

Semiotic Analysis: A Study Of The Interpretation Of Road Signs Among Professional And Non-Professional Drivers In District Mardan



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Abstract: *The aim of the current study is to examine how professional and non-professional drivers can comprehend the traffic signs that are most prevalent in the Mardan region. This research intends to draw attention to the differences between drivers' perceptions and understanding. This study also intends to determine how education affects the comprehension and interpretation of professional and non-professional drivers. To conduct this study, the researchers have collected data from non-professional and professional drivers of the Mardan region. The drivers were interviewed, and based on their responses; they were divided into professional and non-professional drivers. The study's main objective is to shed light on how professional and nonprofessional drivers interpret traffic signs that they come into close contact with. The researchers came to the conclusion that professional drivers' interpretations differ from those of non-professional drivers. The study also discovered that drivers mostly depend on their driving experience for comprehension rather than their educational background.*

Key Words: Semiotic Analysis, Professional Drivers, Non-professional Drivers, Road Signs, Interpretation.

Introduction

A contemporary language discipline known as semiotics was developed in the 20th century. It deals with signals, both linguistic and nonlinguistic, and the meanings that go along with them. A linguist can determine the several meanings connected to a single sign with the use of semiotics.

The concept of Semiotics was initiated by Augustine (c.397AD) and Poinot, followed by the work of John Locke in 1690. The most important development in Semiotics was done by Ferdinand de Saussure and Charles Sanders Peirce, who discovered the divisions of semiotics, realism and idealism (1867-1914).

The first concept about signs was given by Saussure (1916). He (ibid) in his "Course in General Linguistics" introduced a binary pair of synchronic and diachronic approaches (1916). He (ibid) marked a shift from traditional linguistics to modern linguistics and stated that a sign is comprised of a Signifier and a Signified. Saussure demonstrated that a Signifier is the actual image of a certain thing while a Signified is the concept or psychological image of that thing. With this study, Ferdinand de Saussure laid the foundation of early semiotics.

Peirce (2006) defined a sign as "something which stands to somebody for something".

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Moreover, he divided signs into three main type.

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: (1) An Icon, which resembles its referent, (2) An Index, which is related to its referent and (3) A symbol that is associated with its referent only by convention. These developments led to the progress of Semiotics which resulted in many subfields of Semiotics that as Cognitive semiotics, Pictorial semiotics, Bio semiotics, Cyber semiotics, visual semiotics and so on.

Linguistic or verbal communication is the oral communication where the message is conveyed through spoken words. People express their thoughts, ideas, opinions and feelings with the help of words. Nonlinguistic communication includes gestures, body language, facial expressions, use of objects or social cues etc. Semiotics falls in the domain of non-linguistic communication. A word or sign can have a variety of meanings in different cultures. Taking into account the example of colours, they are perceived differently in different cultures. For instance, the colour White means purity, cleanliness and happiness in Western society as it is worn by Christian brides while on the contrary white symbolizes death, mourning and grief in Eastern society. So the comprehension of different nonlinguistic features depends on the culture and norms of the society an individual lives in.

"A sign is a mark or shape that always has a particular meaning" (Collins, 2019). Road signs are dimensioned specific signs that regulate the driving skill of the driver and alarm the driver of a vehicle about upcoming situations. It helps the driver to take precautionary measures in order to continue a safe and sound journey. The motive of road signs is to promote road safety and efficiency by providing for the orderly movement of all road users on all roads in both urban and rural areas. Road signs notify road users of regulations and provide warnings and guidance needed for safe, uniform and efficient operation (Vel, 2017).

A driver is someone who is licensed and has good driving skills. In addition to that, a professional driver is someone who is employed and has financial aspirations. The

driver uses the appropriate driving technique to achieve that aim. Professional drivers are frequently aware of their driving abilities and strive to excel in order to please their various employers. As a result, experienced drivers are observed paying closer attention to traffic signs. Contrarily, a non-professional driver is someone who just uses a car for personal purposes and not for monetary gain. Untrained drivers are capable of operating a car safely, but they lack any financial or employment-related motivation. Non-professional drivers sometimes have little awareness of their driving abilities; therefore they rarely worry about obeying traffic laws or sign boards' directions.

