four choices (a, c, and d) made by examiners and students, the correlation is negative. It indicates that the perceptions between the two groups diverge. In other words, the inter-correlations between the perception of examiners and students were done between the counterpart choices, e.g. mean scores of each choice of examiners and students (choice a with choice a; choice b and choice b and so on). The results show that the only positive significant correlation is between choice c of each group and the rest of the correlations are negative. This results in a negative correlation as total average of all choices, which indicates a wide divergence between the examiners and students. In the discussion section, we explore how redemptive action is necessary to bring their perceptions closer.

## DISCUSSION

The Universal Framework for Thesis Writing (Paltridge and Starfield, 2007) was considered to be familiar for both students and examiners (Table 1). This assumption, although true, turns out to be insufficient for ensuring mutual understanding between thesis examiners and students. One should acknowledge, perhaps no universal framework for thesis writing can be considered as a baseline since perceptions and understandings of students need to be checked to see if they matched closely enough with those of the examiners. Another point which was revealed from the findings is about the conduct of the examiners themselves. They claim or believe they use Universal Framework for Thesis Writing as a baseline. However, in personal communication with one of the examiners, it was revealed that they rely more on their intuition and previous experience of examining than any fixed guidelines. This is also apparent from their comments given on thesis drafts. Also the comments are supported with data from the viva voce sessions. Examiners of MA theses in Iran (where foreign status of English is considered a hindrance than help) would not expect a critical appraisal of the degree and the depth that Holbrook et al. (2007) would expect in a PhD thesis in Australian context.

The similarities and differences were the basis of themes taken from the content analysis data and final reduction to four main areas of lack of clarity - in explaining or presenting, thesis formatting, grammatical errors, and inconsistencies in presenting. The sub-areas are only the closest match (Table 3) and could well be re-categorised in another context. Areas of challenges in writing are presented in Table 3 as a synthesis of views held by students and examiners.

For example, lack of clarity, in explaining or presenting ideas consists of comments on students' writing regarding their examples or treatment methods for groups, and post-test with pre-test procedures and their results. Examiners commented that there were also other areas where explanations were not sufficient or clear such as the theoretical framework of the study, discussion sections or chapters in general as well as the figures which were not appropriately captioned or explained in text which needed further revisions. The problems relating to thesis formatting such as writing styles which were frequently incoherent or awkward, beside that, the writing of

sections such as Acknowledgments were also not appropriately written. This shows how attention to such style and language matters can improve the whole image of the thesis in the eyes of examiners.

Another point to discuss is that examiners commented on how the students categorise their theses since they observed frequent cases of poor headings, repetitive or converging sections. This emphasises the importance of organisation and can be interpreted as students' insufficient skill to diagnose their content, which in turn relates to their lack of experience. A suggestion is to train students to practise of thesis writing through tasks that break thesis into smaller pieces and consider this as transferrable skill.

Several issues relating to the use of APA and grammar can be related to the students themselves since these are normally taught in Iranian MA taught modules/courses. The lack of concern for APA style was evident when APA was explicitly mentioned as the norm for referencing. Perhaps, students need more hands-on practice with APA in the relevant course modules such as Essay Writing and Research Seminar. Micro-level as well as macro-level grammatical errors were also the issue that need attention. Interestingly, article use and incomplete structures were the most frequent grammatical errors at the micro and macro level respectively since both elements are not found in L1 Persian of the writers. Thus, it is very challenging for the thesis writers to implement those items correctly.

Inconsistency in presentation of the thesis was the last frequent issue found in content analysis. The formatting of some theses were inconsistent despite the stipulation of the rules. This type of problems can only be due to hasty preparations. The second aspect of inconsistencies in presenting the content in which examples or exemplifications were found inconsistent.

## **CONCLUSION AND IMPLICATIONS**

The contribution of this research lies in not only explaining the benefits of the knowing the perceptual difference between students and examiners but also in throwing some light on the concept of quality of L2 writing, i.e. writing of thesis. Many courses and resources provide help for them in this process, but none has categorised the errors in terms of frequency and

significance from the actual comments given by the examiners or attempted to bridge the perceptual difference between writers and their examiners. The current study addresses this need and provides implications for the practice of writing and assessing EFL theses. Ultimately, thesis examiners are the ones who set the standard of what is acceptable as a thesis (or dissertation) and the award, thus understanding their perceptions of quality of writing a thesis is paramount. Hence, making difference in perceptions sufficiently clear is a contribution since this enables the students to focus more on particular points of conflict and also to find the most common errors from examiners' point of view lucid so that awareness of such issues may lead to increase in quality of writing MA theses in the described context. Since high standards of writing are mandatory for evaluation of theses, thus, responsible action should be pursued to address this issue that can ease the challenge in the practice of writing and assessing EFL theses at a large scale. Similar to the insights gained from a related study of Fook and Sidhu (2009), the findings of such awareness-raising studies empowers the faculty to be more receptive to the needs of students which in turn also enable them to address the critical problems more effectively. It is suggested that general essay writing courses as in-service or pre-service education are not sufficient and specifically designed courses on how to improve L2 writing is useful for L2 writers. These courses should work on assimilating the perceptions of examiners and students (who function as L2 writers and examiners) or at least bridge the gap and create a common ground for understanding the criteria for writing and assessing. It would also be extremely useful if these courses also focus on the most common errors in L2 writing. These the errors should be treated in action while writing up theses. Teachers should also be vigilant to find out the most common patterns of error emerging in writing dissertations and be prepared to take responsible action or intervention in correcting the students' errors and improving their practice. It may involve, at times, less direct error-correction and more awareness-raising about the differences between L2 and L1 writing and urging the students to produce multiple writings to give them the opportunity to excel themselves.

The results of this study can be compared to studies conducted in this area but with different research instruments and on various majors that span beyond English major. The research can be replicated to see if the same results are produced. Examiners may have reservations and may not want to give away the so-called 'tricks of the trade', so a more

viable recommendation is to hold workshops in which the process of writing and common writing errors are discussed generally from different perspectives, e.g. the potential examiners and writers take turn to discuss the most significant challenges in writing a dissertation. Such practices require specific skills.

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## APPENDIX 1

A detailed initial framework (adopted from Sadeghi and Khajepasha, 2015) and description of problem types and their examples in a sample of theses

### Thesis #1

Problem type	Examples
Language	Padding is frequent; e.g. differential effects of different instructional treatments...
Style	Writing style is not academic particularly in 'Acknowledgements' section.
Content	The link between contents of initial sections in chapter 1 is weak.
Methodological	Treatment procedure is not clear.
Organisational	Guidelines reserve Chapter 5 for 'Discussions' but they are mixed with 'Results' in Chapter 4.

### Thesis #2

Problem type	Examples
Language	Rosy language (gilding the lilly) is observed; e.g. excellent teachers, very experienced
Style	Figures and Tables are not in APA style.
Content	In the section on 'Significance of the study', the gap in literature is mentioned without mentioning the importance and novelty of research.
Methodological	Control group does not receive the unmarked instruction (should not be deprived).
Organisational	Guidelines reserve Chapter 5 for 'Discussions' but they are mixed with 'Results' in Chapter 4.

### Thesis #3

Problem type	Examples
Language	The use of the Articles is mixed (the/a/an)
Style	Writing style is prejudiced
Content	Local studies are not covered
Methodological	Sufficient attempt is not made to randomise participants
Organisational	Conclusions are written mistakenly in 'Results' section.



# AN INVESTIGATION ON THE DIMENSIONS OF SERVICE QUALITY IN PRIVATE SCHOOLS

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## ABSTRACT

The study was conducted to investigate the level of service quality for different dimensions based on the perception of private school teachers towards service quality. The investigation indicated level of perception for different dimensions namely tangibles, responsiveness, empathy, reliability and assurance. A questionnaire on Service Quality (SERVQUAL) was administered to a total of 93 teachers in private schools in Selangor, Malaysia. The findings indicated that teachers at the selected private schools had significant higher perception when the level of perception was compared with the middle score of the scale (middle score =5.5 with full scale ranging from '1' to '10'). On the other hand, the results indicated that the teachers' perceptions for all the dimensions were significantly more than the middle scale of '5.5'. The dimensions in the service quality were significantly correlated. Dimensions of assurance and empathy have been identified as important dimensions in the service quality. These two dimensions were highly correlated with responsiveness as well.

***Keywords:*** *service quality, dimensions of service quality*

## **BACKGROUND OF THE STUDY**

In realizing educational inspiration, mission and vision, the private sector also plays a vital role in the education system. There are many private schools which have been set up by the private sector especially in urban areas and these schools offer pre-school, primary and secondary education as well as post-secondary or pre-tertiary education. Private education is well-rooted in the Malaysian education system and the history of private education in Malaysia can be traced way back to the 1950s. However, private schools are required to follow the Malaysian curriculum. Therefore, these private schools have to use the National Pre-school Curriculum for pre-school education and the National Curriculum for primary and secondary education as required by the Education Act 1996. In addition, private schools are opened to both local and international students. As a requirement before operating and recruiting students, it is a mandatory for these schools to obtain approval from the Ministry of Education, through its Private Education Division. As for private schools that accept international students, they need to obtain a license from the Ministry of Home Affairs.

Thus, private schools need to show fulfillment of service quality which is one of the necessary requirements. In line with this, leaders play an important role in providing good quality service in order to satisfy customers' requests in term of the quality of teaching, service, curriculum, leadership, management and administration, supervision, students and organization environment culture as well as staff development. Undeniably, pre-tertiary education is also a basic investment necessary to improve the overall quality of life; thus, aspects such as student discipline, learning environment, controllable class size, improved student safety and good individual attention (Butcher & Bedrick, 2013) need to be considered. Butcher and Bedrick (2013) highlighted that parents who send their children to private schools always compare school service quality between private schools and public schools. The perception towards service quality provides guideline to leaders to improve educational performance which is aligned with students' expectations. Hence, evaluating service quality is crucial and critical to be implemented (Sharifuddin, M. Hairolnezam, Asma & Norhidayah, 2014).

Therefore, in order to achieve and maintain the goals of providing the best service competitively among private schools, Private school leaders need to distinguish their institutions from others in terms of overall quality excellence. Hence, the measurement of effective schools should be viewed holistically from the perspective of national and international issues that present challenges to its effectiveness and global relevancy such as, delivering quality service in pre-tertiary education.

Besides high service quality delivery, building customers' relationship (Liao & Chuang, 2007), students' engagement with a school (Leithwood & Jantzi, 1999), school reforms (Geijsel, Slegers, Leithwood & Jantzi, 2003), and other important aspects also need to be revised to sustain the good image of a school. The effort and capabilities in improving service quality as well as ensuring the fulfillment of customers' needs are important in portraying excellent reputation and bringing satisfaction to customers as expected by them (Zeithaml, Parasuraman & Berry, 1990).

Therefore, in order to execute successful service strategies, one needs leaders who always retain good practices and not just acting as managers alone (Fullan, 1991). In fact, leadership behavior plays a key role in maintaining service excellence to external customers. In this study, the leaders in private schools refer to the top management which leads and coordinate the school operation in order to implement the mission of their organizations. Leaders must have vision to take their schools to a higher position that stakeholders expected. In addition, top management also means the people who are responsible to ensure the effectiveness of the schools including the quality of the service offered in facilities, teachers, and administration to support staff. The major challenge faced by the top management as a school leader is to ensure the acceptance of teachers on the importance of commitment to service quality and providing visible leadership (Bush, 2007). Leaders of schools can change schools and society through their strong influence. According to Cammock (2001), leaders must have vision to take the school to the position that all stakeholders expect and finally inspire teachers to make the vision a success.

Thus, it is crucial for leaders to have more input on the aspects of service quality which needs to be focused on for the school development. Many studies such as Hallinger and Murphy (1986) and Heck, Larson and

Marcoulides (1990) reported that leadership is the most important role to propel school improvement. However, more input on specific dimensions of service quality is needed especially among private schools leaders. Hence, this study hoped to provide an overview of private school heads' leadership and mainly focus (based on the service quality dimensions) on the quality of service. This was done by looking into the perception of teachers towards service quality.

This study focused on the achievement of service quality in private schools in Selangor. Hopefully, knowledge of the service quality achievement will enable leaders to determine a better approach in providing effective educational environments to achieve learning goals and appropriate academic standards (Gordon & Partigon, 1993). On that note, the objective of the study was developed to analyze teachers' perceptions of service quality in private schools. To achieve the aims and objectives, the following research questions were established to guide the study:

1. What is the teachers' overall perception of service quality?
2. What is the teachers' perception of service quality in terms of different dimensions, namely empathy, responsiveness, reliability, tangibility and assurance?
3. Is there any relationship among the different dimensions of service quality?

## **METHODOLOGY**

This study employed a survey research design. It involved the collection of information from a sample of individuals who were teachers from two private schools (which were also pre-tertiary institutions) in Selangor. The survey research chosen was deemed appropriate since this study was aimed to explore teachers' perceptions towards school challenges in management process.

The population of this study was the teachers from all the private schools in Selangor. Since it was not possible to collect data from every

member in the population; therefore, this study has employed cluster sampling to investigate the perceptions and expectations on service quality. Each of the two selected private schools was treated as a unit of cluster in this study. There were altogether 93 teachers involved in the study.

The research instrument, a questionnaire named as Service Quality (SERVQUAL) was developed and refined by Parasuraman, Zeithaml and Berry (1991). It was further refined by Van Schalkwyk and Sit (2013). The SERVQUAL questionnaire consisted of 22 items with five dimensions of service quality in education. They were: tangibles, reliability, responsiveness, assurance and empathy. The Likert scale responses for the questions were ranged from one to ten (1-10) scales in which one referred to a low level of service quality (Strongly Disagree) to 10 which referred to a very high level of service quality (Strongly Agree). Table 1 presented the reliability statistics for all the dimensions of SERVQUAL instrument.

**Table 1: Reliability statistics for expectation dimensions**

Dimension	Cronbach's alpha	N of Items
Tangibles	.888	4
Reliability	.955	5
Responsiveness	.882	4
Assurance	.958	4
Empathy	.912	5
<i>Overall</i>	.981	22

[Scale: 1 (low) – 10 (high)]

The reliability analysis in Table 1 showed that the overall reliability of SERVQUAL was at high alpha levels ( $r=0.981$ ).

## FINDINGS

Table 2 presented the overall mean for the perceptions of teachers towards service quality. This result addressed research question one, “What is the teachers’ overall perception of service quality?” The mean is 6.52 with standard deviation 1.20.

**Table 2: Descriptive statistics for overall perception of service quality**

	N	Minimum	Maximum	Mean	Std. Deviation
Overall Perception	93	3.40	10.00	6.52	1.20
Valid N (list wise)	93				

The result was further investigated in order to find out whether the level of service quality perception was significantly higher than the middle point of the perception. Since the Likert scale ranged from 1 to 10, the middle point taken was 5.5. Thus the test value in the one sample t-test was 5.5. The result of the one sample t-test in Table 3 shows that there was a significant difference in the overall perception of service quality from the middle point of the scale. Hence, the result shows that the teachers' overall perception towards service quality was at above the average scale of 5.5.

**Table 3: One-Sample Test for Overall Perception of Service Quality**

	Test Value = 5.5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Overall Perception	8.21	92	.000	1.02	.7747	1.2690

The results in Table 4 presented the overall mean for the different dimensions of perception towards service quality. The results addressed research question two, namely “What is the teachers’ perception of service quality in terms of different dimensions, namely empathy, responsiveness, reliability, tangibles and assurance?”

Based on the findings in Table 4, the teachers distinguished the needs of students and had their best interests at heart which fell under the empathy dimension. Empathy had the highest mean compared to others in SERVQUAL dimension. The mean was 6.78 with standard deviation of 1.45. The means for perceptions in terms of responsiveness, assurance, tangibles and reliability were 6.64 (standard deviation=1.41), 6.63 (standard deviation =1.53), 6.63 (standard deviation =1.46) and 6.21 (standard deviation =1.35) respectively. Descriptively, the means for perception for all the dimensions were close to each other.



