

# A Discourse Analysis

## *Determining the Storyboard Assets of Indonesian Environmental Public Service Animation Scripts*

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Keywords: Script, Storyboard, Assets, Content Words, Syntax, Discourse Analysis, Mood.

Abstract: An animation can be categorized as a good media if it is created through an elaborative storyboard-making procedure. The most important thing in the storyboard production is making the items (assets) that will be animated based on the script. In other words, the script must contain some content words (e.g. bed, king, table, etc.) that will be the basics on shaping the assets. Therefore, the advanced scanning process of the content words needs to be taken into account in order to make the storyboard-making process quicker. Based on this background, this research paper elaborates a syntactic discourse analysis, in which a mood classification as a systemic functional grammar tool also plays a role in order to find the content words from the script. After examining the script in that manner, the content words were interpreted as visual products. This research paper employed ten 2017 Indonesian environmental public service animation scripts as the data. The further attempt will lead into assessing the possibility of making a program system for creating assets visualization.

## 1 INTRODUCTION

Halliday (Paltridge, 2006) argues that a written discourse tends to be more lexically dense than a spoken discourse. Lexical density refers to the ratio of content words to grammatical, or function words, within a clause. Content words include nouns and verbs while grammatical words include items such as prepositions, pronouns, and articles. There is also a high level of nominalization in written texts where actions and events are presented as nouns rather than as verbs. Written texts also typically include longer noun groups than spoken texts.

In that sense, a public service script can be categorized into a persuasive spoken discourse. This kind of discourse tends to have statement sentences. Even though it is written, the sentence structure on the script is more into that of the spoken one. Aside from being complex, there are more simple sentences found on the script. It leads to an assumption that some sentences may lack of subjects because the nature of the script tends to employ a lot of imperative sentences; since it is a spoken discourse.

Regarding the presence of subjects, Gerot and Wignell (1994) state that the mood element –Subject + Finite– carries the burden of the clause as an

interactive event. Thus, it is plausible that the sentences contain no mood. The mood system on the animation script is important for determining which scene that should be highlighted. Moreover, what kind of effects and features are suitable for the animation assets are also contextualized through the mood. This consideration plays crucial matter whether the content of the script should have a concrete visual form or stay as texts only. Hence, not only the syntactic feature of the sentences should be taken into account but also the functional one.

In relation to the script representation, Hart (2008) states that the storyboard is the premiere preproduction, pre-visualization tool designed to give a frame-by-frame, shot-by-shot series of sequential drawings adapted from the script. They are concept drawings that illuminate and augment the script narrative and enable the entire production team to organize all the complicated action required by the script before the actual animating is done to create the correct look for the finished motion.

Based on that background, this paper will discuss the possibility of creating a program system that can denote the content words automatically. Mason and Charniak (2012) created a system for connecting corpus to images based on Natural Language Processing Systems. The system can be more precise

if it is engaged with Moeljadi's (2017) Lexical Functional Grammar Treebank (JATI). However, none of both focuses on a certain type of text and image.

## 2 METHODOLOGY

There are ten Indonesian scripts taken as the data. The scripts were first analysed based on the types of the sentences by using the mood framework. The content words found were classified into denotative and connotative interpretation. The verbs with affixes were interpreted based on their lexemes. Thus, the sentences that contain a lot of function words, especially the one with interpersonal sense, would be regarded as a merely text when they are realized through the storyboard—did not need to be visualized.

### 2.1 Types of the Sentences

The nature of a persuasive text is to give information and make the readers aware of their current actions regarding the text. This type of text uses a lot of statements to justify the purpose. The result shows that seven scripts use statement sentences productively (52% approximately). Meanwhile, the other three scripts tend to be more commanding (50% approximately).

### 2.2 Mood Analysis

The mood analysis, as one of the structural framework, gives insight to the importance of interpreting a word in relation to its context. Chaer (2006) states that a language is a connected system, in which each of its elements—sounds, words, etc.—does not have any validity except within the structured relation. However, the interpretation of the word itself can be seen from dyadic perspective, as proposed by Saussure (Hoed, 2014): “the relation between sign can be syntagmatic and paradigmatic”. Hence, the result of the mood analysis will be connected to the interpretation of the content words later on.

The data show that there are 31.48% of mood elements found in the scripts. The scripts which have more statement sentences are likely to have more mood aspects. In contrast, the other scripts which contain more command sentences are likely to have more residues. Although there is such diversity, the amounts of content words (noun, noun phrase, verb, and verb phrase) are randomly varied within each script.

### 2.2.1 Mood

In general, mood consists of a subject and finite. The former has the higher authority in creating mood for a static visualization of a noun. Meanwhile, the latter is more applicable for determining certain temporal nuances when it comes to the animated version of a noun. If the subject is a content word (whether it is followed by finite or not), it will be necessary to contrast it from the other elements when it is represented in a storyboard.

Based on the data, the main mood in the scripts is building the awareness of maintaining our environment. The elements that should be highlighted visually are mostly ‘*sampah* (garbages)’ which occur 48 times.

### 2.2.2 Residue

Residues of the sentences also play important role in interpreting the script. The residue contents help the storyboard artist decide which elements that should be put as the background or the visual complements. For example, in “*Sampah yang dibakar malah melepaskan zat-zat yang berbahaya!*”, the residue is “*zat-zat yang berbahaya* (dangerous substances)”. This means, the dangerous substances will have a minor appearance.

Furthermore, the data also indicate that the more command sentences a script has, the less likely the intended information will be well-received.

