# Representational Meanings of Gender Stereotyped Professional Occupation Images in Selected Malaysian English Language Textbooks

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### ABSTRACT

The main objective of this study is to examine and reveal images of gender-stereotyped occupations from primary school English textbooks and uncover gendered attributes from these images. Images in the textbooks are investigated based on how representational meanings reveal agentic and communal qualities. Images were analysed through identifying patterns and relationships of images to attributes from Social Role Theory. Stereotyped images were identified through links and associations from Atlas.ti software that connected images with characteristics and meanings. This study found 126 images represented in professional occupations and 81 images represented in non-professional occupations. Results showed that occupational images of males were linked to more self-assertive and agentic qualities while females were portrayed with more caring, communal qualities. Social semiotic analysis revealed that more males were shown as professionals such as architects, and doctors whereas females are more portrayed with professional occupations such as nurses and teachers, and non-professional males were also included with agentic qualities, portrayed by farmers and firefighters. This study asserts that a more gender-equitable solution would be to give children a wider range of portrayals of men and women in order to communicate gender norms to children. Parents, caretakers, teachers and schools also have responsibilities towards boys and girls in that they ensure learning happens in an environment that they do not give out messages, subliminal or otherwise that there are subjects that are only particular to boys and only particular to girls. Apart from teachers, this is particularly true also for parents, family members and caretakers where they may be directly influencing children who are in their care towards gender stereotypical subject choice all throughout the children's schooling life in the home environment. Furthermore, parents, teachers and schools must cooperate together to encourage boys and girls at an early age to be interested in non-stereotypical options in subject choice.

Keywords: gender roles; occupations; agentic; communal; textbooks; socio-semiotics; social role theory

### INTRODUCTION

Previous studies on gender stereotyping and sexism in textbooks (Ansary & Babaii 2003, Bahiyah et al. 2008, Mohamad Subakir et al. 2012, Mohd Faeiz Ikram et al. 2011) have exposed readers to various images of males and females performing different interactional tasks and have opened avenues for new research to reveal an understanding of gender roles and gender stereotypes that can bring about unequal or unfair treatment because of a person's gender.

In the educational context, many classroom materials have been found to contain gender bias that are encoded not only within words but also within images, illustrations, photos and so on. These materials include textbooks, reading materials, writing exercises and evaluation materials such as tests and examinations. Many researchers conclude that students' daily involvement with such materials can reinforce and perpetuate stereotypes about gender roles in society. With regards to occupations, gender- role stereotyping gives indication that a certain gender is associated with a certain occupation due to normative expectations, and this can be polysemously portrayed in classroom materials especially through images that carry both literal and symbolic meanings (Barthes 1977). Eagly (1987) and Eagly and Wood (2012) state that cultural and social norms create distinctions between

male and females. Gender roles are bahaviours that are demonstratively common to one's gender and that these roles are societal and cultural differences between what behaviours are expected of men and women. These social and cultural expectations of women and men are also called gender stereotypes. Traditionally, women are expected to serve as their children's primary caregivers while men served as the primary breadwinner in the family. Women's roles are regarded as expressive and nurturing while male roles are labelled as dominant and goal-oriented (Cejka & Eagly 1999, Epstein 2010). Cejka and Eagly's study, analysed gender stereotypic attributes that are relevant to occupational success – personality traits, physical attributes and cognitive style. Their research found that gendered mental images of occupations correspond to the gender segregation of occupations and that high income and prestige is associated with male images (Cejka & Eagly 1999, p. 419). With regard to how society views images, previous studies place an importance on research of images in textbooks because we can study how a society's gender roles and gender stereotypes conform to social and cultural expectations that are encoded in these images.

This study analyses textbook images from Malaysian primary school textbooks that uses the Integrated Curriculum for Primary Schools syllabus (hereon the KBSR syllabus) for the purpose of investigating gender-stereotyped professional occupation representations via a social semiotic approach. The professional occupations analysed are doctors, nurses and teachers. In this social semiotic analysis, words and images are investigated from gender perspectives and representational meanings. This gives readers the freedom to interpret semiotic resources as having gender-stereotyped undertones that contain certain perspectives about gender. The purpose of this study is to explore the representation of males and females in gender-stereotyped professional occupations in textbooks. Particularly those that involve positioning the represented participants (hereon RPs) in images with agentic and communal qualities. The study discussed in this paper and its findings are part of a PhD study conducted on gender stereotyped textbook images (Chairozila 2016). In this paper, only analysis of selected images of professional occupations are analysed and discussed although in the PhD study professional and non-professional occupations were studied.