**Table 4: Teachers' Overall Perception of Service Quality**

Dimension	Mean	Standard Deviation
Empathy	6.78	1.45
Responsiveness	6.64	1.41
Assurance	6.63	1.53
Tangibles	6.63	1.46
Reliability	6.21	1.35

[Scale: 1 (low) – 10 (high)]

Table 5 shows the output of one-sample t-test for comparing all the dimensions from the test value (middle point) of 5.5. The results indicated that means for all the different dimensions were significantly different from 5.5. Since all the means of service quality were more than 5.5, the results indicated that the teachers' perceptions for all the dimensions were significantly more than the average value (middle scale of 5.5).

**Table 5: One-Sample Test for Dimensions**

	Test Value = 5.5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Tangibles perception	5.49	92	.000	.83333	.5319	1.1347
Reliability perception	5.13	92	.000	.71935	.4410	.9977
Responsiveness perception	7.77	92	.000	1.13978	.8486	1.4310
Assurance perception	7.13	92	.000	1.13172	.8165	1.4470
Empathy perception	8.52	92	.000	1.28495	.9856	1.5843

A detailed analysis of the dimensions which had the highest level of teachers' perception of service quality was provided in Table 6.

Table 6 showed teachers' perception of service quality based on their experience in their school. Empathy showed the highest mean among the dimensions in service quality. It indicated that the teachers highly recommended personnel accessibility. The personnel were easily contacted by phone, email or even in face to face situations. It represented the highest

mean which was 7.04 (standard deviation=1.76). However, the teachers were less satisfied with the lack of individualized attention (such as doing something extra for students and staff) from the administrative personnel (mean=6.47, standard deviation=6) comparatively.

Meanwhile, for the dimension of Responsiveness, the teachers highly agreed that they were willing to assist students (mean=7.51, standard deviation= 1.86). Nevertheless, the teachers perceived that promptness of service delivered to students was less satisfactory. It had the lowest mean which was 6.15 (standard deviation =1.67) comparatively.

The descriptive results showed a few higher scores among the items. Among the items were an item in Empathy dimension, namely “The School personnel are easily accessible to students’ with the mean of perception 7.04 as well as an item in Responsiveness dimension, namely “Teachers at the school are willing to assist students” with the mean of perception 7.51. Teachers’ responsiveness indicated their empathy in ways in helping students. Hence, educators need to be responsible in order to show empathy.

**Table 6: Teachers’ perception of service quality dimensions of empathy and responsiveness**

Items		MEAN	SD
<b>Empathy</b>			
22	The school personnel are easily accessible to students (e.g. easily available to see or to contact by phone, email, etc.).	7.04	1.76
19	Teachers give the students individual attention.	6.98	1.80
20	The school personnel do know what the needs of the students are (e.g. recognizing students as customers).	6.81	1.59
21	The school personnel have the students' best interests at heart.	6.62	1.79
18	Students receive individualized attention from administrative personnel (e.g. doing something extra for students).	6.47	6
<b>Overall Mean &amp; SD</b>		<b>6.78</b>	<b>1.45</b>
<b>Responsiveness</b>			
12	Teachers at the school are willing to assist students	7.51	1.86
10	The school informs students when services will be provided.	6.46	1.71
13	Personnel of the school are not too busy to respond promptly to students' requests.	6.44	1.71
11	Students receive fast (prompt) service delivered from the school's personnel.	6.15	1.67
<b>Overall Mean &amp; SD</b>		<b>6.64</b>	<b>1.41</b>

[Scale: 1 (low) – 10 (high)]

Table 7 shows the results of the other three dimensions in SERVQUAL. For the dimension of Assurance, the highest mean (mean=6.80, standard deviation=1.76) referred to the degree of politeness of the personnel comparatively. On the other hand, the teachers perceived at a lower rate in terms of receiving adequate support from the school management to improve the facility of services (mean= 6.46, standard deviation= 1.70).

**Table 7: Teachers' Perception of Service Quality Dimensions of Assurance, Tangibles and Reliability**

Items		MEAN	SD
<b>Assurance</b>			
16	The school personnel are polite.	6.80	1.76
14	Students can trust the school personnel	6.71	1.81
15	The school personnel inspire confidence	6.56	1.72
17	Personnel receive adequate support from the school management to improve the provision of their services.	6.46	1.70
<b>Overall Mean &amp; SD</b>		<b>6.63</b>	<b>1.53</b>
<b>Tangibles</b>			
3	Personnel at the school are well dressed and neat at all times.	6.76	1.52
4	The materials of the school (e.g. pamphlets and study material) suit the image of the school.	6.63	4.08
1	The school has up-to-date equipment.	6.00	1.61
2	The school's physical facilities (e.g. buildings and furniture) are attractive, visually appealing and stylish.	5.94	1.46
<b>Overall Mean &amp; SD</b>		<b>6.63</b>	<b>1.46</b>
<b>Reliability</b>			
9	The school keeps accurate records (e.g. accounts, academic reports, etc.).	6.63	1.76
6	When students have problems, the personnel of the school are sympathetic and reassuring.	6.37	1.45
7	The school is always dependable and provides the service right the first time.	6.14	1.55
8	The school provides services at the time it promises to do so.	5.99	1.57
5	When the school promises to do something by a certain time, it does so.	5.97	1.79
<b>Overall Mean &amp; SD</b>		<b>6.21</b>	<b>1.35</b>

[Scale: 1 (low) – 10 (high)]

In addition, the results for Tangibles dimension showed that the item with the highest mean was “Personnel at the school are well dressed and neat at all times” (mean=6.76, standard deviation=1.52). The teachers positively perceived and agreed with the personnel in maintaining their work professionalism. This result depicts the importance of the school personnel in being well dressed and polite. Nevertheless, the teachers were not confident with their school physical facilities. It had a moderate rating (mean= 5.94, standard deviation=1.46) indicating that the teachers perceived that the physical facilities should be at higher standards and schools should also have up-to-date equipment.

The results in Table 8 presented the correlations among the dimensions of service quality. The results addressed research question three, namely “Is there any relationship among the different dimensions of service quality?”

All the paired dimensions in Table 8 had indicated significant correlations with  $p < 0.05$ . The dimensions in the service quality were significantly correlated. The coefficients of correlation for the related pairs in descending order are responsiveness and assurance ( $r=0.829$ ), responsiveness and empathy (0.827), reliability and empathy (0.749), reliability and assurance (0.739), reliability and responsiveness (0.701), tangibles and reliability ( $r=0.434$ ), tangibles and assurance ( $r=0.403$ ), tangibles and empathy ( $r=0.395$ ) and tangibles and responsiveness ( $r=0.351$ ). The two highest coefficient correlation came from responsiveness and assurance (the coefficient correlation was 0.829) and responsiveness and empathy (the coefficient correlation was 0.827). The correlations with responsiveness indicated that responsiveness (in terms of willingness or readiness to provide service) was crucial in promising or strengthening other dimensions such as assurance (in terms of ability to inspire trust and confidence) and empathy (giving personal attention). On the other hand, the dimensions of assurance and also empathy were crucial and should be emphasized in order to show the practice of responsiveness.

The results of coefficient in correlation for the dimension of tangibles with others (namely reliability, assurance and empathy) were not as high as others. Thus, the dimension of tangibles (appearance of physical facilities, equipment, personnel, and written materials) needs to be further improved since the development was not highly shown in the analysis of correlation.

**Table 8: Correlations of dimensions in SERVQUAL**

		tangibles	reliability	responsiveness	assurance	empathy
Tangibles	Pearson Correlation	1	.434**	.351**	.403**	.395**
	Sig. (2-tailed)		.000	.001	.000	.000
	N	93	93	93	93	93
Reliability	Pearson Correlation	.434**	1	.701**	.739**	.749**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	93	93	93	93	93
Responsiveness	Pearson Correlation	.351**	.701**	1	.829**	.724**
	Sig. (2-tailed)	.001	.000		.000	.000
	N	93	93	93	93	93
Assurance	Pearson Correlation	.403**	.739**	.829**	1	.827**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	93	93	93	93	93
Empathy	Pearson Correlation	.395**	.749**	.724**	.827**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	93	93	93	93	93

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## CONCLUSION

The study aimed to investigate the direction to develop service quality based on perception towards dimensions of service quality. The perceptions indicated level of perception in terms of different dimensions namely tangibles, responsiveness, empathy, reliability and assurance. A questionnaire on Service Quality (SERVQUAL) was administered to a total of 93 teachers in private schools. The teachers at the private school had a significant higher perception when the level of perception was compared with the middle score of the scale (middle score =5.5 with full scale ranging from 1 to 10). On the other hand, the results indicated that the teachers'

perceptions for all the dimensions were significantly more than the middle scale of 5.5. The dimensions in the service quality were significantly correlated. Apparently, effort of caring with individualized attention is an important factor to inspire trust and confidence among customers. In addition, empathy becomes a major factor in the development of leadership (Bass, 1985). Hence, the dimensions of assurance and empathy played an important role in service quality. The two dimensions were highly correlated with responsiveness. The findings have implications towards identification of important dimensions of service quality. In fact, it has become a major trend of higher institutions to improve service quality. Furthermore, Yorke (2000) emphasized that it becomes instructional leaders' task to find some ways of developing a quality culture in a learning organization. Hence, based on these findings, higher institutions may consider providing training for educators with regard to giving prompt service with politeness and full empathy. The three highly correlated dimensions namely responsiveness, empathy and assurance indicated that willingness in assisting students with full empathy inspires confidence towards service quality.

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# DIGITAL DIVIDE AMONG ELDERLY WORKERS – A COMPARATIVE STUDY BETWEEN PUBLIC AND PRIVATE SECTORS IN MELAKA

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## ABSTRACT

*Generally, this study explains the digital divide among older workers of age 50 to 58 years in public and private sectors in the state of Melaka. The main purpose of the study is to reveal and distinguish the factors that contribute to digital divide among older workers of age 50 to 58 years in public and private sectors. According to the Ministry of Energy, Water and Communications digital divide is a reference that is given to the circumstances in which part of the community is not likely to ease of use of information communication technology (ICT) infrastructure caused by factors such as accessibility, capability, ability to use computer and lack of local content. The study focuses on factors that cause digital divide namely demographic factors (socio-economic backgrounds, education level, and geographical location of residential area), accessibility of ICT infrastructure, computer skills, and perception towards ICT. The study is conducted to achieve three objectives: namely to examine the ability to use computer and digital divide among elderly between public and private sectors, to investigate distinction level of digital divide arising among elderly workers in public and private sectors and lastly to identify factors that cause digital divide among the elderly. Population of elderly workers of age 50 to 58 years are stratified into public and private sectors. From each of the sectors, samples with the stated quota, that is, those workers of age between 50 and 58 years old are selected. From the results of the analysis obtained, there is a distinction that indicates emergence of digital divide among elderly between public and private sectors. As such, government should take more effective initiatives to address the digital divide issue among the elderly. Through these initiatives the digital gap among the elderly in public and private sectors can be bridged in helping the elderly to be more independent and competitive to face the challenging old days.*

**Keywords:** *Digital divide, ICT, older workers, public and private sectors*

## **INTRODUCTION**

Developments in the electronic dissemination of information began in the last twenty years. However, digital divide is a prevailing phenomenon in many countries irrespective of their status as developed or developing countries (Zaitun & Barbara, 2005). There are several factors affecting the digital divide which are economic factors, geography, computer skills and language proficiency level of literacy and the Internet (Norizan, 2008). Malaysia was not spared of the phenomenon of digital divide among the people. There are some people who need ICT and communication and including the elderly workers of public and private sectors. The key to improve social and economic life in the global environment today is through access to information. However, population aging is a phenomenon that is affecting many countries, including Malaysia. In 1999, the world's population over the age of 60 years is estimated around 355 million people while 61.2% were in developing countries. In 2020, the world's older persons will increase to 1,000 million (1 billion) people. This is an increase of 75% compared to 50% for the entire world population. There are approximately 700 million senior citizens in developing countries (Source: Family Health Development Division).

In this era of digital technologies, the concept of digital divide has become more complex. The use of computers and Internet have become more easy and convenient. During its first emergence, the large gap between people who could afford to buy and access computers and Internet and those who could not was due to the high price of computers. However, nowadays, the availability of many community access or telecentres have provided an easy access to computers and Internet for many people. In Malaysia, various Federal and State Government agencies have set up telecentres. Today, there are 2,150 telecentres all over the country and they are equipped with facilities such as computers, Internet, printers, scanners, digital cameras, telephones and even LCD projectors. These telecentres also conduct training on the use of basic software applications and the use of the Internet to get information, communicate and do basic transactions with the government, private and financial institutions.

With this easy access to computers and Internet, the term digital divide is redefined to comprise technology literacy and the total cost of

running a computer. In other words, in order to make computers and Internet accessible, people have to be technically able and financially affordable. In Malaysia, the term digital divide is defined as a condition where a part of society is unable to gain access or use ICT infrastructure due to IT illiteracy or are unable to create value out of the ICT facilities available

### **Problem Statement**

According to Economist Intelligence Unit (EIU), Internet penetration rate in Malaysia is estimated around 61.9%. Most urban areas in Malaysia are connected to the Internet. The percentage of Internet users for urban households is 85% while for rural households is 15%. There are nine groups identified to be marginalised by the digital divide. These are the elderly, women, rural community, small, micro and medium enterprises, youth, children, people with disabilities, indigenous and the poor. Mahendran et.al (2010) revealed that among others, women and older citizens in the rural population use computers less than other groups. Does the elderly include those between 50 and 58 years? For this reason the study is conducted specially to investigate of digital divide among the working elderly aged between 50 and 58 years who are employed in public and private sectors.

### **Research Questions**

The study will attempt to answer the following research questions:

1. What is the ability to use computers and Internet among the elderly workers in public and private sectors?
2. What is the level of digital divide among elderly workers in public and private sectors?
3. What are the factors affecting digital divide among elderly workers in public and private sectors?

## **Research Objectives**

The purpose of the study is to achieve the following three research objectives:

1. To examine the ability to use computers and Internet among the elderly workers in public and private sectors.
2. To investigate the level of digital divide among the elderly workers in public and private sectors.
3. To determine factors affecting digital divide among elderly workers in public and private sectors.

## **LITERATURE REVIEW**

Ou (2010) explained how communication technologies like instant messaging (IM) enable employees to be empowered. Use of IM enhances the social network in the workplace. The control variables of other Online Communication Tools at work are such as use of email, video conferencing, intranet and knowledge community that can achieve outcome satisfaction, outcome quality and group satisfaction. This enhances the work of an individual as IM can be used for business purposes such as for solving mutual knowledge problems and collaborative activities.

Middelton and Chambers (2010), reveals that demographic factors and situational variables are significantly correlated to the size of digital divide. They highlighted that the access to high speed WIFI has the potential to reduce or eliminate the digital divide. Norizan (2008) highlighted the importance of ICT into four sections:

- Exchange of information (lifelong learning)
- Source of employment
- Entrepreneurship
- Bridging the communication and networking

According to Richard (2006) in her study titled 'Net Benefits (Older People & The Internet)' relates the importance of ICT to the elderly in some parts. The Internet is an integral part of life. Internet benefits the public

in term of communication, managing the sale and purchase of goods and knowledge.

Another study was done on the involvement of older workers in jobs that require the use of ICT. Due to the rapid growth of senior citizen population in the country, it is important to assess their contribution in enhancing the country's economy. The objective of the study was to examine the computer literacy and the digital gap among older workers. The study revealed that approximately 57 percent of respondents who use computers compared to 43 percent who do not. It was further discovered that digital divide existed among workers aged between 55 and 56 years in Klang Valley. The study also found that senior citizens used Internet to get the latest information on current issues, contacting friends and obtain health or medical information.

