

Exploring the Language of Traffic Signs in the Malaysian Linguistic Landscape: Its Meaning

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ABSTRACT

A relatively new area of sociolinguistic research today focuses on linguistic landscape, in which linguistic elements that are emblematic of a society's identity are found and managed. The notion of linguistic landscape has been given varied interpretations, in the sense of what constitutes a linguistic landscape and its presence in a local, global or multicultural setting. This systematic study has chosen to focus on just one dimension of social reality that is brought to life through a semiotic system found in the Malaysian public domain. A study of this nature helps to uncover an aspect of visual language use that contours a relationship between the goals of public authority and the end users in a civil society. Specifically, the study attempts to give expression and meaning to the use of traffic road signs, as visual language, from the point of view of school children who are nurtured by society in a number of ways to participate responsibly in the power dynamics of a vibrant social structure.

Keywords: *linguistic landscape, traffic road signs, social reality, visual language, semiotic system*

Introduction

‘Language is the most powerful semiotic device that man has invented’ (Eco, 1978, p. 174). This device could also be referred to as a semiotic system (Carter et al., 2001, p. 3). Semiotics, in effect, studies the life of signs within a society and how meaning is constructed and understood by people. This life of signs impresses an important role in the ‘linguistic landscape of a given territory, region, or urban agglomeration’ which could translate into ‘the language of public road signs, advertising billboards, street names, place names, commercial shop signs and public signs on government buildings’ (Landry and Bourhis, 2007, p. 25). In support, Shohamy and Gorter (2009) elaborate that visual signs as linguistic signs are openly displayed in public for the purpose of them being read. They are interpreted for meaning, message, and purpose through context provided by words and images. Noticeably, one of the most essential visual signs in use in a linguistic landscape is that of traffic road signs.

A traffic road sign could be described as an iconic transcription of a legal message and the signs may be classified as regulatory, warning and informative. The signs are displayed publicly and they have to be interpreted in context (Bazire and Tijus, 2009). Gorter (2006) suggested that traffic signs, as an important part of the linguistic landscape, are typically placed by an official agency to maintain law and order. They are said to be figurative representations of law texts, seen as a complete language (Bazire and Tijus, 2009). The absence of textuality in traffic road signs in fact requires specific legal knowledge in order to understand the messages conveyed by the visual semiotics (Wagner, 2006). A ‘grammar’ of road signs connotes meaning through a shape, a background colour, a frame colour, an icon and/or text (Bazire and Tijus, 2009). This ‘grammar’ is summed up in Table 1.

Table 1: Summary of Types of Sign and Their Functions

	Danger warning signs	Regulatory signs	Informative signs
Sign-perception	to warn and inform road users of a danger	obligations, restrictions or prohibitions	travel information (direction, distance, place)
Colour semiotics	yellow or red	red or blue	green or blue
Shape semiotics	diamond shaped or triangle	circular, octagonal, triangular inverted	rectangular, or square

(Wagner, 2006, p.321)

This grammar is shared among interpreters who generally have a consensus of its use as a symbolic system. This form of visual semiotics, according to Wagner (2006), may even be universal where the values or information are shared not just by a local society but by societies of the world.

From this perspective of its centrality as an operating system in a society or societies, and its universality in appeal, it could be concluded that knowledge of road signage is crucial. Every single traffic sign stands for a single piece of data about current traffic conditions and significances. For young children, unclear interpretation of such signs in a linguistic landscape may show a lack of comprehension of the intended message. This could lead further to a misunderstanding of a road sign, with an end result that could be hazardous. Hence, comprehension on basic safety rules and information is important in the functional context of organized behavior and action within a social setup. The significance of children understanding road signs is often accompanied by an adult perspective, as adults, according to nature's order, are the main agent of nurturing the young. Understanding adult perceptions will feed into the understanding of the visual semiotics of young children.

Objectives of the Study

This study inspects responses to road signs from two perspectives. One perspective is from the teachers' point of view on the importance and familiarity of the traffic signs for primary school children. The other perspective involves the point of view of primary school children towards the interpretation of meaning of selected traffic road signs.

Research Design

Underlining the design are a social construction model and a theory that can be used to explain the symbolic functions of language. First, the model is identified with Lefebvre (1991) who argues that 'social space is produced through a triad consisting of spatial practices, representations of space and spaces of representation'. The model explains that there are everyday practices that can be carried out in a specific area and they are linked to how space is conceptualized and evaluated as well as how it is lived by individuals. Leeman and Modan (2009) pointed out that

linguistic ‘landscapes are characterized as representations of spaces that privilege particular subject positions and points of view’ (p. 337). The model can be tied to the understanding of a linguistic landscape seen as a space where individuals are able to impose emblems that serve to identify characteristics of a society and how these emblems are played out in life.