## UNDERPINNING THEORIES

This section discusses the underpinning framework for the study, covering the theories that are explicitly used. The theories that are used in this study are a fusion of the social semiotic multimodal theory and the social role theory. The social semiotic multimodal theory used in this study includes metafunctional meanings as described by Kress (2010), van Leeuwen (1996) and Halliday (1978). The use of social role theory (Cejka & Eagly 1999, Eagly 1987) in this study, is to look into gender stereotyping, taken from social psychology of gender. Semiotic resources were explored to allow a more thorough interpretation of the images (Jewitt & Oyama 2001) analysed. Textbooks in English classrooms now, more than ever before have become multimodal, with pages in a textbook presented with an array of pictures, diagrams, photos and illustrations that are fused with the language taught. Words and images no longer makes sense in isolation, and both text and image need each other to communicate a message (Van Leeuwen & Kress 2011).

In the social semiotics paradigm, this study follows that meanings are socially made, and that such studies involving social semiotics uncover social and cultural changes in representations. The texts and images that are designed for children's learning form a 'learning' discourse, which is socially constructed knowledge that functions as a pedagogic tool (Kress & Vanleeuwen 2001). In this study, adopting a multimodal approach, means that meanings are made through the different modes and that each of those modes that lends itself

available for representation provides certain potentials for communication (Kress 2005). Upon considering the images that are salient to the textbooks for analysing gender stereotyping, the focus is on how the images are composed on the pages pondering on unity or separation of elements as they are illustrated. The theoretical assumption is that the images provide a basis for the child's learning and understanding of the social actors or RPs from the images represented. Though the child as the reader is regarded as the co-author of the text (Halliday 1975), the relevance of meaning has been given a bottom-up approach in multimodal research. This is a promising method of interpretation for images and text, which can provide a basis for L2 research. Scholars researching on social semiotics earlier postulated that communication is semiotic work. It is also multimodal, in that there is a 'prompt' when there is communication that happens and it is interpreted, leading into a new sign for communication. In the place of communication, these signs are known as representations that serve as 'metafunctions'. Van Leeuwen (2006) posits these as 'meaning' which is derived from the work of Halliday (1975, 2002). In order to function as a system for communication, van Leeuwen adopted metafunctional meanings from Halliday's theory for sign making which involves interpersonal meaning, representational meaning and compositional meaning. These meanings are investigated in the representational system or semiotic systems produced out of the characteristics from the represented participants (RPs).

It is proposed here that when considering images in order to analyse representational meanings found in the textbooks, the focus is on the way the images are represented in relation between other people, objects and places that they are depicted. The representational meaning of these multimodal texts features RPs that are illustrated through appearance, behaviour, styles of dress and so on that are given underlying meanings based on gender ideology.

The classification processes relate RPs to at least a set of participants that would play the role of *Subordinates* to another participant, the *Superordinate*. If the equivalence between Subordinates is realized by a symmetrical composition, this indicates that the Subordinates are situated at equal distance. If RPs are put together in a syntagm this establishes that the RPs are in a classification of the same class.

This research follows claims from Eagly's (1987) social role theory of sex-correlated differences in social behaviour. The fundamental theory of sex differences is that men's and women's roles in natural settings are thought to be played out in their daily lives or through sex-typed social behaviour. In order to prove this point, this study looks at social roles with communal/agentic qualities. Differences between males and females are explained through an empirical study by Shapiro and Mahajan (1986, in Eagly 1987) that showed women are more favourable than men in compassion, e.g., to help the poor and disadvantaged groups while men are more inclined to force and violence.