Besides that, Bo (2003), it is found that the positive impact of ICT has made the elderly live harmoniously without relying on other individuals. There are issues where family support is not sufficient to provide care, especially among working families (Syarifah Norazizan & Nurizan, 2005). With ICT facilities, senior citizens can lead their lives independently. Hence, ICT can improve their health status and facilitate the social network among them.

According to Fox (2004) in her study entitled "Older Americans And The Internet" has found that age factor is one cause of the digital divide. Only 58 percent of Americans aged 50 to 64 years used the Internet. This study also discovered the digital divide in the United States is dependent on ethnicity. For example, in 2003, only 11 percent African American population of senior citizens used the Internet, compared to 22 percent of white elderly population. The percentage of senior citizens using the Internet shows a marked difference according to gender. In 2000, 60 percent of Internet users among the elderly are men, and 40 percent are women. However, these percentages changed to 50 percent of men and 50 percent female in 2004.

Syarifah & Nurizan (2005) describe elderly need to use technology such as banking, look for information, and pay bills. Technology ensures a better quality of life. However, the problems are related to product design

and the problem of access to very limited skills in the design of products that do not fit the needs of ergonomics intervention (human factors).

Ou (2010) states ICT can help senior citizens find jobs or business opportunities to increase income and the economy. If there is a digital divide, the elderly may expect other people to sustain their lives, especially for those who have no pension. Thus, this will incur high cost for the government to fulfil their needs.

The present study is conducted to examine whether digital divide exists among the elderly workers in public and private sectors in the state of Melaka. It is hoped that the study would be able to help certain agencies bridge the digital divide in society, in particular the elderly.

## **RESEARCH METHODOLOGY**

### **Subjects and Procedure**

The subjects of the study include 130 elderly workers aged 50 to 58 years in public and private sectors in Alor Gajah, Melaka. This group of people is identified as one of the groups that is easily marginalised by the digital divide. The study utilizes stratified quota sampling. Population of elderly workers is stratified which sectors they work in, either public or private sectors. From each of the sectors, samples with the stated quota, that is, those workers of age between 50 and 58 years old are selected. The study used a questionnaire which was primarily designed to tailor the objectives of the study. A total of 130 questionnaires were distributed. A total of 121 questionnaires were returned to the researchers making the response rate approximately 93%. Table 1 depicts the descriptive statistics about the sample.

### **Measurement**

The study compares the level of digital divide among these elderly workers in public and private sectors with respect to demographic factors (gender, age, ethnicity, education, monthly income, and residential area). For each comparison there are two independent variables with two or more

levels and one dependent variable. One of the independent variable, job sector, is fixed with two levels (1 – public sector, 2 – private sector) while the other independent variable is each of the demographic factors.

**Table 1: Descriptive Statistics of Samples (n = 121)**

Demographic Variables	Frequency	Percent (%)
<b>Gender</b>		
Male	66	54.5
Female	55	45.5
<b>Age</b>		
50	22	18.2
51	20	16.5
52	19	15.7
53	10	8.3
54	14	11.6
55	17	14.0
56	5	4.1
57	9	7.4
58	5	4.1
<b>Marital Status</b>		
Unmarried	6	5.0
Married	113	93.4
Divorced	2	1.6
<b>Ethnicity</b>		
Malay	101	83.5
Chinese	15	12.4
Indians	5	4.1
<b>Education</b>		
Primary school	13	10.7
Sijil Pelajaran Malaysia (SPM)	74	61.2
Sijil Tinggi Pelajaran Malaysia (STPM)	7	5.8
Diploma	19	15.7
Bachelor degree	6	5.0
Master degree	2	1.6

In order to fulfill the analysis, demographic factors such as age, education, and monthly income were recoded into three levels for “age”, four levels for “education” and “monthly income”. Gender is operationalized in two levels; 1 – Male, 2 – Female. Age of respondents is operationalized by recoding into age group as 1 – 50 up to 53 years old, 2 – 54 up to 56 years old, 3 – 57 up to 58 years old. Ethnic group is measured in three levels as

1 – Malays, 2 – Chinese, 3 – Indians. Highest education level is measured by the respondents' education level and it is recoded as 1 – Primary school, 2 – Sijil Pelajaran Malaysia (SPM), 3 – Pre-university, 4 – University. Socio-economy is measured by the respondents' monthly income and it is operationalized by recoding the variable as 1 – Below RM2000, 2 – RM2000 and below RM4000, 3 – RM4000 and below RM6000, 4 – RM6000 and above. As for geographical location, it is measured by the respondents' residential areas either 1 – rural or 2 – urban.

There is no consensus on how to measure digital divide since the technologies of computers and Internet are evolving rapidly and their capabilities are almost boundless (Ali Acilar ; 2011). The most used indicators of the digital divide between countries is the Internet usage. According to Vehovar et al (2006), the term digital divide refers not only to the Internet but also to other important ICTs such as personal computers, cellular phones, wireless telephone etc. This study only focuses on two main ICTs; computers and the Internet. The study measures the digital divide in terms of home personal computers ownership, Internet subscription, accessibility of computers and Internet, computer usage, Internet usage, and computer knowledge and skills.

Home personal computer ownership, Internet subscription, accessibility of computers/Internet are each measured by dichotomous scale (1 – Yes, 2 – No). These variables are operationalized by recoding the dichotomous scales to dummy scales (0 – Yes, 1 – No). Computer usage and the Internet usage are each measured by the frequency of computer and Internet usage (1 – Seldom, 2 – Sometime, 3 – Frequent) while computer knowledge and skills are measured by 5-point Likert scale (1 – Very poor , 2 – Poor, 3 – Fair, 4 – Good, 5 – Very good).

## **Analysis of Data**

The study used both descriptive and inferential analyses. For research question 1, the ability to use computers and Internet among elderly workers in public and private sectors is determined by examining and comparing the mean differences of ability of using computer software such as Microsoft Word, Microsoft Excel, Microsoft Powerpoint, Microsoft Access, Adobe Photoshop, Internet Browser, e-mail, Media Player, Acrobat Reader, and



Yahoo Messenger between elderly workers in public and private sectors. The independent sample t-test is used to investigate for any significance of abilities as there are two independent groups (public and private sectors).

To address research question 2, the level of digital divide among elderly workers in public and private sectors is determined by analyzing the mean differences of each of digital divide indicators; home personal computer ownership, Internet subscription, accessibility of computer and Internet, home personal computer usage, home Internet usage, and computer knowledge and skills. In this case two independent groups are studied (public and private sectors). Thus, t-statistics is conducted to examine any significance difference between each indicator of digital divide and job sector.

In order to analyze research question 3, that is, to identify factors affecting digital divide among elderly workers in public and private sectors, a two-way ANOVA analysis is conducted. In this case, there are two independent variables with two or more levels and one dependent variable. The first independent variable is the demographic variable (gender, age, ethnicity, education level, income level, and residential area) and the second independent variable is the job sector (public and private sectors). The dependent variable is each indicator used for digital divide.

A two-way ANOVA test is a statistical test used to examine any significant effects of independent variables on a dependent variable. A two-way ANOVA is used as the study desires to compare the effect of multiple levels (two or more levels) of two factors and multiple observations are obtained at each level. The variable of interest is the dependent variable while the two factors are independent variables. The factors are classified into two or more groups or levels. There are three effects to be examined; the main effect for each factor (independent variable) on dependent variable and the interaction effect for the effect of both factors on dependent variable. If a significant main effect is obtained, then a further analysis known as post-hoc analysis is conducted to investigate which pair of independent variables show a significant mean difference. Our main concern here is to study the interaction effect of both independent variables on dependent variable. If the interaction effect is found to be significant, then a further analysis known as simple effect analysis has to be conducted to examine which level of independent variable is significant.

## RESULTS AND DISCUSSIONS

### Socio-Economy Status of Samples

As indicated in Table 2, most of the elderly workers or 69.4% resided in urban areas as to 30.6% of them resided in rural areas. Exactly 50.4% of the respondents worked in private sectors while 49.6% of them worked in public sectors. These elderly were employed in various job areas. Most of the elderly workers or 27.3% were employed in services sectors, 26.4% of them in administrative and management, 24% in technical, and 19% in health sectors.

**Table 2: Socio-Economy of Respondents (n = 121)**

Socio-economic Variables	Frequency	Percent
<b>Residential Area</b>		
Urban	84	69.4
Rural	37	30.6
<b>Job Sector</b>		
Public (Government)	60	49.6
Private	61	50.4
<b>Job Area</b>		
Administrative & Management	32	26.4
Services	33	27.3
Education	1	0.8
Health	23	19.0
Technical	29	24.0
Information Communication Technology (ICT)	3	2.5
<b>Monthly Income</b>		
< RM1500	3	2.5
RM1500 < RM2000	10	8.3
RM2000 < RM3000	52	43.0
RM3000 < RM4000	45	37.2
RM4000 < RM5000	7	5.8
RM5000 < RM6000	0	0.0
RM6000 < RM7000	2	1.7
RM7000 and more	2	1.7
<b>Monthly Expenditure</b>		
< RM1000	11	9.1
RM1000 < RM2000	52	43.0
RM2000 < RM3000	43	35.5
RM3000 and more	15	12.4

Majority of the respondents or 43% earned between RM2000 and less than RM3000 per month and approximately 37% of them have monthly salary between RM3000 and less than RM4000. Most of the respondents or 43% respondents spent between RM1000 and less than RM2000 per month while approximately 36% of them spent between RM2000 and less than RM3000 per month. On average respondents earned approximately RM3031 per month and spent RM2021 per month. It can be concluded that the average difference between monthly income and monthly expenditure is approximately  $RM3031 - RM2021 = RM1010$ .

### **Ability to Use Computers and Internet among Elderly Workers in Public and Private Sectors**

In this study, ability to use computers and Internet is defined as being able to use the various computer software and applications such as Microsoft Word, Microsoft Excel, Microsoft Powerpoint, Microsoft Access, Adobe Photoshop, Internet Browser, e-mail, Media Player, Acrobat Reader, and Yahoo Messenger. Ability to use computers and Internet among respondents is summarized in Table 3. Table 3 clearly indicates that there is a high significance in overall mean computer software ability levels among the elderly workers in public and private sectors.

**Table 3: Mean Computer Software Ability Level among Elderly Workers in Public and Private Sector**

Computer Software Ability Level	Job Sector	n	Mean	SD	t-statistic	df	Sig.
Microsoft Word	Public	60	2.50	1.228	-3.268	119	0.001*
	Private	61	3.18	1.057			
Microsoft Excel	Public	60	2.10	1.145	-4.845	119	0.000*
	Private	61	3.10	1.121			
Microsoft Powerpoint	Public	60	1.98	1.081	-3.662	119	0.000*
	Private	61	2.74	1.182			
Microsoft Access	Public	60	1.65	0.954	-3.339	119	0.001*
	Private	61	2.30	1.160			
Microsoft Photoshop	Public	60	1.52	0.833	-1.186	119	0.072**
	Private	61	1.84	1.083			
Internet Browser	Public	60	1.82	1.033	-2.698	119	0.008*
	Private	61	2.38	1.240			
E-mel	Public	60	2.00	1.074	-4.803	119	0.000*
	Private	61	2.98	1.176			
Media Player	Public	60	1.60	0.785	-2.982	119	0.003*
	Private	61	2.16	1.241			
Acrobat Reader	Public	60	1.60	0.785	-1.642	119	0.103
	Private	61	1.89	1.097			
Yahoo Messenger	Public	60	1.77	0.789	-3.011	119	0.003*
	Private	61	2.31	1.162			
<b>Total</b>	Public	60	1.85	0.850	-3.891	119	0.000*
	Private	61	2.49	0.938			

\* Significant at 5% level      \*\* Significant at 10% level

Elderly workers in private sectors are significantly more able in using computer software than elderly workers in public sectors ( $t = -3.891$  ;  $p < 0.05$ ). Results show that elderly workers in private sectors are more significantly more able in using Microsoft Word ( $t = -3.268$  ;  $p < 0.05$ ), Microsoft Excel ( $t = -4.845$  ;  $p < 0.05$ ), Microsoft Powerpoint ( $t = -3.662$  ;  $p < 0.05$ ), Microsoft Access ( $t = -3.339$  ;  $p < 0.05$ ), Internet Browser ( $t = -2.698$  ;  $p < 0.05$ ), e-mail ( $t = -4.803$  ;  $p < 0.05$ ), Media Player ( $t = -2.982$  ;

$p < 0.05$ ), and Yahoo Messenger ( $t = -3.011$  ;  $p < 0.05$ ). However, there are no significant ability differences in using Microsoft Photoshop ( $t = -1.186$  ;  $p > 0.05$ ) and Acrobat Reader ( $t = -1.642$  ;  $p > 0.05$ ) between elderly workers in public and private sectors. Also the ability of using Microsoft Photoshop among elderly workers in private sectors is significantly higher than those elderly workers in public sectors ( $t = -1.186$  ;  $p < 0.10$ ). These results indicate the elderly workers in private sectors are significantly more able in using most of computer software and applications.

Results revealed that the elderly workers who owned home personal computers are more able and skilled (mean = 3.08 ; SD = 0.80) in using computers than those who do not own the appliance (mean = 1.59 ; SD = 0.80). Similar result is revealed for elderly workers who subscribe Internet. They are more skilled (mean = 3.16 ; SD = 0.74) in using computers compared to those who do not subscribe the Internet.

### **Level of Digital Divide among Elderly Workers in Public and Private Sectors**

Results revealed that out of 121 respondents, 104 or approximately 86% respondents owned home personal computers and out of these 104, 96 or 92.3% subscribed the Internet. Computer ownership is higher among elderly workers resided in urban areas (71.2%) than those who resided in rural areas (28.8%). Internet subscription is also higher among elderly workers resided in urban areas (72.9%) than those who lived in rural areas (27.1%). These results give the indication that home personal computer and Internet penetration rates are mostly concentrated in urban areas. Also approximately 88% of the elderly workers who owned home personal computers and about 81% who subscribed the Internet were married. Eleven out of 17 or 64.7% respondents did not own home personal computers because they did not have computer skills and 23.5% say that there is no urgency of owning home personal computers. Also, twelve out of 25 or 48.0% respondents say that they do not subscribe the Internet because there is no urgency to subscribe while 44.0% say that they have no skill in using the Internet. Result revealed that cost factor was not the main reason for not owning computers and not subscribing the Internet. These findings are supported by the average monthly income for elderly workers owning home personal computers (mean = RM3136 ; SD = RM1080) and those

subscribing Internet (mean = RM3192 ; SD = RM1062). Result further indicates the computer owners are among those of younger elderly workers (mean = 52.77 years ; SD = 2.333) and as for Internet subscribers, they also constitute the younger elderly workers (mean = 52.62 years ; SD = 2.323 years). Therefore, it can be concluded that the home personal computers and Internet subscribers among the elderly workers are married, residing in urban areas, younger elderly workers, and with average monthly income of more than RM3000. According to Organization of Economic Co-operation and Development (OECD, 2001), size and type of household are important factors in computer penetration and Internet access. Married couples with children have the highest access of all households, and married couples with children under 18 years are more likely to own home personal computers and subscribe Internet (OECD, 2001).