Second, the theory used to explain the function of emblems is anchored on Peirce’s theory of signs (2006). Peirce’s terminology consists of three elements: the *sign*, the *object* and the *meaning*. The triadic relationship explains the *sign* as representing something, the *object* as that which the sign stands for, and the *meaning* that the sign can convey. The understanding of signs in this study is related to traffic road signs found in the space provided in a linguistic landscape.

With these underpinnings in mind, the initial step in the study was to refer to the Malaysian road guidance book (Road Transport Department, 2003) to identify the significant emblems in the domain of traffic road signs and the open space where such signs are found. The selected signs served as the units for analysis in the study. A study of this nature has its constraints, among which is the question of sampling of the units of analysis. A decision has to be made as to the number of signs that would be considered to be adequate for study. Sampling is a contention in a study of this nature where the number of signs may be overwhelming and not amenable to a structured selection such as using a random number table to generate the units for analysis. Therefore, the method adopted is based on the simple principle of ‘most seen’ in daily life. In addition, the signs chosen should show a spread of pictograms from the more concrete display of objects to a more abstract depiction of meaning through the use of symbols.

After the selection of the signs, two set of questionnaires were constructed. The first questionnaire contained 30 multi-choice questions based on pictorial traffic signs. This was answered by a group of primary school teachers. A sample of primary school teachers were chosen as they were likely to be aware of the knowledge children had about traffic signs. The second questionnaire was constructed for the primary school children. The survey comprised two segments: teachers’ opinion on the relative importance of traffic signs to primary school children, and the perception of familiarity of those signs by students. The analysis of the teachers’ opinions towards the importance and familiarity of traffic signs as perceived by primary school children was also an aid to the construction of the questionnaire that elicited the children’s perceptions. The children

were required to choose their answers in response to selected pictorial signs that accompanied the questions in the 20 item multiple-choice survey questionnaire.

The study site was an urban Chinese school. Permission to conduct the study was sought and granted through official means. The study adopts convenience and purposive sampling method in obtaining the data. A random selection of one hundred students formed the sample of school children. The students were Chinese from both genders, and were from primary 4 to 6 to represent the voice of the primary school children. Children of these age groups were chosen because they were deemed to have exposure to road signs and they were more able to comprehend and answer simple questionnaires. In order to obtain valid data, the questionnaires were bilingual (English and Mandarin) as a strategy to ensure that these primary Chinese students were able to comprehend the survey questions well.

Ten participants who answered the questionnaires were later interviewed by the researchers. The participants were asked to describe some pictures, giving details about the pictures were about, and how the pictures made them think and feel. The findings are reported using percentages accompanied by interview data which give more information about the children's responses.

Findings and Discussion

The first part of this section discusses teachers' perception of the importance and familiarity of traffic signs to primary school children aged 10-12. The second part presents data on the understanding of the traffic signs by primary school children.

Part A: Teachers' Perception

This part of the findings sets the stage for the examination of children's comprehension and perception towards selected traffic signs in Malaysia. For the purpose of the study, the questionnaires were distributed to 30 respondents who were teachers. However, only 25 respondents whose age ranged between 20 to 54 years old answered the questionnaires completely. Their details are as follows (Table 2):

All of the 25 respondents are female. The years of teaching experience ranged from 1 to 29 years.

Table 2: Respondents from Different Age Groups

Age	20–24	25–29	30–34	35–39	40–44	45–49	50–54
Respondents	8%	28%	12%	8%	20%	8%	16%

The average score in response to the importance and familiarity of the 30 signs was obtained from the use of a 5-point Likert scale, ranging from not at all important to very important, and from not at all familiar to very familiar. The mean score 3.5 is used as the decision maker for the selection of ‘importance’ and ‘familiarity’ in each category to enable the selection of traffic signs that were used in the second questionnaire. The process yielded the following data (Table 3).