Yet whether or not to obey traffic signs is entirely a matter of personal, intellectual, and psychological choice. A non-professional driver may be more adept at reading traffic signs than a professional one. In Pakistan's Khyber Pukhtunkhwa province is the city of Mardan. With a population of about 358,604, it is Khyber Pakhtunkhwa's second-largest district. Road signs are not entirely adorned in Mardan city. The majority of road signs are linguistic markers. Seldom are the non-linguistic signs placed along the sides of the roads. Mardan's community has a 36.5% literacy rate, which includes members of every social and economic level. This population is generally illiterate. The literacy rate of drivers is very low.

The analysis of both professional and non-professional drivers is the focus of the aforementioned study. This study examines the semiotics of traffic signs to evaluate the drivers' degree of comprehension. Also, the relevant research study compares and contrasts the sign understanding abilities of professional and nonprofessional drivers as well as the impact of their educational background.

Research Questions

- i. What is the difference in the interpretation of road signs between professional and non-professional drivers of Mardan?
- ii. How the educational qualifications affect the interpretation capability of professional and non-professional drivers of the Mardan region?

Literature Review

This chapter will review most of the studies that are carried out for the analysis of signs semiotic analysis. The present chapter will throw light on different studies and articles from all over the world. The use of semiotic analysis and its accurate process of usage are discussed in this chapter. This chapter studies different works of researchers from renowned universities that contributed to the analysis of different signs. The chapter also determines possible areas of study that can bear semiotic analysis and are favourable to analyze. This chapter also brings different models and methodologies of semiotic analysis that are feasible and appropriate to precede analysis.

Radford (2000) administered a research study that threw light on "Signs and meanings in students' emergent algebraic thinking: A semiotic analysis". The researcher investigated the way students use algebraic signs and instil meanings in the algebraic signs. The researcher also carried out an investigation, in order to provide a description of students' enhancing and unique thoughts regarding different algebraic patterns. The researcher took Vygotsky's Theory from the historical school of linguistics, and Bakhtin and Voloshinov's theory of discourse. Both theories were mixed and grounded in semiotic analysis in which algebraic thinking was considered a sign-mediated cognitive praxis. The researcher carried out qualitative research that studied the individual subjectivity of students and the interpretation of signs in students. The researcher also studied the association of meanings with algebraic expressions. The researcher focused on the discussion held by a small group of students of which an interpretative discourse analysis was provided. The researchers' study resulted in the conclusion that students associate a single meaning with a single expression and grasp that meaning from their own thoughts of the students.

Tsotra, Janson and Cecez-Kecmanovic (2004) conducted a research study on "Marketing on the Internet: A Semiotic Analysis". The researchers attempted to figure

out the contribution of semiotics in revealing hidden meanings in Internet Marketing. The researchers used the semiotic model of Ferdinand de Saussure (1965). In the stated model, De Saussure introduced the concept of signifier and signified. The researchers also used the model of Levi-Strauss (1983) named as 'bricolage'. Bricolage is the process in which the signs and symbols are interpreted from available cultural perspectives. The researchers analyzed two advertisements from different mobile companies. The physical and software features of both mobile phones were also taken into account. The researchers agreed with the conclusion that individuals belonging to different cultures have different comprehension and interpretation of certain ideas.

Johansson and Rumar (1966) carried out a semiotic study for the analysis of road signs. The researchers conducted a study on "Drivers and Road Signs: A Preliminary Investigation of the Capacity of Car Drivers to Get Information from Road Signs". The aim of the research was to investigate the comprehension of drivers regarding road signs that were mounted on the sides of the roads. The researchers also purposed that figure out the quantitative percentage of car drivers who take notice of the road signs and who pass by without noticing anyone of them. The area of study was Sweden and the target people were car drivers. The researchers carried out a quantitative analysis to determine the percentage of car drivers that were competent in comprehension of specific road signs and also to drag out the percentage of car drivers that were not well enough in comprehension of certain road signs. The researchers also analyzed the signs installed on the roadsides in order to categorize all the signs according to the competence level of the car drivers. The researchers analyzed that the road signs were on five subjects in an area of about 105 miles long and were in optimal condition. The researchers statistically figured out that there was 47 per cent of car drivers passed by the signs without noticing them.