Result also reveals that both elderly workers in public and private sectors can easily access the computers and the Internet. Approximately 86% or 104 out of 121 respondents say that their residing areas have information communication technology (ICT) infrastructure facilities (Internet, wifi, etc). Out of this, 75 respondents or 72.1% reside in urban areas and 29 respondents or 27.9% reside in rural areas. Out of 121 respondents, 104 or approximately 86% respondents own computers and out of 104 respondents, 96 or approximately 92% have Internet facilities. The results indicate that more than 80% of respondents own both computers and Internet facilities. Approximately 26% of respondents (31 out of 121) find difficulties to access the Internet. Out of those elderly workers that find difficulties in accessing the Internet, 71% of them do subscribe Internet at home. Approximately 24% of the elderly workers that have difficulties in accessing the Internet reside in urban areas while 29.7% reside in rural areas. The major reasons for these difficulties are due to slow networking (38.7%) and due to lack of skills in information seeking (19.4%).

Out of 104 respondents whom responded “yes” to having computers at home, 40 or 38.5% respondents said that they frequently used computers at home, 50 or 48.1% respondents answered they sometime used computers at home, and 14 or 13.5% respondents responded very seldom used computers at home. This means that the usage of computers at home among elderly workers is not frequent. As for 96 respondents who responded “yes” to having Internet facilities at home, 36 or 37.5% respondents said they frequently used Internet at home, 47 or 49% responded sometime used Internet at home, and 13 or 13.5% respondents answered they seldom

used Internet at home. These findings show that only approximately 38% respondents frequently use computers and Internet while at home.

The accompanying Table 4 depicts the purpose of surfing Internet among the respondents. Out of 96 respondents who used Internet at home, almost 89% of them used Internet to seek information and about 56% of them surf Internet for knowledge enhancement. Approximately 41% of respondents used Internet at home to send e-mails and about 41% of them also used Internet to access e-filing for computation of income tax. Other purposes of Internet surfing at home among the respondents are social networking using either skype, facebook, twitter or Yahoo messenger (28.1%), payment of utilities (26%), payment of credit cards (11.5%), entertainment (11.5%), and on-line business (2.1%).

**Table 4: Purpose of Surfing Internet At Home**

Purpose	Number of Respondents	Percent
Information seeking	85	88.5
Knowledge enhancement	54	56.3
Sending e-mails	39	40.6
e-filing	39	40.6
Skype/Facebook/Twitter/Yahoo Messenger	27	28.1
Utilities payment	25	26.0
Credit cards payment	11	11.5
Entertainment	11	11.5
On-line business	2	2.1
Product advertisement	0	0.0

In terms of computer and Internet skills, elderly workers in private sectors (mean = 3.23 ; SD = 0.783) show significantly more knowledgeable and more skilled ( $t = -4.561$  ;  $p < 0.05$ ) than those elderly workers in public sectors (mean = 0.250 ; SD = 0.966). This is supported by approximately 56% (53 out of 94) of elderly workers that attend computer training are from private sectors while approximately 70% (19 out of 27) of elderly workers that do not attend any computer training are from public sectors. Most of the respondents (56 out of 121) or 46.3% respondents are fairly skilled in computers and Internet while 30 or 24.8% respondents perceive they are good at computer and Internet. There are also respondents (35 or 28.9%) that perceive their computer knowledge and skills are rather poor.

In order to address the second research question, we examine and compare the level of digital divide among elderly workers in public and private sectors. Table 5 compares level of digital divide among elderly workers in public and private sectors. Result shows that the mean difference in computer usage between elderly workers in public and private sectors is not significant at 5% significant level but it is significant at 10% level ( $t = -1.755$  ;  $p < 0.10$ ). Internet usage among elderly workers in public and private sectors is found to be not significant ( $t = -1.098$  ;  $p > 0.05$ ).

**Table 5: Level of Digital Divide among Elderly Workers in Public and Private Sectors**

Variable	Job Sector	n	Mean	SD	t-statistic	df	Sig.
Home personal computer ownership (0 – Own computer, 1 – Do not own computer)	Public	60	0.20	0.403	1.874	119	0.064**
	Private	61	0.08	0.277			
Internet subscription (0 – Subscribe Internet, 1 – Do not subscribe Internet)	Public	60	0.33	0.475	3.548	119	0.001*
	Private	61	0.08	0.277			
Accessibility of computer/ Internet (0 – Easy to access, 1 – Difficult to access)	Public	60	0.30	0.462	1.090	119	0.278
	Private	61	0.21	0.413			
Computer usage (1 – Seldom, 2 – Sometime, 3 – Frequent)	Public	48	2.13	0.733	-1.755	102	0.082**
	Private	56	2.36	0.616			
Internet usage (1 – Seldom, 2 – Sometime, 3 – Frequent)	Public	40	2.15	0.736	-1.098	94	0.102
	Private	56	2.30	0.630			
Computer	Public	60	2.50	0.966	-4.561	119	0.000*
	Private	61	3.23	0.783			

\* Significance at 5% level    \*\* Significance at 10% level



Table 5 also reveals that Internet subscription is significantly high among elderly workers in private sectors ( $t = 3.548$  ;  $p < 0.05$ ). Computer knowledge and skills is also found to be highly significant among elderly workers in private sectors ( $t = -4.561$  ;  $p < 0.05$ ). Home personal computer ownership is high among elderly workers in private sectors ( $t = 1.874$  ;  $p < 0.10$ ) than those elderly in public sectors.

### **Factors Affecting Digital Divide among Elderly Workers in Public and Private Sectors**

To address the third research question, we investigate and compare the level of digital divide in terms of gender, age, ethnicity, education, monthly income, and residential area among elderly workers in public and private sectors. In this study, the indicators used to measure digital divide are home personal computer ownership, Internet subscription, accessibility of computers and Internet, computer usage, Internet usage, and computer knowledge and skills. The investigation involves three variables at a time. For each investigation, it involves two independent variables and one dependent variable. The first independent variables are gender, age, ethnicity, education, monthly income, and residential area and the second independent variable (job sector) is fixed while the dependent variable is the indicator of digital divide. We investigate any significant interaction effect of each of the first independent variables and job sector on each of digital divide indicators using a two-way ANOVA analysis.

### **Divide in Home Personal Computers Ownership**

In this study, home personal computer ownership is operationalized by recoding the dichotomous scales (1 – Yes, 2 – No) to dummy scales (0 – Own home personal computer, 1 – Do not own home personal computer). Using two-way ANOVA analysis to analyze the effect of gender and job sector, three effects are gathered at a time; i) main effect of gender on home personal computer ownership, ii) main effect of job sector on home personal computer ownership, and iii) interaction effect of gender and job sector on home personal computer ownership. Result indicates there is a strong indication that home personal computer ownership varies between

males and females elderly workers ( $F(1, 117) = 4.289$  ;  $p < 0.05$ ), home personal computer ownership also varies significantly from one ethnic group to the other ( $F(2, 115) = 4.868$  ;  $p < 0.05$ ), and it also differs significantly on education level ( $F(3, 113) = 11.112$  ;  $p < 0.05$ ).

Specifically, home personal computer ownership seems to be significantly higher (mean difference =  $-0.124$  ;  $p < 0.05$ ) among female elderly workers compared to males. Results also show that computer ownership is significantly higher (mean difference =  $-0.2343$  ;  $p < 0.05$ ) among Malay elderly workers compared to Chinese elderly workers. Computer ownership among university and pre-university holders seem to be significantly higher than those SPM holders and primary schools leavers. There do not appear to be any interaction effect between job sectors and any of demographic variables on home personal computer ownership. This means that the difference in home personal computer ownership for combined effect of each demographic variables and job sector is very small.

Therefore, there is a difference in home personal computer ownership between male and female elderly workers in which home personal computer is higher among female elderly workers. Ethnic group also gives an effect on home personal computer ownership in which ownership among Malay elderly workers is higher compared to Chinese and Indians. There is also a difference in home personal computer ownership between education level of respondents in which computer ownership is higher among pre-university and university holders. However, when job sector is introduced to interact with the variables, results indicate that the digital divide in terms of home personal computers ownership among the elderly workers in public and private sectors almost not exist between gender, age groups, ethnic groups, education levels, income levels, and residential areas.

### **Divide in Home Internet Subscription**

Internet subscription is also operationalized by recoding the dichotomous scales (1 – Yes, 2 – No) to dummy scales (0 – Subscribe Internet, 1 – Do not subscribe Internet). There is a significant influence of Internet subscription between male and female elderly workers ( $F(1, 117) = 4.875$  ;  $p < 0.05$ ). Home Internet subscription is higher among female

(mean = 0.13 ; SD = 0.34) elderly workers than male workers (mean = 0.27 ; SD = 0.45). Elderly workers in private sectors (mean = 0.08 ; SD = 0.28) have higher home Internet subscription than those elderly workers in public sectors (mean = 0.33 ; SD = 0.48). There is also a significant interaction effect of gender and job sector on home Internet subscription ( $F(1, 117) = 4.010 ; p < 0.05$ ). The effect of education level on home Internet subscription is also significant ( $F(3, 113) = 8.080 ; p < 0.05$ ). Home Internet subscription is found to be relatively higher among university and pre-university holders elderly workers. Result also shows that elderly workers who earn RM6000 and more has the highest home Internet subscription as compared to other income groups. Results also indicate that job sector has a significant influence on home Internet subscription ( $F(1, 117) = 12.381 ; p < 0.05$ ),  $F(1, 115) = 4.666 ; p < 0.05$ , and  $F(1, 117) = 6.737 ; p < 0.01$ ). Therefore, there is a difference in home Internet subscription between male and female elderly workers in which Internet subscription is higher among female elderly workers.

Education level gives a significant effect on home Internet subscription in which subscription among pre-university and university holders elderly workers is the highest. There is a difference in home Internet subscription between income groups of respondents in which Internet subscription is higher among elderly workers with high income. Elderly workers in private sectors are more dominant in subscribing home Internet. When job sector is introduced to interact with the variables, results indicate that the digital divide in terms of home Internet subscription among the elderly workers in public and private sectors shows a significant difference between gender in which female elderly workers in private sectors are shown to have the highest home Internet subscription. However, the interaction effect of job sector and other demographic variables (age groups, ethnic groups, education levels, income levels, and residential areas) are found to be insignificant.

### **Divide in Internet Accessibility**

Internet accessibility is also operationalized by recoding the dichotomous scales (1 – Yes, 2 – No) to dummy scales (0 – Face difficulty in accessing, 1 – Do not face difficulty in accessing). Internet accessibility varies significantly between male and female elderly workers ( $F(1, 117) =$

8.605 ;  $p < 0.05$ ). Male elderly workers face not much difficulty in accessing the Internet (mean = 0.15 ; SD = 36) as compared to females (mean = 0.38 ; SD = 0.49). The probable reason is that more than 50% of male elderly workers reside in urban areas for which the accessibility of Internet is more easier and faster in urban areas. Age group is found to have a significant effect on Internet accessibility ( $F(2, 115) = 3.286$  ;  $p < 0.05$ ). Result also reveals that younger elderly workers are much more easily accessible to the Internet than the older elderly workers. The elderly workers of age group 50 to 53 years have easy accessibility to Internet (mean = 0.18 ; SD = 0.39) compared to age group 54 to 56 years (mean = 0.33 ; SD = 0.48) and 57 to 58 years (mean = 0.43 ; SD = 0.51). There is no significant influence of ethnic group on Internet accessibility which means all the ethnic groups can easily access the Internet.

However, there is a significant interaction effect of ethnicity and job sector on Internet accessibility ( $F(2, 115) = 4.491$  ;  $p < 0.05$ ) which means the influence of ethnicity on Internet accessibility does depend on job sector in which the elderly workers are employed. With a significant interaction effect, it is important to conduct a simple effects analysis. In private sectors, the ethnicity has considerable impact; no difficulty in accessing the Internet among the Indians elderly workers. Simple main effects could be obtained by analyzing the effect of ethnicity on the public sectors or private sectors. Simple main effects analysis showed that the Indians were significantly were more easier to access the Internet than Malays and Chinese employed in private sectors ( $F(2, 115) = 6.281$  ;  $p < 0.05$ ) but there were no differences between ethnic groups when employed to public sectors ( $F(2, 115) = 0.535$  ;  $p > 0.05$ ).

The main effect for education level on Internet accessibility is found to be significant ( $F(3, 113) = 3.339$  ;  $p < 0.05$ ). However, the main effect of job sector on Internet accessibility is not significant ( $F(1, 113) = 0.830$  ;  $p > 0.05$ ). Result reveals the elderly workers with university education find there is no difficulty in Internet accessibility as compared to those elderly workers with pre-university education (mean = 0.08, SD = 0.29), SPM (mean = 0.32, SD = 0.47), and primary school (mean = 0.31, SD = 0.48). Results also reveal that income group ( $F(3, 113) = 2.053$  ;  $p > 0.05$ ) and residential area ( $F(1, 117) = 0.000$  ;  $p > 0.05$ ) insignificantly influence the Internet accessibility. No interaction effects were found between gender,

age group, education level, income level, and residential area each with job sector on Internet accessibility.

### **Divide in Computer Usage**

Result indicates that female elderly workers in public sectors (mean = 2.19, SD = 0.63) slightly more frequently used computers compared to those female elderly workers in private sectors (mean = 2.08, SD = 0.64) while male elderly workers in private sectors (mean = 2.58, SD = 0.50) more frequently used computers than those male elderly workers in public sectors (mean = 2.05, SD = 0.84).

The main effects for gender and job sector are found to be not significant. Therefore, neither gender nor job sector significantly influences the computer usage. Results reveal that the interaction effect between job sectors and gender (job sectors \* gender) is significant ( $F(1, 103) = 6.334$ ;  $p < 0.05$ ). This indicates that the influence of gender on frequency of usage of computers does depend on the job sectors of the elderly workers.

With a significant interaction effect between job sector and gender, a further simple effect analysis is conducted. Gender has no influence on computer usage among elderly workers in public sectors. However, in private sectors, gender gives an impact where it can be seen that male elderly workers in private sectors have the highest frequency of computer usage. According to Loke and Foo (2008), computer usage among female member of a household is a constraint as they have to indulge in giving priority of other household chores.

Simple main effects analysis shows that male elderly workers are significantly more frequently use computers than females employed in private sectors ( $F(1, 100) = 8.185$ ;  $p < 0.05$ ) but there are no differences between gender when employed in public sectors ( $F(1, 100) = 0.606$ ;  $p > 0.05$ ). Result also reveals that the main effects for education level ( $F(3, 97) = 3.929$ ;  $p < 0.05$ ) and income level ( $F(3, 96) = 2.846$ ;  $p < 0.05$ ) on computer usage are both significant. Therefore, both education level and income level significantly influence the computer usage. Gender, age group, ethnicity, and residential area do not show any significant influence

on computer usage. Job sector also does not have any significant influence on computer usage.

### **Divide in Internet Usage**

Two-way ANOVA analysis is again used to analyze the main effect of gender on Internet usage, the main effect of job sectors on Internet usage, and the interaction effect of both job sector and gender (job sectors \* gender) on Internet usage. There is no significant difference in Internet usage between male and female elderly workers ( $F(1, 92) = 2.336$  ;  $p > 0.05$ ). Results reveal that the interaction effect between job sector and gender (job sectors \* gender) on Internet usage is not significant ( $F(1, 92) = 3.756$  ;  $p > 0.05$ ). The influence of age on Internet usage is also found insignificant ( $F(2, 90) = 0.815$  ;  $p > 0.05$ ).

Result indicates a significant interaction effect between age group and job sector on Internet usage ( $F(2, 90) = 3.481$  ;  $p < 0.05$ ). Simple main effects analysis show that elderly workers of ages 57 up to 58 years in public sectors are significantly more frequent using the Internet ( $F(2, 90) = 4.861$  ;  $p < 0.05$ ) as compared to other age groups. The main effect of education level on Internet usage is highly significant ( $F(2, 91) = 5.205$  ;  $p < 0.005$ ). Result shows that Internet usage is significantly high among elderly workers graduated from universities (mean = 2.63, SD = 0.52) as compared to pre-university holders (mean = 2.44 ; SD = 0.65) and SPM holders (mean = 2.15 ; SD = 0.65). Post hoc analysis shows that there are significant mean differences between university holders and primary school leavers (mean difference = 1.50 ;  $p < 0.05$ ) and between university holders and SPM holders (mean difference = 1.18 ;  $p < 0.05$ ). This result again indicates that education is an important factor in bridging the digital divide among the people.