### METHODOLOGY

This section describes how the textbook images were collected and analysed as data for this research. It lays out the selection of methodology and approach taken when carrying out the analysis of images in the English primary textbooks. The data used for analysis are from KBSR textbooks used in primary schools all over Malaysia from 2004 until 2009 for the purpose of conducting a PhD study into semiotic analysis of textbook images. Though these textbooks are no longer used in Malaysian schools due to the change in the syllabus, it is believed that gendered professional images still persist even until now in all kinds of textbooks used inside or outside of Malaysia (Emilia et al. 2017, Luyt et al. 2017) and that the approach taken in analysing representational meanings in this study will be helpful for

researchers who will be using newer textbooks to uncover meanings embedded in images, specifically those that encode gender roles and gender stereotypes in professional occupations. The professional occupations that are discussed in this paper are doctors, nurses and teachers, based on professional lists of occupations laid out by the Malaysian Standard of Occupations MASCO 08.

Firstly, the procedure involves collecting and gathering the textbook data through making an inventory of textbook images. This first stage comes from van Leeuwen's (2005) explanation on what semiotic inventory does - collect, document and systematically catalogue semiotic resources. For this purpose, ATLAS.ti software was utilised to analyse the images through developing codes and building up a coding system. The use of the ATLAS.ti software helped to identify data segments within the codes through the process of noticing and collecting (or NCT) in a more sensitive first-level and second-level coding (overlapping of segments) and descriptive or topic coding (Miles & Huberman 1994). The process of coding the data into labels and recognizing themes to classify the text was conducted simultaneously as codes tended to appear and patterns emerge for theme classification. Atlas.ti was chosen for its ability to formulate detailed analysis and construct theoretical frameworks due to its powerful ability for theory building, creating co-occurrence trees that can enable meanings to be visualized, allowing coded images, and comparing the relationship between the meaning and images that is shown through a network view. In addition, Atlas.ti had more 'ability to create, manipulate, and examine the logical relations among codes' (Weitzman & Miles 1995) which is crucial when analysing images.

The first activity of coding involved identifying the distinction between male and female images through identifying the provenance of the images (Bezemer & Kress 2009). The semiotic potential of these images included 'inventorizing the different material articulations and permutations' (van Leeuwen 2005, p. 4), such as identifying the kinds of clothes and attire that these images are shown in. After this is identified, the images are described through the major elements of representational features that indicate the types of meanings these images create. The stages in identifying gender-stereotyped images consisted of semiotic inventories that were taken from social semiotic multimodality (Kress 2010, Kress & Vanleeuwen 1996).

Much as it is the aim of this research to describe how occupational images represent males and females in these textbooks, this part will also discuss how the images are explored through creating an inventory of semiotic resources known as framing (Van Leeuwen 2005). Using framing, the meanings of the images are analysed using three metafunctional meanings (Kress & Vanleeuwen 1996, O'toole 2011) in order to distinguish stereotyping of gendered occupations. Framing involves the connection, disconnection (or separation) and overlaps of images (Kress 2005) portrayed in occupational roles. The occupational images from the textbooks impose meanings through structured messages that have a naturalistic representation and details that are '*embedded*' (Kress & Vanleeuwen 1996). Images as semiotic modes are accepted as providing unity and coherence towards the elements inside the frame through providing details about the represented images in the textbooks (Kress 2009). In these textbook images, the frames separate meanings from each other to distinguish the activities between represented images.

*Representational meanings* are distinguished by appearance, behaviour, and attire of RPs based on grammatical system of images (Kress & Vanleeuwen 2006). Images that are shown in the first category are classificational representations that place the RPs as sharing a certain commonality and are shown in a classification or group. In this representation, the visual structures of these images are taken as conceptual meaning, or where the RPs are represented in terms of class, such as professionals and non-professionals. In this representational structure, the images relate to each other in a classification. When two

characters represent the RP in the image, it would involve the dominant and subordinate RPs in the narrative process. This classification is important in order to establish whether the genders in occupations are regarded as belonging to the same class. A sort of higher degree order would show that one image is a Superordinate, above the Subordinate (van Leeuwen and Kress 1996, p. 80). This involved a 'reactor' as a superior and a 'phenomenon', shown as a subordinate. Being able to realize the relations between the RPs in this structure will enable the researcher to distinguish which RP is afforded with agentic qualities (urge to master) and communal qualities (desire to be one with others) (Eagly & Steffen 1984, Eagly et al. 2000). This quality also perceives males as holding higher level and females at lower level positions. The next stage involved examining male and female attributes in the occupational structure based on the agentic and communal attributes. The images were later identified, codified and classified based on the theoretical framework used.