Table 3: Mean Scores of Warning Signs

No	Warning Road Signs	Importance	Familiarity
1	Traffic Signal Lights	4.84	4.92
2	Crossroad Intersection	4.48	4.24
3	Roundabout	3.16	3.60
4	Two-Way	3.96	3.88
5	Double Arrow	3.36	3.48
6	Narrow Bridge	3.60	3.28
7	Slippery Road	4.28	3.84
8	Cattle Crossing	3.96	3.64
9	Roadwork	4.20	3.60
10	Pedestrian Crossing	4.48	3.64
11	Disabled Person Crossing	4.52	4.20
12	School Zone	4.60	4.04
13	Caution	4.56	3.84
14	Falling Rocks	4.44	3.76

The 14 selected traffic signs are crucial in the marking or warning of hazards ahead. According to the 25 respondents, students were familiar with most of the warning signs except the signs “Narrow Bridge” (3.28) and “Double Arrow” (3.48). Most of the warning signs which scored beyond the importance level (3.5) are considered as important except for the signs “Roundabout” (3.16) and “Double Arrow” (3.36).

In addition to the warning signs, 9 regulatory signs were selected (Table 4). Regulatory signs (prohibitory signs and mandatory signs) were

designed to provide instructions or to highlight regulations followed by road users. The prohibitory signs were used to indicate a forbidden action or restriction while the selected mandatory signs; “Follow the Sign” and “Bicycle Track” indicate essential or exclusive action. In general, students were familiar with these regulatory signs. Using the mean score of 3.5 again as a decision maker to benchmark importance and familiarity, it can be seen that all of the regulatory signs were considered familiar by the school children. However, the respondents suggested that the signs “Speed Limit 40KM/H” (3.28) lacked essentiality in relation to children’s safety knowledge.

Table 4: Mean Scores of Regulatory Signs

No	Regulatory Signs	Importance	Familiarity
1	No Entry	4.80	4.16
2	No Stopping	4.56	3.76
3	Speed Limit 40KM/H	3.28	3.88
4	No Pedestrian Crossing	4.44	3.76
5	No Parking	3.52	4.72
6	No U-Turn	3.76	4.40
7	No Bicycle	3.80	4.32
8	Follow the Sign	4.08	3.92
9	Bicycle Track	4.28	3.72

Seven informative signs were chosen for this survey (Table 5). Informative signs function to give locational information or to advise road users about directions, distances, destinations, routes or location of services. In general, respondents believed that children aged 10-12 were

Table 5: Mean Scores of Informative Signs

No	Informative Signs	Importance	Familiarity
1	Parking	3.40	4.00
2	Hospital	4.48	4.20
3	Food and Beverages	3.60	3.84
4	Petrol	4.08	4.32
5	Emergency Call	4.56	4.12
6	Airport	3.76	4.00
7	Highway	3.96	3.56

familiar with the seven informative signs. However, the respondents judged that children were not so familiar with the sign that indicates “Parking” (3.40). On the whole, the respondents believed that most of the informative signs were important as knowledge for children.

By obtaining the mean score for the three categories (Table 6), it can be noticed that warning signs obtained the highest mean in importance (4.17), followed by regulatory signs (4.06), and the lowest score was for informative signs (3.88). Warning signs are likely the most important because these signs indicate potential hazards, obstacles or conditions ahead on the road which require immediate attention. Based on the respondents’ opinion, students are most familiar with the regulatory signs (4.07), whilst being least familiar with most of the warning signs (3.85).

Table 6: Mean Scores by Traffic Signs Category

No	Categories	Importance	Familiarity
1	Warning Signs	4.17	3.85
2	Regulatory Signs	4.06	4.07
3	Informative Signs	3.98	4.00

Table 7 shows the responses with regard to children’s general awareness of road safety. According to the respondents, many children were rated as average in having general awareness of road safety (48%). Forty percent (40%) believed that students were good in road safety awareness. However, 12% of the respondents stated students were poor. All the respondents stated that road signs were taught in school, and they as teachers have been trained to teach students about traffic signs.

Table 7: Children’s General Awareness of Road Safety

Opinion Rating	Very Poor	Poor	Average	Good	Very Good
Respondents	0%	12%	48%	40%	0%

The information obtained from the teacher questionnaire was used to formulate the second questionnaire that was administered to the children aged 10-12. All the warning signs, regulatory signs and informative signs that had a score of 3.5 for ‘importance’ and ‘familiarity’ were selected for the questionnaire. The overall mean score for the warning signs was 4.17, and the selected warning signs semiotically signalled the

meanings of “Traffic Signal Lights”, “Crossroads”, “Slippery Road”, “Roadwork”, “Disabled Person Crossing”, “Pedestrian Crossing”, “School Zone”, “Caution” and “Falling Rocks”. The regulatory signs (mean score of 4.06) were “No Entry”, “No Stopping”, “No Pedestrian Crossing”, and, Bicycle Track” and “Follow the Sign”. The informative signs had a mean score of 3.98 and these signs gave information about “Hospital”, “Petrol”, “Highway Sign” and “Emergency Call”.