Kessous and Roux (2008) carried out a study in their article, "A Semiotic Analysis of Nostalgia as a Connection to the Past". The researchers based the article on the

contributions of Greimas' contributions to Semiotics, in 2002. The article is a qualitative research, in which the researchers carried out a semiotic analysis of the meaning of nostalgia related to usable products and brands. The researchers used the technique of interview. The researchers conducted two staged interviews, in which informants were interviewed in 2005 and then, the same group was interviewed after a year that is, in 2006. The analysis was carried out in three steps. In the first step, the researchers identified two dimensions of time that structure the informants; 'Continuity' and 'Discontinuity'. In the succeeding step, the researchers followed up lexical analysis of the vocabulary that was used by the informants. Finally, a semiotic analysis of the text was carried out. The researchers successfully inclined to the conclusion that the concept of continuity versus discontinuity provides a framework for understanding the various features of nostalgia. It defines four nostalgic moments: daily past, transition, uniqueness, and tradition.

Bezemer and Kress (2010) analyzed textbook texts in "Changing Text: A Social Semiotic Analysis of Textbooks". The researchers proposed a multimodal account of historical changes in secondary school textbooks in England and the social importance of those texts. The core subjects; Science, English and Mathematics, of the English National Curriculum were taken into account and the text and its making were analyzed. A comparative analysis of Textbooks from the 1930s, 1980s and 2000s was carried out. The Data analysis inclined to the conclusion that all modes, printing, layout, image and writing, contribute to the meaning and learning potential of learners. It is also concluded that the usage of these modes had changed over a period of time that is from the 1930s until 2010. The change in mode resulted in significant changes in the social relationship between and across the users and makers of textbooks. In the 1930s and 1980s, coherence was not focused on by the designers of textbooks but in the 2000s, the makers of textbooks took complete responsibility for coherence in textbooks. Previously, the reading paths were fixed, but it was usually left to the learners, in the

2000s, to alter and mould it according to their own interests. For the users of textbooks, the changes in design result in new forms of literacy, which make them not only fluent in reading, writing, image, typography and layout but also in the overall design of the educational environment.

From the above articles, it can be inferred that Semiotic Analysis plays a vital role in analyzing every kind of sign. The studies suggest that meanings are naturally assigned and these can be assigned purposely, as seen in advertisements. The studies give different perspectives to the researchers to carry out their respective studies by using different models of semiotic analysis. For researchers, semiotic analysis is the best possible technique to analyze signs and symbols and to reveal the multiple meanings of respective signs.

Research Methodology

This research uses a qualitative approach for data collection. This study is interpretative and descriptive in nature. The researchers talk about the responses of professional and non-professional drivers and evaluate their capacity for interpretation and understanding. Semiotic Analysis provides the theoretical structure for this research as Berger (2004) stated that "in semiotic analysis, content and form are arbitrarily and transiently separated, and emphasis is placed on the network of signals that constitutes a text". The capacity of drivers to recognize and understand traffic signals is examined using semiotic analysis. Road signs will be used to aid in the analysis. There are four different types of signs that need to be examined: Regulatory, Information, Guide, and Construction signs.

To collect respective data, Random sampling is carried out. Participants are divided into six professional and six non-professional drivers. Each participant is interviewed with twelve questions and their respective responses are penned down. For each type of traffic sign chosen, the researchers get two road signs. The signs selected are the most familiar ones in the area of Mardan. Non-linguistic signs make up every single sign. Each participant has a valid

license. Each driver is asked to read and comprehend each of the eight signs after being given the printed photographs.

Data Analysis

The researchers covered the descriptive semiotic

study of Road signs among professional and non-professional drivers in this chapter.

- What is your age?
- Thirty or Below
- Above Thirty

Analysis

Eleven participants out of twelve were above thirty. One participant was under thirty. It determined that the respondents were experienced and had been driving for a longer period of time.