Income level shows no significant influence on the Internet usage ( $F(3, 88) = 1.508$  ;  $p > 0.05$ ). Geographical location of residential area also shows no significance influence on the Internet usage ( $F(1, 92) = 1.146$  ;  $p > 0.05$ ). However, there is a significant interaction effect residential area and job sector. Results reveal that the Internet usage is significant among the elderly workers in private sectors who reside in urban areas.

Therefore, education level is the only factor that influences the Internet usage among the elderly workers. Results reveal that gender, age group, ethnicity, income level, and residential area do not have significant influences on Internet usage. Combination effects between age group and job sector and between residential area and job sector on Internet sector are found to be significant.

### **Divide in Computer Knowledge and Skills**

Two-way ANOVA analysis is again used to analyze the main effect of gender on computer knowledge and skills, the main effect of job sectors on computer knowledge and skills, and the interaction effect of both gender and job sector (gender \* job sector) on computer knowledge and skills. Result indicates that there is no significant difference in computer knowledge and skills between male and female elderly workers ( $F(1, 117) = 0.362$  ;  $p > 0.05$ ). However, job sector has a significant influence on computer knowledge and skills ( $F(1, 117) = 19.562$  ;  $p < 0.05$ ) for which elderly workers in private sectors are found to be significantly more knowledgeable and more skilled in computers than those elderly workers in public sectors ( $t = -4.561$  ;  $p < 0.05$ ). Results also revealed that the interaction effect between gender and job sector (gender \* job sector) on computer knowledge and skills is significant ( $F(1, 117) = 5.612$  ;  $p < 0.05$ ). Simple main effects analysis shows that there is a significant difference in computer knowledge and skills between male and female elderly workers in public sectors ( $F(1, 117) = 4.396$  ;  $p < 0.05$ ) but not to male and female elderly workers in private sectors.

Result indicates that age has a significant influence on computer knowledge and skills ( $F(2, 115) = 4.248$  ;  $p < 0.05$ ). Post hoc analysis shows that younger elderly workers of age group 50 to 53 years is significantly more knowledgeable and more skilled compared to elderly workers of age 54 to 56 years (mean difference = 0.53 ;  $p < 0.05$ ) and elderly workers of age 57 to 58 years (mean difference = 0.76 ;  $p < 0.05$ ). Influence of age group and job sector on computer knowledge and skills is found to be insignificant ( $F(2, 115) = 1.266$  ;  $p < 0.05$ ). Ethnicity is found to have a significant influence on computer knowledge and skills ( $F(2, 115) = 3.081$  ;  $p < 0.05$ ). Once again job sector is revealed to have a significant influence on computer

knowledge and skills. However, there is no significant interaction effect of ethnicity and job sector on computer knowledge and skills ( $F(2, 115) = 0.048$  ;  $p > 0.05$ ). Result shows that computer knowledge and skills is significantly high among elderly workers graduated from universities (mean = 3.88, SD = 0.64) as compared to pre-university holders (mean = 3.23 ; SD = 0.77) , SPM holders (mean = 2.88 ; SD = 0.83), and primary school leavers (mean = 1.46, SD = 0.52). Post hoc analysis reveals that there are significant mean differences between university holders and primary school leavers (mean difference = 2.41 ;  $p < 0.05$ ), between university holders and SPM holders (mean difference = 1.00 ;  $p < 0.05$ ), between SPM holders and primary school leavers (mean difference = 1.42 ;  $p < 0.05$ ), and between pre-university holders and primary school leavers (mean difference = 1.77 ;  $p < 0.05$ ). These findings again indicate that education is an important factor in bridging the digital divide among the people.

Income level is also found to have a significant influence on computer knowledge and skills ( $F(3, 113) = 7.414$  ;  $p < 0.05$ ). Post hoc analysis shows that there are significant mean differences between elderly workers earning RM2000 to less than RM4000 per month and those elderly earning less than RM2000 per month (mean difference = 0.99 ;  $p < 0.05$ ), between elderly workers with monthly income RM4000 to less than RM6000 and those elderly with monthly income less than RM2000 (mean difference = 1.51 ;  $p < 0.05$ ), and between elderly workers earning RM6000 and above and those elderly earning less than RM2000 (mean difference = 1.83 ;  $p < 0.05$ ). Result indicates that there is no significant interaction effect between income level and job sector on computer knowledge and skills. As for residential area, result shows that it has no significant influence on computer knowledge and skills ( $F(1, 117) = 0.873$  ;  $p > 0.05$ ). Job sectors in which the elderly workers work have a significant influence on computer knowledge and skills ( $F(1, 117) = 7.968$  ;  $p < 0.05$ ). Simple main effects analysis shows that elderly workers in private sectors and reside in urban areas are significantly more knowledgeable and more skilled in computers than those reside in rural areas ( $F(1, 117) = 4.536$  ;  $p < 0.05$ ).



## CONCLUSION AND DISCUSSION

The main objective of this study is to investigate factors that play a role in determining level of digital divide among elderly workers in public and private sectors. In this study, level of digital divide is measured using indicators such as home personal computer ownership, Internet subscription, accessibility of computer and Internet, computer usage, Internet usage, and computer knowledge and skills.

Education level is found to be a significant motivating factor for all the indicators of digital divide among the elderly workers. High literacy rate is an essential factor in narrowing digital gap as it can enhance computer and Internet penetration. Usage of computer and Internet would become very frequent with high literacy rate. A certain level of literacy and specific computer knowledge must be attained in order to operate and utilize the computer and the Internet. Result has revealed that due to lack of computer knowledge and skills most of elderly workers do not own home personal computers and do not subscribe Internet.

Income is not a significant factor in determining home personal computer ownership, however it is a significant motivating factor in determining Internet subscription. In order to subscribe Internet, one must own a computer. This would incur additional cost for the household expenditure. The study reveals that there is no urgency to subscribe the Internet and lack of computer skills are reasons why the elderly workers do not subscribe the Internet at home and not due to cost factor. In fact, the decision to subscribe the Internet at home will depend on whether it can be fully utilized and its function is maximized by the household members. The number of Internet users in the household as well as the level of computer knowledge will determine the decision to subscribe the Internet at home.

Gender is also a factor that determines the level of digital divide among the elderly workers. Results reveal that home personal computer ownership and Internet subscription are higher among female elderly workers. Most of the female elderly workers are housewives and for most of the time they make decision whether or not to purchase the computer and to subscribe the Internet for home utilization. However, male elderly workers can easily access the Internet rather than females since most of the males reside in

urban areas. Differences in the use of computers and the use of Internet based on gender appear rather small.

Age is another factor that contributes to level of digital divide among the elderly workers. The factor has significant effects on Internet accessibility and computer knowledge and skills respectively. The younger elderly workers are found to be easily accessible to Internet as compared to the older elderly workers. This is mainly because most of the younger elderly workers reside in urban areas. Elderly workers in early fifties are found to be more knowledgeable and skilled in computers since many of them regularly attended computer training.

Ethnicity is also a contributing factor to level of digital divide. There is a large difference in computer ownership by different ethnic groups of elderly workers. The highest computer ownership is found to be among Malay elderly workers. Ethnicity among elderly workers is also found to influence computer knowledge and skills. The Malay elderly workers are found to be more knowledgeable and more skilled in computers. All the indicators of digital divide studied are found to have small difference by the location of residential areas of elderly workers. Eventhough the elderly workers reside in rural areas, in the workplace they always in touch with computers and Internet.

Female elderly workers in private sectors are shown to have the highest home Internet subscription. For public sectors, gender has no influence on computer usage. However, in private sectors, gender gives an impact where it can be seen that male elderly workers in private sectors have the highest frequency of computer usage as males have greater interest in computers and with the working computer environment they are more comfortable in using the computer gadgets. The interaction effect between gender and job sector is seen to have a significant impact on computer knowledge and skills. Male elderly workers in private sectors are more significantly knowledgeable and more skilled as they are more often attending computer training. As such their computer knowledge and skills are enhanced since a certain level of computer literacy is needed in using computers.

As seen earlier residential area has no significant influence on any indicator of digital divide. However, when job sector is introduced to interact

with the independent variable on Internet usage and computer knowledge and skills, it shows significant effects. Internet usage among the elderly workers in private sectors and reside in urban areas are found to be high. Easy and fast Internet access in urban residential areas and in their offices. Consequently, the Internet usage among elderly workers in private sectors and reside in urban areas become high. Computer knowledge and skills are seen to be significantly higher among elderly workers in private sectors and most of them are residing in urban areas.

There is a high Internet usage among younger elderly workers in private sectors. This shows that the combined effect of age and job sector influence the Internet usage among elderly workers. The combined effect of ethnicity and job sector is also found to influence the Internet accessibility.

As a conclusion, the results of the study indicate there still exist digital gaps among the people especially on the targeted group; the elderly workers of age between 50 years to 58 years. The indicator computer knowledge and skills ranks the first in digital divide dimension. Digital gap occurs because of lack of computer knowledge and skills and as such some of the elderly workers neither own computers nor subscribe Internet. Consequently, the computer and Internet usage at homes are less frequent as they merely use the appliances while at workplace. The second highest gap in digital among elderly workers is in terms of Internet subscription. Many of them do not subscribe the Internet as they are lacking in computer knowledge and skills and they have no urgency to subscribe the appliance. The digital divide still exists among elderly workers as many of them still have difficulties in accessing the Internet especially those residing in rural residential areas. There are still elderly workers who do not own personal computers as they lack computer knowledge and skills and also they have no urgency to purchase the computers. The usage of computers and Internet among this group is also not frequent and as a result widening the digital divide. The digital divide becomes more obvious among elderly workers in public sectors especially in terms of Internet subscription and computer knowledge and skills. Future research should be directed at studying the acceptance level of the elderly people toward computers and Internet. Information obtained from these studies can be used by public policy organizations and non-governmental organizations (NGO) to plan strategies to bridge the digital divide among the elderly people.

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# AFFIRMATIVE ACTION IN HIGHER EDUCATION: THE MALAYSIAN EXPERIENCE

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## ABSTRACT

The topic of affirmative actions in higher education consists of two inter-related areas of inquiry which have long been discussed in many different contexts. This article gives accounts about affirmative action and its cases in higher education in Malaysia. Beginning with a summary of various aspects of affirmative action, the article highlights important milestones in the development of higher education in Malaysia, particularly those related to affirmative action. In the next part, it describes the metamorphosis of Universiti Teknologi MARA (UiTM) as a case study of the implementation of affirmative action in higher education in Malaysia.

**Keywords:** *Malaysia, bumiputra, affirmative action, higher education, Universiti Teknologi MARA.*

## **INTRODUCTION**

Six decades after the development of Malaya as an independent nation, there is a need to re-examine the major policies that were introduced to ensure the development of the fledgling nation. This re-examination is necessary to ensure that the nation is headed towards the right direction as the political, economic and social situations in the Federation of Malaya sixty years ago were far different from what they are today. Therefore, it is the intention of this article to relook into one area of inquiry which has been discussed and debated: affirmative action policies in Malaysia. Affirmative action policies can encompass a wide area, such as in employment and education. Nonetheless, the focus of this article is on affirmative action policies in Malaysian higher education, with a closer look at Universiti Teknologi MARA (UiTM).

Historically, affirmative action policies were introduced to battle the anxiety of Malay over their status in the land that they believed was theirs. Kuhonta (2011: 11), in his article stated that the problem of inequality has deep roots that goes back to the British colonial policy of “divide and rule.” Colonial authorities divided the economy along ethnic lines, relegating the Malays to traditional economic sectors. This ethnic division of labour became deeply entrenched in the Malaysian soil, aggravating Malays’ anxieties that their status in a land that they believed belonged to them was under grave threat. The anxiety of the Malays was moderated when an institutionalized ethnic party the United Malays National Organisation (UMNO) formed in 1946, has forcefully sought to implement pragmatic social reforms along ethnic lines with collaboration from other parties in the Alliance Front and subsequently, the Barisan Nasional (BN) coalition. Along with a capable bureaucracy, the coalition has advanced a battery of policies that have gradually reduced the uneven distribution of income between the Malays and Chinese. Consequently, the nation could tackle ethnic and class divisions through a combination of party organization, state intervention and moderate policies of redistribution. In this context, institutional resilience has been crucial to Malaysia’s ability to address social reforms without destabilizing the politics. Kuhonta’s (2011) views are echoed by a host of other scholars and commentators who have analyzed the history of affirmative action policies in Malaysia.



To provide a clearer picture of affirmative action policies in higher education and the role of UiTM, it is reasoned appropriate and relevant to highlight some key developments in higher education in Malaysia. Thus, this article discusses the following:

1. Definitions of Bumiputra
2. Issues of higher education in Malaysia
3. Issues of affirmative action
4. Affirmative action in UiTM

## **DEFINITIONS OF BUMIPUTRA**

When discussing the affirmation action in Malaysia, among the word that keeps on appearing is the word ‘bumiputra’. It is necessary to define this word to help make the discussion in this article clearer. Faruqi (2016: p. 5) stated that the legal answer to the term “bumiputra” is more political rather than legal. When discussing about bumiputra, the Federal and State Constitutions would normally relate it to “Malays” and the “Natives of Sabah and Sarawak”, and Faruqi (2016) makes the following clarifications:

1. A “Malay” is defined in Article 160 (2) of the Federal Constitution to refer to a person who professes Islam, habitually speaks Malay, conforms to Malay custom, and was born in Malaya or Singapore before Aug 31, 1957, or born of parents or grandparents, one of whom was born or is domiciled in Malaya or Singapore on Merdeka Day. The definition is unique in that ethnicity is not emphasised. Religion, language, Malay custom and roots in Tanah Melayu/Singapore are critical factors. People of mixed parentage can qualify as Malays provided all the four qualifications are met. The law does not show gender bias but many public servants disregard the mother’s race and require descent from the male. This is unconstitutional.
2. Natives of Sabah are listed out in Article 161A (6) of the Federal Constitution and the Sabah Interpretation (Definition of Native) Ordinance 1952. Thirty-nine ethnic communities are included. A recurrent problem is that the law is gender-biased; the domicile of the father is regarded as relevant but not of the mother’s.

3. Natives of Sarawak, consisting of 28 groups are listed out in Article 161 (A) of the Federal Constitution. A recurring problem is that some applicants from Sarawak have one native and one non-native parent. Under Article 161A (6) (a) they are ineligible to be called “natives of Sarawak.” This raises the ire of many Sarawak politicians.

Similarly, The Malaysian Higher Education Ministry (2007/2008) defined bumiputra as the following:

1. Peninsular Malaysia
  - “If one of the parents is Muslim Malay/Orang Asli as stated in Article 160 (2) Federal Constitution of Malaysia; thus the child is considered as a Bumiputra”
2. Sabah
  - “If the child was born in Sabah or the father was domiciled in Sabah at the time of birth, and one of the parents is indigenous natives of Sabah as stated in Article 161A (6)(b) Federal Constitution of Malaysia; thus, his child is considered as a Bumiputra”
3. Sarawak
  - “If both parents are indigenous natives of Sarawak as stated in Article 161A (6)(a) Federal Constitution of Malaysia; thus, their child is considered as a Bumiputra”

The three definitions of bumiputra are depending on the region of origin of the individual applicant as appeared in *Buku Panduan Kemasukan ke Institusi Pengajian Tinggi Awam, Program Pengajian Lulusan SPM/ Setaraf Sesi Akademik 2007/2008* (Guidebook for entry into public higher learning institutions for SPM/equivalent graduates for academic year 2007/2008),

## **ISSUES OF HIGHER EDUCATION IN MALAYSIA**

The development of higher education in Malaysia encompasses many aspects. Some of the pertinent aspects are to be explained in this section.