This method of analysis has previously been utilised by Moya and Pinar (2008) as well as Harrison (2003) to set out how they are used to produce meaning. These images are studied in light of understanding images as 'grammar of visual design' (Kress & Vanleeuwen 1996), which means that they are not studied in isolation but through looking into the representation of modes (Kress 2001). In other words, these images as modes are not only encoded through vocabularies (such as male doctor and female teacher), but also as a noun with object (i.e., 'The doctor attended to the patient') or (i.e., 'The doctor attended to his work').

### FINDINGS

This section discusses how male and female images found in the primary English language textbooks analysed are portrayed in their visual element of occupational roles.

IMAGES		DOCTOR	NURSE	TEACHER	ARCHITECT	ENGINEER
REPRESENTATIONAL MEANING	AGENTIC QUALITY	Quantitatively skilled	-	-	Good with numbers Quantitatively skilled	Good with numbers Good at problem solving Good at abstractions Quantitatively skilled
SENTATION	COMMUNAL QUALITY		Kind Gentle	Kind Pretty Nurturing Sensitive Supportive Sympathetic	-	-
REPRF	SPEECH ACT REACTIONAL PROCESS	Demand Treating patients	Offer Treating patients	Demand Offer Teaching	Demand Discuss projects	Demand Discuss projects

### FINDINGS FROM PROFESSIONAL OCCUPATIONS

TABLE 1. Representational Meanings in Professional Occupational Images

#### IDENTIFICATION OF AGENTIC QUALITIES IN PROFESSIONAL OCCUPATIONS

In this section, the occupational images are distinguished based on appearance, and behaviour that portray agentic behaviour in representational meanings. The images that are most often represented as professionals in the textbooks analysed are doctors, nurses, teachers, architects and engineers. In this paper, only images of doctors, nurses and teachers are discussed. The images analysed are coded in occupations that are linked with male and female images. In order to clarify how these images reveal connections between the variables, the summary of findings are shown in Table 1.



FIGURE 1. Classificational Processes

The left hand side image in Figure 1 reveals the classificational representation of occupations. The image show that there are 5 males and 2 females. The officer, nurse, doctor, architect, police officer, soldier and firefighter represent working people clad in uniforms and formal attire. The classificational structure places the RPs as equals though they are of different professions. In this case, the female RPs are classified as working people that share a commonality, they share agentic qualities with their male counterparts. This process according to van Leeuwen and Kress (1996) relates the participants to each other in a representational classification or in relation to the same category. The RPs are put in the same syntagm and are arranged in a classification, as professionals with the neutral background standing at equal distance to each other. They are understood to belong to members of the same class or social structure.

The female nurse and female police officer as working people have positioned females working alongside their male counterparts, and their portrayal in the image above seem to point out that they have equal importance and agentic qualities as much as their male counterparts. This is strengthened by Butler's (2004) argument that gender is not something a person has, but rather something a person does. Kress and van Leeuwen (1996) reiterated that there is symmetry between how the images are arranged and the way the viewer/reader must relate to them. However despite this seemingly equal portrayal, it cannot be concluded that females have equal importance, since females are only portrayed by one nurse, one doctor (see Figure 1, right hand side image) and one police officer in the said image. This has been proven by Levy, Sadovsky and Troseth (2000) and Blakemore (2003), that nurses have been stereotypically perceived as a female profession.

Though in the image, the male doctor and female nurse are portrayed as belonging to the same relation, (being of the same height and belonging to professional roles) when looking closely at their facial expressions, the doctor and nurse gave off contrasting body language. It can be seen that the female nurse in the left hand side image of Figure 1 is smiling while the other occupations represented by males are in more serious poses, even the female police officer. The doctor (demand) as the objective image, projects a serious expression compared to the nurse (offer). Representational meaning afforded the nurse within the image is that of offer, as this stance offers information to the reader (e.g., "Can I help you?"). The image of the nurse is set to lighten the mood of all the others in the same frame, to bring an imaginary relation with children as readers. These kinds of images are an educational tool, so when the nurses look directly at the readers, it tends to connect the RP with the readers and the images not only encodes behaviours but also gendered stereotypical traits such as female nurses being caring and nurturing. The nurse as the motivated sign has given off different communicative functions compared to the engineers and doctors in the same image.