1. Are you educated?
 - Yes
 - No

Analysis

All of the drivers were educated. Due to their education, all of the drivers were able to comprehend the questions and provide appropriate answers.

2. What is your educational qualification?
 - Uneducated
 - Matric
 - Intermediate
 - BA/BSc or above

Analysis

In answer to this inquiry, four drivers were matriculating, two had completed intermediate school, and six had graduated from high school. No driver was uneducated.

3. Are you licensed?
 - Yes
 - No

Analysis

Every driver, who took part, had a license. Several of the respondents also had foreign licenses.

4. Do you earn from driving?
 - Yes

- No

Analysis

Six drivers were being paid for their driving expertise. Therefore, they are considered professional drivers, as opposed to the six individuals who were not making money from their driving abilities. They qualify as non-professional drivers since they were using their talent for their own gain.

5. Have you observed Road signs in your surroundings?
 - Yes
 - No

Analysis

Both Professional and Non-professional drivers concurred that they observed road signs in the Mardan region where they had been driving.

6. Do you follow Road Signs?
 - Often
 - Seldom

Analysis

Nine people utilize road signs more frequently than the other three participants, who use them based on circumstantial evidence. One of the three participants mentioned was professional, while the other two were not. Of the nine participants listed, five were not professionals, and four were. Compared to professional drivers, non-professional drivers are more likely to adhere to the regulations. Professional drivers have greater expertise and are accustomed to driving in all types of circumstances than non-professional drivers. Consequently, they were less concerned about obeying traffic signs than non-professional drivers were.

7. Do you think signs are helpful in driving?
 - Yes
 - No

Analysis

Signs are a highly useful tool for drivers, according to all of the participating drivers. Because of the Road signs, time waste and potential life threats can be avoided.

8. Is education helpful for you, in comprehending and interpreting signs?
 - Yes
 - No

Analysis

All of the participants acknowledged the value of education and agreed that it is essential for correctly interpreting and comprehending road signals. Both professional and non-professional drivers concurred that education has a significant role in the capacity to understand and interpret road signs.

9. If you were Educated/Uneducated, would you be able to get all the signs?
 - Yes
 - No

Analysis

The remaining six participants agreed that their education is helpful in interpreting and comprehending road signs and that they would not be able to understand the road signs, despite the fact that all of the participants were educated; however, six participants claimed that even if they were uneducated, they would still be able to do so. Six of the aforementioned participants, two of whom were non-professional and four of whom were professional, agreed that an academic background aids in understanding and interpreting traffic signs. Four individuals from the latter group were professional and two of them were non-professional. Since professional drivers receive their training from institutions, when it comes to understanding and interpreting traffic signs, they place less importance on academic qualifications than non-professional drivers.

10. Has your driving experience helped you in the interpretation and comprehension of signs, despite being uneducated?
 - Yes
 - No

Analysis

All of the respondents concurred that their driving expertise was crucial to understanding and evaluating road signs. The

twelve participants' professional drivers tended to depend more on actual driving experience than formal driving courses and classroom instruction. The majority of the participants had a combined driving experience of between ten and fifteen years. Driving experience is considered more highly than a degree in their perspective. Most of the professional drivers had foreign driving experience and also, two professional drivers owned international licenses.

11. What do you interpret from this sign?

Figure 1



- It shows restricted Areas on the road and how to avoid it.
- It determines the lane on the road.

Analysis

Both professional and non-professional drivers were able to read the sign accurately, and everyone else understood that it indicated a section of the road that was restricted and needed to be avoided. While interpreting and understanding the sign, non-professional drivers relied on their educational background, whereas professionals relied on their driving experience.

Figure 2



- It shows danger from living beings.
- It symbolizes undergoing construction.

Analysis

All of the respondents were able to identify the sign since they were all familiar with it from having seen it in their environment. Both professional drivers and non-professional ones were able to understand the sign's symbolism for ongoing construction on the road. Everyone who participated properly understood the indication. Professional drivers utilized their driving expertise to understand and interpret the sign, whereas non-professional drivers used both, their academic knowledge and driving experience.