There are different types of higher education available in Malaysia. Table 1 shows the types and numbers of higher educational institutions in Malaysia in year 2013:

**Table 1: Higher Education Institutions in Malaysia**

Category	Type of Higher Institution	Number
<b>Public / Government Institutions</b>	University	31
	Polytechnic	30
	College / Institution	158
	<b>Total</b>	<b>219</b>
<b>Private Institutions</b>	University	72
	University College	35
	College / Institution	378
	<b>Total</b>	<b>485</b>
<b>Grand Total</b>		<b>704</b>

Source: Malaysian Qualification Register (MQR), \_\_\_\_\_

Comparatively speaking, there was no university in Malaya at the time of independence except for University of Malaya which was in Singapore. Since then, the total number of higher institutions has increased tremendously. In the present time, Malaysians have more access to higher education but the same could not be said during the period of independence.

From a historical point of view, Kuhonta, (2011: 75 – 76) observes that throughout Malaysia's history, the educational system has been heavily unequal, with the roots of such inequality going back to a policy of benign neglect under the British rule. The British allowed the private sectors to dictate the pace of education. Hence, the central issue in the politics of education during the period of independence was as much as the national unity as one of expanding access and opportunity for the population, especially the disadvantaged Malays. This proves to be pertinent in the following decades.

Education is a way out of the economic imbalance in Malaysia. Therefore, access to higher education is pertinent to correct the economic imbalance among the ethnic groups. Hence, an affirmative action of ethnic quota system for admission into public universities was introduced in 1979 which went on until 2002 (Lee, 2015). Some bumiputra students were selected for admission based on matriculation examination results, while some non-bumiputra students were selected based on STPM examination results. Critics on these two systems of admission into public universities have stated that the systems are unjust because the results of these examinations are not comparable. Furthermore, the Education Blueprint 2013-2025 has stated that every Malaysian child deserves equal access to an education that will enable that child to achieve his or her potential. In other words, there should not be any differences among the ethnic groups.

On the other hand, equity, another one of the aspirations is defined as having equal opportunity to enter schools as well as higher education regardless of whether the students are from rich or poor families and from urban or rural areas, Lee (2015) notes that the issues related to equity is that not only the disadvantaged groups can gain access to education, but also to ensure that they have a certain degree of success after gaining admission. For example, special schools and colleges have been established to nurture outstanding bumiputra students, and a matriculation examination has been designed mainly to select bumiputra students for admission to universities.

According to Lee (2015), another increasing concern is related to qualifications level and fields of study. Currently, there are more students studying for degrees than engaged in non-degree studies, with the ratio being 2:3. The imbalance is more obvious in the public higher educational institutions (HEIs), where the ratio is 1:3. The government policy target ratio is to have more non-degree course, i.e. with a ratio of 2:1. This concern is particularly relevant to the growth and development of UiTM, as the case study of this article.

In view of the discussion based on the aspirations, Lee (2015) recommends that special attention needs to be given to the following issues:

1. social cohesion and national identity;
2. language policy, especially with regards to the use of English;
3. admission policy to higher educational institutions;
4. quality of the teaching force;
5. the shift away from rote learning to the development of higher-order thinking skills;
6. employability of graduates;
7. return on investment in research and development
8. Delegation of authority in the administration of the educational system.

In fact, the recommendations are in line with the blueprint for higher education which is mirrored in the ten shifts in the Malaysian Education Development Plan (Higher Education) as shown in Figure 1.

On a broader perspective, Malaysian higher education shares some similarities with its Asian counterparts. In their analysis, Altbach and Umakoshi (2004) noted that Asian universities have undergone some dramatic transformations, and there were changes in the contexts of both historical traditions of Asian academic systems and the challenges of contemporary realities. These transformations took place as most Asian countries experienced colonialism, and the colonizer's academic ideas had significantly influenced their contemporary academic systems.

With regard to Malaysia and her former status as a British colony, Altbach and Umakoshi (2004) averred that "the British academic model was imposed on all the countries that were under British colonial rule, and it remains a powerful force in these countries. ...Because of the extent of British colonial rule in Asia, the British model is probably the most important foreign academic influence in the whole region."



Figure 1: 10 Shifts in Malaysian Education Blueprint Plan 2015-2025 (Higher Education)

That was the case at the beginning of all levels of educational development. Nonetheless, as Asian academic systems have grown and matured, countries have not been inspired to develop new indigenous academic models. Rather, Asian countries have looked abroad for ways to expand and improve their universities (Altbach and Umakoshi, 2004). This is when changes began to take place in the Malaysian context. For the most part, the United States has provided ideas and forms for academic development, as the US academic system is the largest in the world – the first to cope with the challenge of enrolment expansion. It also has the largest and most advanced academic research system. Moreover, many Asian academic and political leaders studied in the US and absorbed American academic ideas during their student years. They further predicted that higher education will inevitably be more central as Asian economies become

more technology-based, more heavily dependent on informatics and more service-based. Many Asian countries (including Malaysia) have recognized the importance of higher education in the transformation of their countries to becoming post-industrial information-based societies. These countries are moving to ensure that the university system is adequately prepared to play an active part in building this new economy.

Apart from the issue on the centrality of education in nation building, Altbach and Umakoshi (2004) also concocted the term “massification of education”, of which they make the following observations

1. Led by the World Bank and other international agencies, many countries increasingly argue that higher education is mainly a “private” good, serving the needs of the individual, and less of a “public” or social good. Therefore, the thinking is that the “user” – students and perhaps their families deserve to pay a significant part of the cost of higher education. This has led to the imposition of tuition and other fees.
2. Another central reality of massification is increased reliance on private higher education institutions. Private higher education is the fastest-growing segment of post-secondary education worldwide.
3. Most Asian private universities serve the mass higher education market and tend to be relatively non-selective in selecting students and in offering courses.
4. The main challenge is to allow the private sector the necessary autonomy and freedom to establish and manage institutions and to compete in a differentiated educational marketplace, while at the same time ensuring that the national interest is served.
5. Another challenge relates to the growth of distance learning. The potential for expansion of distance higher education is fueled by a variety of trends – rapid expansion of ICT, which is less expensive, and need of fewer facilities and personnel. However, there are concerns about the academic quality of distance learning programmes.

The above synopsis of views about the development of higher education and universities has raised some important concerns that are relevant not only for higher educational institutions in Asia but also for the development of higher education in Malaysia.

## **ISSUES OF AFFIRMATIVE ACTIONS**

There are a few definitions to the term of affirmative actions. National partnership for women and families (NPWF) (2016) defined affirmative actions as “taking positive steps to end discrimination, to prevent its recurrence, and to create new opportunities that were previously denied to qualified women and people of colour” while American for a fair change group defined it as “Affirmative action is an important tool to provide qualified individuals with equal access to educational and professional opportunities they would otherwise have been denied despite their strong qualifications.” Crosby, Iyer and Sincharoen (2006) in their paper on understanding affirmative action as “Affirmative action occurs whenever an organization devotes resources (including time and money) to making sure that people are not discriminated against on the basis of their gender or their ethnic group.” Chamber and Wedel (2005) stated that affirmative action is “the policy of favoring members of a disadvantaged group who currently suffer or historically have suffered from discrimination within a culture.” The key concept in the four examples of definition on affirmative action appears to be dealing with the issue of fighting discrimination on the basis of gender and ethnic backgrounds. Nonetheless, the work on defining what exactly is affirmative action may take a while as the nature of this concept is quite subjective and open to interpretation. Figure 2 epitomizes the sentiment of defining affirmative action.





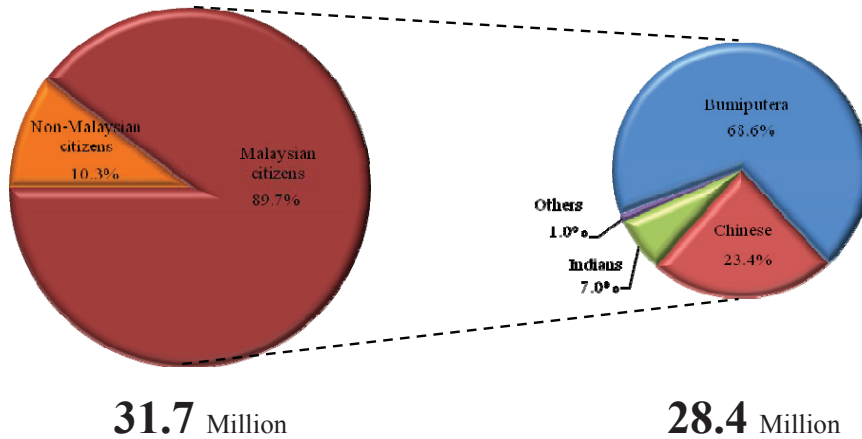
**Figure 2: Sentiment of definition on Affirmative Actions**  
 Source: Mount Holyoke College

This is an important consideration in this article. Affirmative action concept is named differently in different countries, for example employment equity in Canada, reservation in India and Nepal, and positive discrimination in the UK.

Affirmative action in the US tends to focus on issues such as education and employment, specifically granting special consideration to racial minorities such as Hispanics, Native Americans, and women who have been historically excluded groups in America. It also includes preferential treatment for veterans, disabled and the elderly.

In the Malaysian context, the Malays viewed the independence of the country as restoring their proper place in their own country's socio-economic order. The New Economic Policy (NEP) serves as a form of affirmative action and it was first implemented in 1971. NEP provides affirmative action to the majority (bumiputra) because in general, the Malays, who formed part of the bumiputra group, have lower income than the Chinese who have traditionally been involved in businesses and industries. Nonetheless, some of the non-Malays were opposed to the government efforts to advance Malay political primacy and economic welfare.

The multi ethnicity of Malaysia can be better understood by looking at the 2016 current population estimates 2014 - 2016. Bumiputera makes up the majority with 68.6% of the population. 23.4% of the population are Malaysians of Chinese descent, while Malaysians of Indian descent comprise about 7% of the population. 1% is of others. This is shown in Figure 3. Historically, during more than 100 years of British colonization, the Malays were discriminated against employment even though they are the majority due to the British preferred to bring in migrant workers from China and India. The after effect of this can be exemplified in table below.



**Figure 3: Population Distribution by Ethnic Group in Malaysia 2014-2016**  
 Source: Department of Statistics Malaysia (2015)

Table 2 shows the income inequality of the different ethnic groups in Malaysia between the years 1970 to 2000 (Yusof Saari, Dietzenbacher, and Los, 2015). The increase in per capita income for the Malay is the lowest as compared to other ethnic groups like Chinese and Indian (Malay 3136; Chinese 5598 and Indian 5000).

**Table 2: Sources of Income Growth and Inequality across Ethnic Groups in Malaysia, 1970–2000**

		Malays	Chinese	Indians	Others
<b>A. Inequality of household income per capita (thousand MR)</b>					
Per capita income 1970	(1)	2.455	4.394	3.455	1.110
Per capita income 1990	(2)	4.609	8.609	5.938	1.908
Per capita income 2000	(3)	5.591	9.992	8.433	2.948
<i>Average annual growth 1970-1990 (%)</i>					
Income	(4)	5.96	5.33	4.41	7.82
Population	(5)	2.77	1.86	1.58	18.88
<i>Average annual growth 1990-2000 (%)</i>					
Income	(6)	5.06	2.94	5.52	6.02
Population	(7)	2.88	1.42	1.88	1.50
<i>Average annual growth 1970-2000 (%)</i>					
Income	(8)	5.66	4.53	4.78	7.22
Population	(9)	2.81	1.71	1.68	12.78
<b>B. Inequality of labor income per worker</b>					
Labor income per worker 1970	(10)	5.939	10.027	8.379	37.158
Labor income per worker 1990	(11)	n.a	n.a	n.a	n.a
Labor income per worker 2000	(12)	8.858	12.963	11.095	5.944
Average annual growth in labor income (1970-2000)	(13)	5.30	4.10	4.18	5.54
Average annual growth in employment (1970-2000)	(14)	3.93	3.25	3.24	12.22
<b>C. Gini coefficient for household income</b>					
Inequality 1970	(15)	0.466	0.455	0.463	0.667
Inequality 1990	(16)	0.428	0.423	0.394	0.404
Inequality 2000	(17)	0.433	0.434	0.413	0.393

Sources: Economic Planning Unit (various years), Pyatt and Round (1984) and Saari et al. (2014)

Notes: n.a. = not available

Obviously, NEP appeared to be the solution to this unsettling feeling among the Malays. The government decided to implement NEP with two objectives namely “poverty eradication regardless of race” and

“restructuring society to eliminate the identification of race with economic function” (Jomo, 2004). To exemplify this, Chua (2004: p. 270) stated that bumiputras, who represented about 62 per cent of the population in 1970 only owned 1.5 per cent of the country’s capital assets. This has created a certain uneasy feeling among the Malays. Chua (2004: pp. 271 - 272) also notes that even though in many respects, the results of the NEP have been impressive, however the NEP has not lifted the great majority of Malays (particularly in the rural areas) out of poverty. Undeniably, to some extent, this affirmative action has helped to create a substantial middle class. By creating small but visible economic elite, and by bringing Malays participation into important economic sectors, the NEP has helped to promote a sense among the bumiputras that a market economy can benefit indigenous Malays.

However, she cautions that at the same time, the accomplishments of the NEP should not be overstated, as it has failed to achieve some of its most ambitious objectives. Worse yet, there is always the danger that government’s affirmative action policies will exacerbate rather than ameliorate ethnic conflict by entrenching ethnic divisions. For all these reasons, it would be irresponsible to champion affirmative action as the one-size-fits-all solution.

Another form of affirmative action in Malaysia is in institutions of higher education which is discussed under the Higher education section. The 20 principles of pros and cons of affirmative action are presented in Table 3 (GreenGarrageBlog, 2015)

This table presents a summary of contentions related to affirmative action. It provides some guidelines on how to adopt and adapt affirmative action and in which context. Though this might not solve the contention, however the guidelines may help to lessen the contention.

**Table 3: 20 Principles of Pros and Cons of Affirmative Actions**

Pros	Cons
1. It ensures diversity is in place.	1. It can serve as a reverse discrimination.
2. It helps disadvantaged individuals with advancing.	2. It destroys the idea of a meritocracy.
3. It offers a boost to disadvantaged students.	3. It can still reinforce stereotypes and racism.
4. It promotes equality for all races.	4. It can generate unfavorable results for businesses and schools.
5. It breaks stereotypes regarding color.	5. It can lower the accountability standards that are needed to push employees and students to perform better.
6. It promotes more work and study	6. It has a flaw with regards to diversity
7. It is needed to compensate minorities for centuries of slavery or oppression.	7. It would help lead a truly color-blind society.
8. It lets minority students get into advanced education.	8. It demeans true minority achievement
9. It assures equality in the workplace.	9. It can be condescending to minorities.
10. It offers protection from hatred.	10. It is difficult to remove, even after discrimination issues have been eliminated.

## AFFIRMATIVE ACTION IN UITM

Apart from the economical context, affirmative action also takes place in educational setting. In the Malaysian context, the implementation of affirmative action takes place in the policy of quotas which stated that the main reason for this “affirmative policies in higher education [is] to correct the past distortions of ethnic imbalances. The affirmative action in UiTM is reflected in the university’s vision, mission and objectives as stated below (Source: <http://www.uitm.edu.my/index.php/en/about-uitm/university-profile/motto-vision-philosophy-objectives>):

### **Vision of UiTM**

To establish UiTM as a premier university of outstanding scholarship and academic excellence capable of providing leadership to Bumiputeras's dynamic involvement in all professional fields of world-class standards in order to produce globally competitive graduates of sound ethical standing.