In Figure 2, the image of the male doctor is shown in full. The doctor is depicted here as serious from his stance and facial expression. He is seen clutching firmly at his patient's chart in his left hand and this image captures his stance while at work. The white lab coat that doctors wear indicate convention and arbitrariness according to Kress (2010). Kress explains that the doctor's attire is an indication of social power realised through social agreement. This image also concurs with Eagly's social role theory that males show agentic traits such as unexcitable personality and getting the work done.



FIGURE 2. Doctor

The images of male and female doctors in figure 3 below, contain similarity in terms of attire, and may be overlooked as being similar, but when given representational meaning, it gives off a different analytical reaction. When a female doctor is represented as a professional, physically she is depicted with short hair, wearing a skirt, white coat and a stethoscope around her neck (Figure 3 – Female doctor). This gives females a more female identity and distinguishes female roles from male roles. However, the professional female doctors in the textbooks analysed are illustrated with short hair, giving an androgynous identity to the female doctor, apart from some accessories to enhance their femininity (headbands – see right hand image of female doctor in figure 3) that readily differentiate them from males. Images of male and female doctors in Figure 4 seek to teach children not only about what doctors do, but also allow them to identify with the agentic quality of a doctor.

The left hand side image in figure 4 and the middle image of figure 4 show male doctors exclusively in transactional structure with their patients as the reactor, being treated by the phenomenon – a doctor. The patient is portrayed to be at times, a child, physically shorter, younger, in a standing or lying down position. Most of the images of doctors are represented by males, with the *phenomenon* or patients being portrayed by children, situated in the submissive position. When the doctor is presented by the direction of the glance, this interplay between doctor and patient places the doctor is the 'demand' image. The right hand side image of figure 4 shows a female doctor surrounded by 3 male doctors in transactional structure with their patient as the reactor, being treated by the phenomenon- a doctor. Here, the image depicts a rather different portrayal of the transactional structure where the

phenomenon is concerned as there is a mix of male and female doctors in sight. The juxtaposition of the male doctor and the female doctor on the right hand side of the image gives out a different reading of what is going on as to the phenomenon concerned. Is the female doctor the principle phenomenon? or is it the male doctor who is depicted as towering over her and the others the principle phenomenon? The image as it stands could be read to give various consequences and one of it is that the male doctor depicted as being taller than all the other doctors can be seen as more dominant than the others who are equally depicted as the same height and therefore they can be interpreted as of the same standing. With his right hand out as a physical gesture, the taller male doctor can be seen to be instructing the female doctor or assisting her. This may lead to the stereotype thinking that females cannot work alone and are in constant need of male assistance and male instruction to get the work done.



FIGURE 4. Reactor and Phenomenon

IDENTIFICATION OF COMMUNAL QUALITIES IN PROFESSIONAL OCCUPATIONS

When analysing images of nurses, all of the RPs in the textbooks analysed are found to be portrayed by females. This depiction of nurses as females may stem from stereotyped gender roles that apply to individuals on the basis of their identified sex (Eagly et al. 2000). The

nurses are most often pictured in white uniform or a dress, wearing a nurse cap known as a 'mob cap'. In the textbooks analysed, nurses are more often than not portrayed with a warm smile. This facial expression seems to denote the friendly nature of the nurses depicted.



FIGURE 5. Nurses

The images of the female nurses found in the textbooks analysed gives off personality attributes such as being sympathetic, gentle, nurturing, helpful and kind. These attributes that are introduced by Cejka and Eagly (1999) concur with findings from Eagly and Steffen (1984) that these traits make them ideal as primary carers and nurturers. The image of the nurse in Figure 6 show that female nurses are helpful and treat their patients with kindness (as shown by the smile of the patients and the gaze shown by the nearest patient to the nurse, indicating that he acknowledges the kindness of the nurse as she pours hot water into the bowl). This portrayal of females as nurses and having specific traits largely points to the gender role expectations imbibed by culture and society. The absence of males as nurses in the textbooks show that males are not expected to assume these traits due to stereotyped treatment towards gender roles. This finding concurs with Sunderland's (2006) findings that females are more apt at being stereotyped as carers and nurturers.