Figure 3



- Gas pump
- Tyre Shop

Analysis

All of the respondents knew what the traffic sign was since they had seen it in their immediate surroundings. Along with professional drivers, non-professional drivers also recognized this sign as a gas or petrol pump symbol. All of the participants made use of their prior driving knowledge, and using that knowledge, they properly understood and interpreted the road sign that was shown to them.

Figure 4



- Railway line
- Zebra crossing

Analysis

All of the responders replied swiftly to this sign. Both professional and non-professional drivers substituted their driving history for their academic credentials. All of the participants understood that this sign indicated a zebra crossing and that they needed to carefully watch out for anyone who could be crossing or wanted to cross the road. All of the drivers recognized the sign since they had previously seen it in the Mardan region a number of times.

Figure 5



- It shows that a Side Road is heading to the left.
- It shows a Road joining the main road from the left.

Analysis

The majority of the responders had trouble understanding this sign. Both professional and non-professional drivers took the time to read the sign as indicating a side road diverging from the main road and headed to the left. Drivers, who were not professionals, were less familiar with the sign than those who were professionals. The participants interpreted the road sign using their common sense and driving expertise.

Figure 6



- Circular Road
- An Area where Recyclable materials are recycled.

Analysis

Eleven of the twelve respondents thought the sign was a circular route, while one driver thought it pointed towards a location where recyclables are recycled. Six non-professional drivers out of the twelve participants interpreted the sign for a round road. Five of the other six professional drivers read the sign as indicating a circular route, and one driver understood it to be pointing in the direction of a recycling facility. The five professional drivers utilized their driving experience, the non-professional drivers used their educational background, and the

one professional driver used both his academic background and driving experience. In the Mardan region, the drivers had rarely seen these road signs, although they were often seen outside of Mardan.

Figure 7



- No Passing Zone
- No Parking area

Analysis

The sign was recognized by all of the participants, who read it as "no parking area." This sign was commonly seen by both professional and non-professional drivers in the Mardan area. All of the participants relied on their driving experience rather than their academic background. The "no parking" areas, mostly in front of markets, schools, universities, etc. were noted by drivers.

Figure 8



- No forward Movement
- No U-Turn.

Analysis

Each participant had seen the sign in Mardan's neighbourhood. Both professional and non-professional drivers understood the sign that forbade U-turns. All of the participants comprehended the sign by applying their driving experience. The sign was well-known to the drivers.

Discussion

It is evident from the data analysis that Professional drivers rely more on their driving experience than academic knowledge, whilst non-professional drivers partially rely on their educational background but also to some level rely on their driving experience. Educational qualification has a very small influence on driving ability as well as the comprehension of road signs. Understanding and interpreting certain traffic signs requires a significant amount of driving experience. The majority of drivers used to often follow traffic signs as some of them were rarely used. Drivers, who were not professionals, used traffic signs with greater caution. The majority of drivers were professionals among those who seldom obeyed traffic signals. The findings leaned towards the conclusion that professional and non-professional drivers had different levels of understanding of traffic signals. Additionally, data analysis revealed that drivers' comprehension and interpretation are influenced by their educational background.

Conclusion

The aim of the present research was to analyze road signs from a semiotic perspective and identify any differences between professional and non-professional drivers' comprehension and interpretation of the signs. The impact of educational qualification on the comprehension skills of professional and non-professional drivers was also examined in this study. It was found that under specific conditions, the majority of drivers are obeying traffic regulations. Outside of formal education, road sign compliance is rarely taught. A person's academic background has a significant impact on how they perceive and comprehend traffic signals. Most non-professional drivers are seen using their academic background to aid with sign interpretation. Contrarily, professionals are shown depending on their driving experience while understanding signs.

It has been shown that both professional and non-professional drivers use their driving expertise and academic credentials to decode that particular sign. Therefore, there are differences between professional and non-professional drivers' interpretations and comprehension of traffic signs. The difference in comprehension and interpretation is mostly attributable to driving experience, with a small amount of credit going to educational background.

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