In addition, the warning sign “Cattle Crossing” (3.96) and the regulatory sign “No Bicycle” (3.80) were added. Out of the 20 traffic signs, a total of 10 signs prompted the functional awareness of warning, 6 were regulatory signs and 4 informative signs.

Part B: Interpretation toward Traffic Signs

One hundred respondents took part in this survey. 31% of the respondents were 10 years old, 25% of them were 11 years old, and 44% were 12 years old. Among the respondents, 43% of them were male, while 57% of the respondents were female.

Table 8 tabulates the information from the questionnaire about the children’s comprehension of warning signs. Pictures were presented to the respondents and they had to pick the correct answer from the multiple-choice options that accompanied the picture. As mentioned earlier, the questionnaire was bilingual to ensure response validity.

According to the results, respondents (100%) were most familiar

with  and this was likely due to the commonplace exposure of the sign in their daily lives. In the interview, the interviewees (10 children) confirmed that they were very familiar with “Traffic Signal Lights”. They were able to state that the colour red requests for the action ‘stop’, amber informs road users ‘to prepare to stop’, and green means ‘go’.

















 and  are two triangular warning signs which are also familiar to the respondents. They had scores of 98% and 94% respectively. All the interviewees stated that the “Caution” sign means ‘danger’ or a warning to exercise caution. However, they were unable to provide clear explanations for arriving at their response. There is a great likelihood that they learnt this sign through memorization as this sign was more abstract in nature with no concrete pictorial cues. For the second sign they were able to identify “Falling Rocks” by saying that the ‘round falling pieces’ were like ‘rocks’ while the ‘big triangle’ was like a ‘hill’.



Table 8: Scores for Warning Signs

	Warning Sign	Answered Correctly %	Answered Wrongly %
1	 Traffic Signal Lights	100	-
2	 Caution	98	2
3	 Falling Rocks	94	6
4	 Roadwork	89	11
5	 Crossroad Intersection	83	17
6	 Pedestrian Crossing	82	18
7	 School Zone	80	20
8	 Cattle Crossing	65	35
9	 Disabled Person Crossing	64	36
10	 Slippery Road	36	64

Eighty-nine (89%) of the respondents were able to associate the human silhouette with the action for roadwork - . Most of the interviewees gave appropriate answers for the sign, such as ‘worker is working’, ‘worker digs on the floor’, or the more complete answer ‘worker is building road’ (road construction).

Respondents understood the signs  ,  and  well as indicated by the scores of 83%, 82% and 80% respectively. Most of the interviewees knew the meaning of “Crossroad Intersection”. They pointed out that the ‘black cross’ referred to a crossroad. However, a few interviewees thought this sign meant a ‘church’ (the icon interpreted as a holy cross) or ‘hospital’ (the icon of a cross could refer to a hospital though it would by convention be in red). The interviewees defined “Pedestrian Crossing” by saying ‘a walker is crossing road’, or verbalised

‘pedestrian can use this road’. Some of them said that ‘pedestrian is allowed to enter’. For the “School Zone”, most interviewees interpreted the sign as ‘parents guiding their kids to cross the road’, ‘school kids crossing the road’ and ‘school kids going to school’. However, one interviewee interpreted the illustrated sign as ‘parents and kids go to shopping mall’. This interpretation was certainly influenced by urban living.

As for these two signs,  and  only 65% and 64% of the respondents respectively were able to comprehend them correctly. During the interview, most of the interviewees were able to show a basic understanding of a ‘cow’. However, answers for “Cattle Crossing” were rather varied with interpretations ranging from ‘cows eat grasses at there’, ‘cows rest’, to ‘cattle farm is not far’. In the case of “Disabled Person Crossing”, some of the responses were ‘washroom for disabled users’, ‘provide help to disabled’, and ‘watch out for disabled’.






Only thirty-six (36%) of the respondents were able to comprehend the sign  as “Slippery Road”. Most of the interviewees thought this sign meant ‘winding road’ (). Some were able to say that ‘car cannot be driven steadily’ from the picture. It shows that most of the interviewees were unable to distinguish the two iconic signs likely due to the fact that they had yet to be drivers.