### **Mission of UiTM**

To enhance the knowledge and expertise of Bumiputeras in all fields of study through professional programmes, research work and community service based on moral values and professional ethics

### **Objectives of UiTM**

1. To provide maximum opportunities for bumiputeras to pursue professionally-recognised programmes of study in science, technology, industry, business, arts and humanities.
2. To provide quality and innovative programmes of study relevant to current market needs and customer demands, and in line with policies of national development.
3. To establish a human resource development programme as a tool for the assimilation of a value system within the university community.
4. To ensure that UiTM graduates are adequately prepared to join the local as well as the global workforce.
5. To establish UiTM as a centre of excellence that is accountable for the effective and efficient management of its human resources, finances and assets in order to achieve its educational objectives, while playing its role as a catalyst in community development.

The policy envisaged that the enrolment in each subject should correspond to the communal composition of the population as a whole." This policy works on the ground of providing equal access to education for those groups that have been historically excluded or underrepresented, such as

women and minorities. This is where Universiti Teknologi MARA (UiTM) comes in to remedy the imbalances of bumiputra economic equity through educating more of them. Universiti Teknologi MARA, also commonly known as UiTM is the largest tertiary educational institution in Malaysia. It has campuses in all states in Malaysia as shown in Figure 4.

<b>List of Campuses</b>		
<p><b>Selangor</b></p> <ul style="list-style-type: none"> <li>●UiTM Shah Alam</li> <li>●UiTM Puncak Alam Campus</li> <li>●UiTM Puncak Perdana Campus</li> <li>●UiTM Jalan Othman Campus</li> <li>●UiTM Selayang Campus</li> <li>●UiTM Sungai Buloh Campus</li> <li>●UiTM Section 17 Campus</li> </ul>	<p><b>Johor</b></p> <ul style="list-style-type: none"> <li>●UiTM Johor Branch</li> <li>●UiTM Johor Branch Pasir Gudang Campus</li> <li>●UiTM Johor Branch Larkin Campus</li> </ul>	<p><b>Terengganu</b></p> <ul style="list-style-type: none"> <li>●UiTM Terengganu</li> <li>●UiTM Terengganu Kuala Terengganu Campus</li> <li>●UiTM Terengganu Bukit Besi Campus</li> </ul>
<p><b>Pulau Pinang</b></p> <ul style="list-style-type: none"> <li>●UiTM Pulau Pinang</li> <li>●UiTM Pulau Pinang Bertam Campus</li> <li>●UiTM Pulau Pinang Balik Pulau Campus</li> </ul>	<p><b>Melaka</b></p> <ul style="list-style-type: none"> <li>●UiTM Melaka</li> <li>●UiTM Melaka Bandaraya Melaka Campus</li> <li>●UiTM Melaka Jasin Campus</li> </ul>	<p><b>Negeri Sembilan</b></p> <ul style="list-style-type: none"> <li>●UiTM Negeri Sembilan Branch</li> <li>●UiTM Negeri Sembilan Branch Seremban Campus</li> </ul>
<p><b>Pahang</b></p> <ul style="list-style-type: none"> <li>●UiTM Pahang</li> <li>●UiTM Pahang Kuantan Campus</li> <li>●UiTM Pahang Raub Campus</li> </ul>	<p><b>Perak</b></p> <ul style="list-style-type: none"> <li>●UiTM Perak</li> <li>●UiTM Perak Tapah Campus</li> <li>●UiTM Perak Teluk Intan Campus</li> </ul>	<p><b>Sarawak</b></p> <ul style="list-style-type: none"> <li>●UiTM Sarawak</li> <li>●UiTM Sarawak Samarahan 2 Campus</li> <li>●UiTM Sarawak Mukah Campus</li> </ul>
<p><b>Kelantan</b></p> <ul style="list-style-type: none"> <li>●UiTM Kelantan Branch</li> <li>●UiTM Kelantan Branch Kota Bharu Campus</li> </ul>	<p><b>Sabah</b></p> <ul style="list-style-type: none"> <li>●UiTM Sabah Branch</li> <li>●UiTM Sabah Branch Tawau Campus</li> </ul>	<p><b>Perlis</b></p> <ul style="list-style-type: none"> <li>●UiTM Perlis</li> </ul> <p><b>Kedah</b></p> <ul style="list-style-type: none"> <li>●UiTM Kedah Branch</li> </ul>

Figure 4: UiTM Campuses across Malaysia

Though the number of campuses is many, UiTM has started off its humble beginning as a training centre. It was the brainchild of the British colonial administrators in 1951. This institute materialized in 1956 when

Dewan Latihan RIDA or Rural and Industrial Development Authority (RIDA) Training Centre was established.

RIDA was structured as an organization that could systematically help and train the rural indigenous people to improve their economic status. The centre underwent its first name change and became known as Maktab MARA (MARA College of Business Studies) in 1965. This is in relation to the formation of Majlis Amanah Rakyat (MARA). In MARA official website, it states that *“Majlis Amanah Rakyat (MARA), or the Council of Trust for the People, an agency under the purview of the Ministry of Rural and Regional Development, was established on 1 March 1966 as a statutory body by an Act of Parliament as a result of the first Bumiputera Economic Congress resolution in 1965.”*

Thus, Maktab MARA became the most important unit of the newly-created MARA Training Division. It provided a venue for the much-needed training of Bumiputra. This state of realization happened upon the analysis of a Manpower survey. In 1966, the Malaysian government sponsored a Manpower Survey with the help from the United Nations as a preparatory step in assessing the country's manpower needs to formulate the First Malaysia Plan (1966 – 1970). The survey showed that there was a serious shortage of manpower at the professional level, a tendency especially prevalent among bumiputras, who were mostly enrolled in the arts and humanities. This pointed to the need to increase the insufficient opportunities for professional education in Malaysia (Fadzilah, 2000: p. 11).

The third name change took place when MARA College was again upgraded in October 1967 and became known as Institut Teknologi MARA (MARA Institute of Technology). The initial raison d'être for the existence of ITM has been succinctly stated by Arshad Ayub in ITM (1969: p. xiv)

*“Education is the key to improved living conditions, improved prospects, a better and fuller life.... Human resource is of all resources entrusted to man, the most productive, the most versatile and the most resourceful. But the human resource has to be trained and developed to be productive, to be versatile. Without the necessary training, it cannot be put to the most efficient use.”*



Finally, it shifted to its main campus in Shah Alam, and then underwent its fourth name change, when it was upgraded to university status. The fourth name change took place in 1999 with the name of Universiti Teknologi MARA, with its main campus situated in Shah Alam, Selangor. The synopsis of these name changes is shown in Figure 5.

## DEVELOPMENT OF UiTM



History of UiTM

1956 – 1965  
Dewan Latehan RIDA



1965 – 1967  
Maktab MARA



1967 – 1999  
Institut Teknologi MARA



26 August 1999  
Universiti Teknologi MARA

Figure 5: Development of UiTM

## CONCLUSION

Undoubtedly, the two inter-related areas of inquiry described in this article i.e. affirmative action and higher education in Malaysia, will continue to be discussed and debated. These two areas are indeed important areas of research and discussion, going back over the last six decades, as attested to by the literature. They are also issues that evoke varying sentiments from a wide spectrum of readers. Some people have opposed affirmative action, with the argument that affirmative action could stigmatize people and hurt a person's work environment. Others are in favour for it as it is a reverse discrimination process which could remedy the economic and education imbalance. The more pertinent issue presented is to do more with the question of permanence of affirmative action. The possibility of discontinuation of affirmative action in economic and education field may take place as diversity in type of economy, education and work force increases. This is exemplified when, a number of writers have questioned the "newness" of the NEP, given that it was introduced more than four decades ago, that perhaps it has outlived its usefulness and that there is a need for new and relevant policies to meet contemporary needs of Malaysian society (Aihara, 2009; Lee, 2015).

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# Q METHODOLOGY: AN OVERVIEW AND STEPS TO IMPLEMENTATION

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## ABSTRACT

*The research methodology known as Q Methodology is relatively unknown in the Malaysian sphere. Nonetheless, if you are uncovering 'points of view' held around a topic, Q Methodology is one of the methods to consider. There are seven (7) steps in Q Methodology implementation which combine both qualitative and quantitative methods. The aim of this article is to give an overview and steps to implementation of Q Methodology. Q Methodology, in this article is exemplified through a study on the conceptions of Autonomy in Language Learning.*

**Keywords:** *Q Methodology; Qualitative; Quantitative; Subjectivity; Points of View*

## INTRODUCTION

Q Methodology was proposed and developed by a British physicist-psychologist William Stephenson in the field of educational psychology in the 1930s. Brown, Durning & Selden (2008, p. 722) explained that:

*“Q Methodology is best understood as a type of research that identifies the operant subjectivity of individuals concerning a particular subject. The methodology encompasses a broader philosophy of how subjectivity can best be studied, an inherent epistemology and a method that includes a series of well-defined steps or phases.”*

It was “designed expressly to explore the subjective dimension of any issue towards which different points-of-view can be expressed” (Stenner, Watts & Worrell, 2008, p. 215). The development of Q arose from a perceived need to bring a scientific framework to the world of subjectivity, which Brown (1993: p. 94) referred to as the “basis for a science of subjectivity”. This is achieved by involving the use of factor analytic technique for grouping like-minded individuals. Basically, Q is utilised in uncovering opinion or perception of clusters and according to Brown (2004: p. 1), Q is often used for the following:

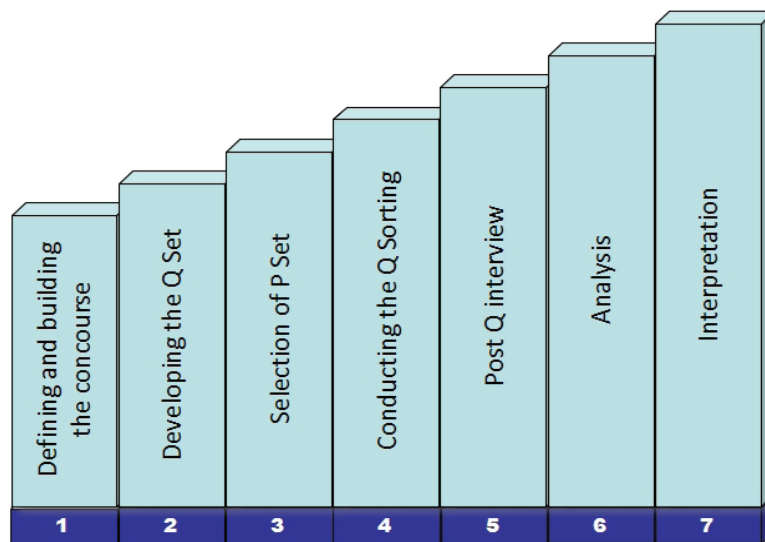
1. Identifying important internal and external constituencies
2. Defining participant viewpoints and perceptions
3. Providing sharper insight into preferred management directions
4. Identifying criteria that are important to clusters of individuals
5. Examining areas of friction, consensus and conflict
6. Isolating gaps in shared understanding

There has been a range of studies which have adopted Q Methodology in a variety of fields, such as nurse education (Barker, 2008), leadership (Militello & Benham, 2010), Mathematics education (Coogan & Herrington, 2011), psychology (Watts & Stenner, 2005; Shemmings, 2006), environment (Webler, Danielson & Tuler, 2007) and software engineering (Brown M., 2004) to name a few. The application of Q Methodology in the field of language learning and teaching is yet to gain momentum. Therefore, in this article, a study on the conceptions of Autonomy in Language Learning

(ALL) is used to exemplify the overview and steps to implementation of Q Methodology. The sections hereafter present the steps to implementation of Q Methodology.

## THE STAGES OF Q METHODOLOGY

One of the best ways to comprehend Q Methodology is to look at the stages involved in the whole process. This is shown in Figure 1.



**Figure 1: The stages of Q process**  
(All the seven stages are carried out once the research questions are formulated.)

### Step One – Defining and building the concourse

Defining the concourse is the first step. The ‘concourse’ is the collection of possible statements people make about the topic. Van Exel and De Graaf (2005) stated, “the gathered material represents existing opinions and arguments, things lay people, politicians, representative organizations, professionals, scientists have to say about the topic; this is the raw material

for Q” (p. 4). The subjectivity of what people are saying about the topic is of inherent interest here. Meanings that are assigned to the discourse, according to Davis and Michelle (2011, p. 566) are “inherently social and contextual and . . . audience members must inevitably draw on the discourses of the wider social world in constructing and articulating an account from their own unique location”. The self-referential subjectivity provides one of the bases for Q researches. The representations of subjectivity and eventually meanings are not only possible through verbal but also pictures, objects, audio, video recordings or even smell.

McKeown and Thomas (1988) distinguish two types of discourse – naturalistic and ready-made. Naturalistic discourses are taken from respondents’ oral or written communications, like questionnaire, interview and focus group, while ready-made discourses are taken from sources like existing print media (newspapers articles, magazines, public records, websites). An example of the definition given by one of the respondent is;

*For me, AUTONOMOUS/INDEPENDENT LANGUAGE LEARNING is where the learner intrinsically learns the language where the power is wholly handing on to them. The students need to find their own way to master the language; by using the correct techniques, by utilizing good gears, by maximizing various kinds of materials and a lot more. By this too, students can pepper up their language learning by using their own creativity. Thus, it could boost up their self-esteem that could make their understanding of the language even well. Somehow, this kind of learning will reduce the traditional talk and chalk techniques used by teachers. However, the guidance from the teachers is still necessary.*

*(Ayuni, B.Ed TESL)*

An example of the raw statement on the definition of autonomous language learning taken from the literature review is;

*We can define an autonomous person as one who has an independent capacity to make and carry out the choices which govern his or her actions. This capacity depends on two main components: ability and willingness. ... Ability depends on*



*possessing both knowledge about the alternatives from which choices have to be made and the necessary skills for carrying out whatever choices seem most appropriate. Willingness depends on having both the motivation and the confidence to take responsibility for the choices required.*

*Littlewood (1996: p. 428)*

The theoretical categories used in this stage can be formed based on existing theory or created based on the concourse. One thing that has to be remembered here is that these categories are referred to as ‘artificial categories’. They are “deemed to be artificial as the statements are filtered according to the researcher’s interpretation of the statements” meaning, while Q insists that meaning is only conferred by the sorter in the context of a singular situation (Morris, 2004, pp. 167-168).

Apart from that, to strengthen the formulation of the Q statements, guidelines from Webler, Danielson and Tuler (2009, p. 16) in relation to what good Q-statements should consist of were also employed to get a standardized format. They are summarised as follows: Salient - most important, prominent, relevant, significant; Meaningful to the people doing the Q sorts; Understandable; Have excess meaning - can be interpreted in slightly different ways; Must be something that people are likely to have opinion about; Having a mix of positively and negatively worded statements is probably wise, if it can feasibly be done. Gaebler-Uhing (2003) added that the statements should be subjective opinion statements (not statements of facts) that could generate feelings regarding the topic. The statements were then reviewed more extensively by the content experts in the field of ALL.

## **Step Two – Developing the Q Set**

The second step is the development of the Q set. A Q set is “a purposive selection of statements” (Brown, 2003: p. 2) drawn from the concourse. Apart from the Q set, there is also a need to prepare a Q grid as well as the ‘condition of instruction’.