FIGURE 6. Nurses treating patients

Similar to the role of nurses, are the images of teachers who are generally portrayed by females. They are depicted as nurturing through the presence of children around them (see figures 7 and 8). This attribute related to teachers is supported in previous research (Shinar 1975) that found that the attributes ascribed to females also reflect warmth and expressiveness.



FIGURE 7. Personality Attributes

When female teachers are portrayed around children, they are mostly shown as kind, warm and communicating well with pupils as in Figures 8, 9 and 10. The warm relationship between the teacher and pupils are implied through the smiles of not only the teacher but also the students. When the female teacher is shown with children, depicted with feminine qualities (Cejka & Eagly 1999).



FIGURE 8. Female teacher talking to pupils

Some images of male teachers are also found in the textbooks analysed though not as many as those of female teachers. Images of male teachers were similarly depicted with pupils in the classroom, teaching and communicating with the pupils. The identification of teachers as kind-hearted, warm and caring are projected through the images of male and female teachers. Since both male and female RPs are shown as teachers, then the implication that the textbook illustrators want to communicate could be that kindness is a feature of the profession, and not identified based on a specific gender. When men were portrayed with pupils around them, they were shown to be smiling and not inexpressive like in other roles. There were a few images of males with children surrounding them (Figure 9).



FIGURE 9. Male teacher talking to pupils



Figure 10 Female teachers wearing traditional Malay attire

When female teachers are depicted, they are given feminine appearance. In the textbooks analysed, they are inherently depicted in traditional dresses that more often than not depict their religious persuasion and ethnic identities. Female teachers can be seen wearing traditional clothes such as the *kebaya*, and *baju kurung* (Azah 2009) coupled with a headscarf, which are common attires based on the requirements of school drawn up by the Ministry of Education. In the modern setting, female teachers are also depicted in suits and skirts. Male teachers on the other hand are depicted wearing shirt and trousers paired with a tie (see figures 9 and 12) or they may be seen clad in a suit as in figure 10 (see left hand side image).

The female teacher in Figure 11 is shown wearing a *saree*, to illustrate that the RP is an Indian teacher, as an attempt to show the diverse races that are employed as teachers in Malaysia. A woman wearing a saree is an indication of her identity as an Indian woman in Malaysian society. This also evidently represents Malaysia as a multicultural country with people from diverse backgrounds. An interesting fact to point out is that despite this representation of an Indian teacher, there are no depictions of Indian, Malay or Chinese as male teachers in the textbooks analysed. Though investigating the ethnicities is not the scope of this research, this representation is important to analyse the individuality of the RPs. The ethnic representations of male teachers are unknown, unless stated in their names. The image of the female teacher with a smile (Figure 11) is shown as kind, gentle, as if talking to the reader while showing the map of Malaysia. Lakoff (1975) explains that this reputation of a woman depends on the impression she makes upon others – she must dress decoratively, look attractive, be compliant (ibid: 27). Female images are shown in high modality through their display of appearance and proper attire to show their portrayal of a teacher.



FIGURE 11. High Modality



FIGURE 12. Demand and Offer

The transactional relations in these representations are conveyed by 'demand' and 'offer' (Kress & Vanleeuwen 1996) which suggests the performance of the situation given (Goffman 1959), in this case, a teacher with warmth and kindness. In the left hand side image (Figure 12) above, the 'demand' pictures address the viewer's as readers directly to the extent of asking viewers to relate to what is happening in the image. It conveys that the pupils are to follow the instructions given by the teacher denoted by the speech bubble saying "*You should…*" Based on Halliday's (2004) view that grammar is a network of meaningful choices, in this context, how it is related with things (teacher and student). So, although the teacher in the image on the left and right does not speak, the gaze already demands an answer from the reader. Since the readers are primary school pupils, in this case the superior is demanding the inferior to relate to them. The hand extended in the image on the right invites the viewers to come closer and pay attention.

This is similar with teachers who are shown to be instructional and depicted as teaching the readers in the lesson. These images are in a supportive surrounding which allows the image more authority to give instructions and allow knowledge to be transferred, which is the purpose of images being used in pedagogy.