Table 9 shows responses to the regulatory signs. Most of the respondents understood  (96%),  (91%) and  (89%) well. Some interviewees said that “No Bicycle” meant ‘no bicycle allowed for entry’, ‘no bicycle cycling around’ and ‘no bicycles can park here’. For the sign “No Pedestrian Crossing”, some interviewees read it as ‘no entry’. Although most of the interviewees were able to give the correct answer to the sign “No Entry”, they were unable to give further explanation about the image. They confessed that they learnt this sign through memorization.











However, nearly half of the respondents could not comprehend the signs of  (44%),  (49%) and  (52%) well. Interviewees’ responses differed greatly towards “Bicycle Track”, saying that it meant ‘place for bicycle’, ‘bicycle parking’, ‘bicycle is allowed to entry’; and ‘bicycle is allowed to stop’. Some of the respondents interpreted “Follow the Sign” as ‘one Way Street’ represented by .

Table 9: Scores for Regulatory Signs

		Regulatory signs	Answered Correctly %	Answered Wrongly %
1		No Bicycle	96	4
2		No Pedestrian Crossing	91	9
3		No Entry	89	11
4		Bicycle Track	56	44
5		Follow the Sign	51	49
6		No Stopping	48	52

Most of the respondents seemed unaware that the shapes of the sign do convey messages. “Follow the Sign” is enclosed in a circle while the “One Way Street” is enclosed in a rectangle. Interviewees’ responses towards “No Stopping” were varied. They recognised it as ‘no entry’, ‘no stopping’, and ‘no parking’. Most of the interviewees had difficulties in responding to this sign. The lack of pictorial clues that are familiar, for example as found in the signs that show a cow or a bicycle could have added to the problem.

Table 10 shows that the respondents were able to comprehend the









 (99%) and  (98%) very well. The interviewees explained that the symbol ‘H’ stands for “hospital”, or added that “hospital is not far

Table 10: Scores for Informative Signs

		Informative signs	Answered Correctly %	Answered Wrongly %
1		General Service Sign for Hospital	99	1
2		General Service Sign for Petrol	98	2
3		Highway Sign	68	32
4		Emergency Call	64	36

away (from here)” or “hospital is at the area”. The interviewees understood the general service sign for petrol as ‘petrol station’. They pointed out that the icon in the sign looks like a petrol pump, or ‘machine for petrol filling’.

Only 68% of the respondents understood the pictorial sign  correctly, and others gave answers such as ‘bridge’, ‘tunnel’, and ‘airport

runway’. The  was understood only by 64% of the respondents. Responses varied from ‘public phone provided from 250m ahead’ and ‘free police call from 250m ahead’. Most of the interviewees interpreted the sign to mean the presence of a “public phone” or just ‘emergency phone’ without other details given on the sign. Some of them did not pay attention to the word ‘*keceemasan*’ (emergency) or to the displayed numerals. It can be observed that some of the respondents considered the sign as a public phone in spite of the word ‘*keceemasan*’ (emergency) being present. Only a few of the interviewees were able to provide more specific answers, such as “emergency phone is available 250 m ahead”. It could be concluded that a picture appears to create a greater impression compared to text on the children.

Conclusion

In this study, it was noted that generally the primary school children have a reasonably good level of knowledge of the signs used in the survey. Children’s perception towards traffic signs depends much on their recognition of familiar beings and objects around their environment. Therefore, children’s background knowledge and their entire repertoire of life experiences could determine the quality of meaning in a linguistic landscape and this is shown in the interpretation of traffic signs. Correspondingly, the learning of traffic signs, as coached by teachers in the classroom, may have influenced the children’s literacy level of traffic signs. Where ambiguity exists, the children should be taught the correct interpretation to ensure safety and an increased awareness of meaning that is decoded from iconic messages that form part and parcel of lived experience. Implications of the study could be linked to schools as an entity that is found in the linguistic landscape. Schools participate actively in the shaping of the environment in which school children are placed. These children ‘read’ signs all the time and these signs form a language

that could be studied in schools to enable the children to develop language awareness related to different forms and functions of signs. As pointed out by Gurter and Cenoz (2008, p. 353), “many signs are examples of highly creative display of language mixing, innovation or hybridization”. From the interview data, the children were not too aware of messages conveyed through shapes and their connotations, such as the use of a circle to indicate a specific classification of signs (regulatory). As such, teachers could highlight shape semiotics as a form of visual language communication.

In a sense, the study points to the richness of semiotics as an attribute located and anchored in a linguistic landscape which can come to life through visual language. Signs do “talk” and we have to “listen” with a degree of accuracy in order to participate actively in the dynamics of man engaging with his environment to produce desirable outcomes.

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