The selection of statements for the Q set is of crucial importance, though according to Brown (1980 in Exel & Graaf, 2005: p. 5), it remains

“more an art than science”. Corresponding to this, Webler, Danielson and Tuler (2009: p. 17) stated that “the art of good research is to make all methodological judgments transparent and to have convincing explanation for the choices you make”. The Q statements that have undergone the first round of categorisations were yet again scrutinised for further enhancement. The statements went through another eight cycles of editing to eliminate ambiguity and repetition. This is critical, as this process helps to ascertain the representativeness and comprehensiveness of the statements in order to remain true to the focus of the study. This theoretical categorisation is to help reduce researcher’s bias. Some of the artificial categories cited in the first round of categorisations were collapsed with similar categories and were then renamed. For example, the category on ‘collectivism’ and ‘individualism’ were joined together and renamed ‘culture’, while categories like ‘teachers’, ‘practices’ and ‘degrees’ remained. In all, there were eight categories, namely ‘culture’, ‘teachers’, ‘practices’, ‘degree’, ‘mode of learning’, ‘context’, ‘skills’ and ‘philosophy’. The same took place with the statements under those categories. Examples of the statements include, ‘ALL involves the transfer of control to the learner’ from the teacher category, and ‘All is only applicable in the Western setting’ from the culture category. Typically, at the end of the process, the Q set will consist of 40 to 80 statements, which according to Watts and Stenner (2012: p. 61).

40 statements were chosen as the final Q Set for this study on the conceptions of ALL, incorporating an equal balance of five statements within each category to represent the view of autonomy in language learning. They were shown to my supervisor who was also an expert in the field of autonomy for face validity. The 40 statements (Appendix 1) were assigned a number randomly. This numbering system is for the purpose of analysis. For example the “ALL involves the transfer of control to the learner” was randomly numbered as statement 2 while “ALL is only applicable in the Western setting” was randomly numbered as statement 39. Using the Microsoft PowerPoint programme, each of the statements was copied into boxes. They were then printed before each of the boxes containing the statement was cut individually and then laminated. This is known as the Q-deck, which is to be used in the Q-sorting.

The next item to prepare is a Q-grid (score sheet). The preparation of this Q grid was made more manageable with Microsoft Excel. This study’s

Q-grid is a continuum ranging from -5 (least like what I think) to +5 (most like what I think) that took a quasi-normal distribution (Figure 2). According to Brown (1980), nowadays most Q-Methodology study employ a relatively flattened distribution while Excel and Graaf (2005: pp. 5-6) emphasised that the flatter the distribution, the more the participants are to have strong and well-articulated opinions on the topic at issue. Since the participants of this study are trainee teachers who are expected to have a high interest, as they had gone through the process of learning a second as well as a third language, the flatter distribution was adopted. The Q-grid was printed on two different types of papers for different purposes. The first was on an A3 for the purpose of the Q-sort and the second was on an A4 for recording the completed Q-sort. The A4 Q-grid has additional information printed on it – name of participants, year of study, date and time of doing the Q-sort.

The last mechanism needed in Q-methodology is the Condition of Instructions (Appendix 2) to be used during the Q sorting. It contained a short overview of what the study is about, the question that the participants have to consider while doing the Q-sort and, the instructions on how to do the Q-sort. The sorting instruction for this study is based on the research question of the conception of ALL. The participants sorted the cards in a manner that reflect their thinking about ALL following the ‘least like how I think’ to ‘most like how I think’. This condition of instructions was printed on an A4 and participants could always refer to it during the Q-sorting. The three items were then pilot tested.

In preparing the three entities needed for the Q sort, certain beliefs are adopted. The beliefs are:

- It is not possible to predict what salience a Q participant will read into a Q statement
- Not all Q participants will read the same salience into every statement.
- Some participants might assign positive or negative salience to every statement.

*Webler, Danielson and Tuler (2009: p. 17)*

### **Step Three – Selection of P Set**

The third stage involves the selection of the Q participants. These participants are referred to as the ‘P-set’. The selection of Q participants is not randomly done, rather, participants are deliberately selected to be as heterogeneous as possible. Q methodology tends to involve “a structured sample of respondents who are theoretically relevant to the problem under consideration; for instance, persons who are expected to have a clear and distinct viewpoint regarding the problem” (Exel & Graaf, 2005: p. 6). Since the Q participants are the variables and not the samples, the number of Q participants does not need to be very large, typically no more than 40 (Brown, 2003: p. 3). On a more recent note, Webler, Danielson and Tuler (2009: p. 21) commented on this by saying that the typical number of participants sufficient for the study is between one to three dozens. Malay trainee English teachers who are undergoing a Bachelor of Education in Teaching of English as a Second Language (TESL) from different year groups made up the 31 participants in this study. All participants were voluntary.

### **Step Four – Conducting the Q Sorting**

The Q Sorting is when the individual participant ranks the Q statements into a Q Grid, a forced quasi-normal distribution (a pre-set pattern grid with a scale labelled ‘most like what I think’, ‘neutral’ and ‘least like what I think’; Figure 2). Firstly, the participants have to read the ‘condition of instructions’ for the sorting. This is the statement given to the participants to help them sort the Q Set. For this study, the ‘condition of instructions’ is ‘What does autonomy in language learning mean to you?’. Then, they have to read the cards, on which the statements were printed and pile them into three groups – ‘most like what I think’, ‘neutral’ and ‘least like what I think’. The next stage is to take the individual pile, e.g., the ‘most like what I think’ pile, reread the individual cards to make finer distinctions among the statements and slot them into the grid in what they feel is the most appropriate location (Figure 2).

Least like what I think					Most like what I think					
-5	-4	-3	-2	-1	0	1	2	3	4	5

**Figure 2: A Q grid**

They started with the two statements that were ‘least like they think’ and put them in the -5 slots. They then moved forward from there. This was continued with the ‘most like what I think’ pile. The participants started with the +5 and move backward. Once done, the participants started arranging the neutral pile and the sorting was done when all the statements are slotted into the grid. It is important to remember that the rows that the statements were placed in have no significance, only the columns matter. The participants were reminded that there are no right or wrong answers and the positioning of the statements can be changed or moved at any time during the sorting. Finally, when the participants are satisfied with the positioning of the statements, they record the data by writing the card numbers on a data record sheet. This grid is referred to as the completed Q Sort. The completed sort is used at the data entry stage, where Q Analysis process is to take place. A summary of this Q Analysis is presented in Step 6.

### **Step Five – Post Q Interview**

Participants were asked to explain the reasons behind the placements of the cards on the grid. They were also prompted to express their opinions and feelings when they were doing the Q Sorting. In response to this, one of the participants (S4NN: 72-76) said that, “Ah... I mean the Q, the arranging thing, the reading stuff, I think it’s fun and then I think it’s quite interesting too, I think I can gain more knowledge to do something that I have not... this is my first time”. The interview lasted between 15 to 30 minutes for each of the participant and the interview was digitally recorded.

## **Step Six – Analysis**

A by-person correlation and factor analytic technique was employed to analyse the 31 completed Q Sorts. The by-person correlation matrix reflects the relationship of each Q Sort to the other Q sort. The matrix was then factor analysed to look for patterns among the Q Sorts, which were then rotated. This process resulted in a number of factors and in this study, it resulted in five factors. The researcher then decided on the number that he/she would like to keep for interpretation. This is based on certain guidelines like simplicity, clarity, distinctness and stability of the factor (Webler, Danielson & Tuler, 2007: p. 27). In this study four factors were retained. For the purpose of analysis, conventional software for statistical analysis can be used but there is also dedicated computer software for Q analysis. For this study, PQMethod was chosen, which can be downloaded free and is available at:

<http://www.rz.unibw-muenchen.de/~p41bsmk/qmethod/>

There are links for Windows as well as for Mac. This software allows for data input, generating the initial matrix, making the processes of factor extraction and rotation more straightforward (Mckenzie, 2009: p. 114). This is further explained in another article on Q Methodology Analysis: An overview and steps to interpretation.

## **Step Seven – Interpretation**

The interpretation of factors, according to Webler, Danielson and Tuler (2007: p. 27) is when the researcher “writes a description of the perspectives that the factor represents”. This is achievable by comparing and contrasting the positing of the statements in the reconstructed Q sorts that represent each factor. Interpretations are also guided by the semi-structured interviews carried out after the Q Sorting, the literature review on the topic, previous research and cultural knowledge.

## CONCLUSION

The seven steps in Q Methodology explained in this article is an overview, of which further explanation and elaboration are available in related literature. This article is to give a glimpse of Q Methodology with the hope of engaging more people to learn and use Q Methodology as an alternative method in research.

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## APPENDIX 1: 40 STATEMENTS FOR Q SET

### **The Statements**

1. ALL is when language learners enjoy a high degree of freedom
2. ALL involves learners having some control over their learning
3. ALL promotes the freedom of the learners
4. ALL only involves the use of authentic (not educational) materials
5. ALL involves the universal human characteristics of independence and interdependence
6. ALL can take place in a teacher-directed context
7. ALL is learning a language without the help of a teacher
8. ALL involves learning from and interacting with others
9. ALL involves using self-instructional materials
10. ALL involves accepting that freedom is not absolute
11. ALL involves a transfer of control to the learner
12. ALL involves taking responsibility for your own learning
13. ALL involves putting a lot of effort into language learning
14. ALL is a willingness to act independently and in cooperation with others as a social and responsible person
15. ALL is about empowering learners to improve their conditions, to become authors of their own world
16. ALL involves self-access language learning in the Self-Access Centre (SAC)
17. ALL involves using new technologies (e.g. computer-assisted)
18. ALL takes place both inside and outside of the classroom
19. ALL often occurs in social groups (family, clubs or community group)
20. ALL involves learners' active participation in planning and evaluating their own learning
21. ALL is having the skills to be a proficient language learner
22. ALL is when learners improve their language learning within the institution
23. ALL involve the development of the learner's sense of individuality
24. ALL involves teachers giving instructions to learners on what to do
25. ALL is present in different degrees at different times
26. ALL is having the skills to be a flexible language learner

27. ALL is a steady state achieved by successful language learner
28. ALL is communicative language learning
29. ALL involves acquiring skills for independent learning
30. ALL is having effective learning strategies
31. ALL is a constant negotiation between the self and the social
32. ALL is learner-centred learning
33. Memorising words and sentences is an example of ALL
34. ALL can only occur outside formal classroom
35. ALL is having the skills to be a responsible language learner
36. ALL is when learners improve their language outside the institution
37. ALL development is slowed when there is teacher intervention
38. ALL involves collaboration with teachers/peers helping the learners learn the language
39. ALL is only applicable to Western setting
40. ALL involves teachers training the language learners how to learn

**APPENDIX 2: CONDITIONS OF INSTRUCTION****A Study on Autonomy in Language Learning**

I am interested in your opinion about Autonomy in Language Learning (ALL). What you will be asked to do is to order 45 cards that contain statements from people like you about what ALL means to you. Rank-order the statements according to most or least like what you think. This study is about your opinions, so there are no right or wrong answers.

**Instructions**

1. There are 40 cards numbered from 1 to 40. As you read the cards, place them in **three** piles of:
  - least like what I think;
  - most like what I think; and
  - neutral (statements which you have no opinion of)
2. From least like what I think pile, select **two** cards which you think are **the most important** and place each of the cards in the boxes (in no particular order) under **column -5**.
3. From the remaining cards in the least like what I think pile, select **three** cards which you think are **the most important** and arrange them in the boxes (in no particular order) under **column -4**.
4. Repeat this process for **column -3, -2 and -1**. You may find that you do not have enough cards to completely fill these columns. In that case, pick cards from the neutral pile to fill in the columns. In the event that you have too many cards, place the extras in the neutral pile.
5. Now from the most like what I think pile, select **two** cards with which you think are **the most important** and place each of the cards in the boxes (in no particular order) under **column +5**.

6. From the remaining cards in the most like what I think pile, select **three** cards which you think are **the most important** and arrange them in the boxes (in no particular order) under **column +4**.
7. Repeat this process for **column +3, +2** and **+1**. You may find that you do not have enough cards to completely fill these columns. In that case, pick cards from the neutral pile to fill in the columns. In the events that you have too many cards, place the extra in the neutral pile.
8. Finally, arrange the cards in the neutral pile in the boxes (in no particular order) under **column 0**. When you are finished, you should have no cards left and no blank spaces on the grid. If you wish to change the position of certain cards, you may do this at any time.

**Thank you for your participation.**

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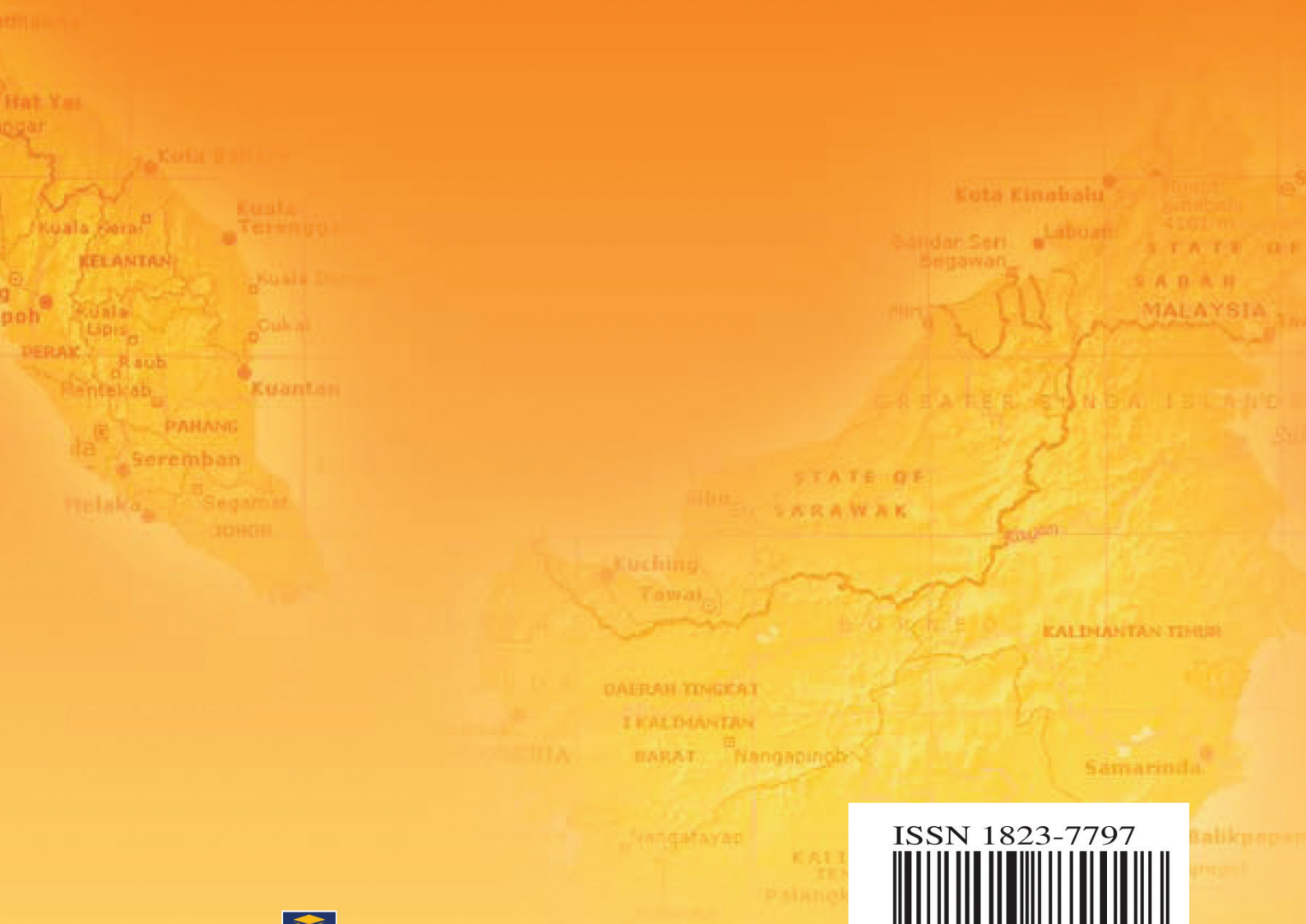
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