FIGURE 13. Teacher in supportive surrounding

All the images above illustrate that teachers in the classroom are surrounded by pupils, as well as books, posters, maps ad so on to indicate that learning is taking place and that teachers are in charge of the pupils' learning. The images of teachers portrayed in the classroom are visualized through vectors that show them teaching and giving lessons to the children, as in Figure 13. The vectors that act as action verbs in this image above is realized by the teacher's book in her hands, and that she is telling a story to the pupils that have captured the pupils' attention. The images of the female teachers are given communal traits due to the presence of the children (Eagly & Steffen 1984), and the position of the teachers indoors or in schools, indicate the kind and nurturing role of the image. In the past, scholars have debated based on social structural perspective, this depiction is the cause of sex-differentiated behaviour (Eagly 1987, Eagly et al. 2000).

### CONCLUSION

In this study, the fusion of two theories to help explain gender role stereotyping encoded in textbook images have brought about new insights into uncovering doing analysis of images especially gendered images. The interdisciplinarity of semiotics theory and social role theory in the textbook analysis not only helped to build a more thorough analytical framework, but it also gave a better understanding of how gender representations and gender roles are encoded with meaning in the textbook images. This study has also helped us to understand with more delicacy how meaning making is achieved when we view an image and how producers and illustrators can easily sway us to a particular, usually biased understanding of what males and females can and cannot do when it comes to professional occupations. The approach taken in this study can be extended to investigating gender roles and gendered stereotypes of occupations in other textbooks specifically those that are STEM related as these textbook not only contribute to learning through dissemination of knowledge, they at the same time can be insidious in propagating gender stereotypes by transmitting particular models of social behaviour, norms and values.

This study found that in the textbooks analysed, females are more frequently encountered in occupations that are similar in the domestic role, namely as teachers or nurses (see Cejka & Eagly 1999). Men are more encountered in the roles of the breadwinner with professions that are located at higher levels within the occupational hierarchy for instance as doctors. With regards to attributes, the textbooks project attributes that are typical for the domestic role of teachers and nurses that is, they correspond to warmth and kindness whereas the attributes that well correspond with role of the breadwinner matches well with assertiveness and competence (Eagly & Steffen 1984). When considering nurturance as a gendered trait, there is no clear evidence that females are more nurturing than males (Maccoby & Jacklin 1974). Therefore, stereotyping females in the domestic role is clearly biased and is not an empirically proven fair portrayal of females.

The findings showed that the images of RPs found in textbooks not only favoured more portrayal of males in more occupational roles, but also leaned towards portraying more males being more professional than females. On the other hand, more females were shown in more maternal and compassionate social roles. Indirectly, this supports stereotypic differences in gender roles because it fits into society's expectation about male and female behaviour and characteristics (Eagly 1987). These expectations of different gender roles implicate social roles to normative behaviour (ibid, p. 31). In the attempt to create an egalitarian environment in the school system, it has somehow failed to recognize some features of gender equality particularly in the materials that the pupils study ((Aauw) 2009; Aauw Educational Foundation 1995). The textbooks that serve as basic tools for education are not helping to promote the full potentials of young boys and girls. Besides this, we must ensure that boys and girls are learning in school environments that teachers themselves do not perpetuate gendered stereotypes and give out messages, subliminal or otherwise that there are subjects that are only particular to boys and only particular to girls, for instance maths, economics and physics are for boys and biology, psychology and English are for girls. Apart from teachers, this is particularly true also for parents, family members and caretakers where they may be directly influencing children who are in their care towards gender stereotypical subject choice all throughout the children's schooling life in the home environment. Furthermore, parents, teachers and schools must work together to be proactive in encouraging boys and girls very early on to be interested in non-stereotypical options in subject choice.

A more gender-equitable solution would be to give children a wider range of portrayals of men and women in order to communicate gender norms to children (Diekman & Murnen 2004). Males and females are not randomly distributed across this social life, and

recognizing these differences would shape children's experiences (Wharton 2012) and expose children to the actual roles that adults are ascribed to.

The information contained in images need review when it comes to issues regarding gender stereotyping. This comes from the belief that the sense of sight has more credibility than the sense of hearing (Kress & Vanleeuwen 1996). This suggests that images are more credible and reliable in the messages they convey.

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