### 2.2.3 Interpersonal Content

The interpersonal content may not be concretely visualized. However, it creates a friendly tone for a public service animation. This content is likely to be represented typographically or via voice over. If the script has a mascot, the interpersonal content can also be appeared in one scene with it.

The data show that besides employing question sentences to build interpersonal relationship with the audiences, there are also some pragmatic fillers such as ‘*nah... (well)*’, ‘*jadi... (so)*’, and ‘*dan... (and)*’. Moreover, some of the interpersonal contents found in the data are put separately from the previous sentence. They tend to indicate transitions.

### 2.2.4 Content Words

There are 19.34% of content words found in the scripts, from 736 total words. The amount of content words is not necessarily positive with the amount of the total words. It means, the script can have a lot of

messages but they are represented through the same assets.

Moreover, even though noun phrase and verb phrase are syntactically regarded as content words, there might be a problem to represent the verb phrase in a storyboard. Especially, the one contains an action process. Thus, most of the storyboard assets are likely derived from noun phrases, even only nouns as lexemes.

### 2.3 Determining Content Words Visualization

The possibility of making image annotation based on a text becomes a promising project for those who work in an animation field. The previous studies from Mason and Charniak (2012) and Moeljadi (2017) already show that the idea of making contextual image annotation is plausible. However, there are some considerations that need to be assessed.

#### 2.3.1 Scheme

The most important thing is one should decide which system can perform the image annotation faster. It is likely that a system of text scanning should employ texts as the data bank (corpus). Moreover, the system should also have the main library of lexical definitions as to detect the lexeme of a morphemic word. The crucial matter will arise when the system should relate the targeted word with its context. The following discussion will elaborate more on how to scan content words as efficient as possible. The scheme of the system can be seen on Figure 1.

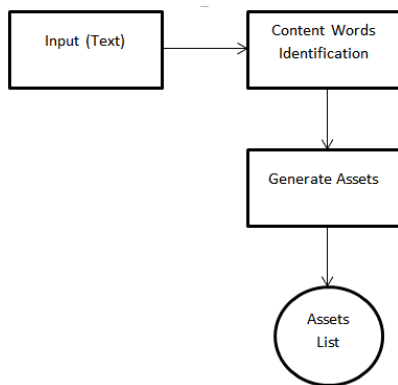


Figure 1: The System Scheme.

#### 2.3.2 Text as the Input

The system should be able to detect content words from the script that will be represented as assets on

the storyboard. If there is any Indonesian slang term, the system should also be able to recognize it. Since the system will only focus on words, there should be a special treatment for numbers. It is necessary if the numbers are represented as assets or they function as content word adjectives (e.g. in “*Denda mulai dari Rp 250.000,00*”; not only ‘*denda* (fine)’ but also the amount of the money is considered as a content word).

#### 2.3.3 Content Words Identification

The identification of Indonesian content words will be easy if the lexeme is already stored in the metadata of the system. However, the problem will occur if the content words have complementary elements which can only be tracked based on the context. Thus, the best option for the content words fast scanning system, in relation to a storyboard, is to determine the assets on the lexemes. Even though it is possible to create the contextual interpretation, there will be an obstruction of the individual creativity.

Relying on that consideration, the safest option is denoting the noun (without the verb) through the most common social representation. Nevertheless, such system still will be helpful because it decreases the time consumption when scanning the scripts manually for a production purpose. The content words identification process can be seen on Figure 2

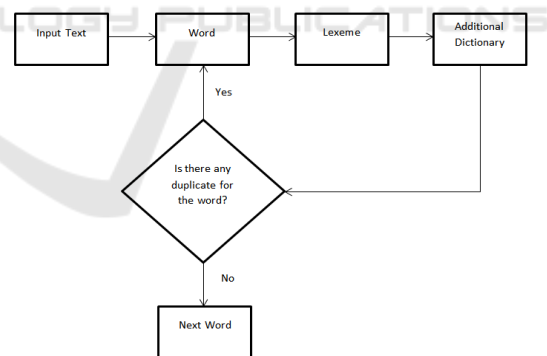


Figure 2: The Content Words Identification Process.

#### 2.3.4 Stemming

The morpho-syntactic analysis will be the lead for shortening the morphemic content word into its lexeme. The reasonable process for that purpose is word stemming. The morpheme(s) attached to the word will be eliminated in order to find the lexeme form. The most suitable model for this operation is

Halle's morphological organization in Ba'dulu and Herman (2005) as shown in Figure 3.

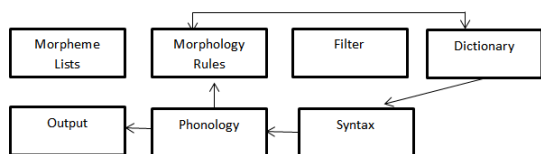


Figure 3: Halle's Morphological Organization.


In order to avoid an overstemming process, the dictionary put in the metadata should define the words that may seem morphemic but indeed they are lexemes. For example, the word 'penyu (tortoise)' is not derived from 'peny-u'. Moreover, a reverse logic of a morphemic word creation should be taken into account for eliminating allomorph. Therefore, the system will give more credible lexeme forms. For example, the word 'menyapu' has 'sapu' as the lexeme, not 'nyapu'.

### 2.3.5 Treating Repeated Words

The repeated words found in the scripts should not be presented more than one time from the text extraction. Thus, there should be another 'dictionary' that can add the scanned lexemes and make the system skip the same lexemes which occur twice or more later on (the process can be seen on Figure 2).

The system presentation sample can be seen on Table 1.

Table 1: Content Words System Presentation Sample.

Extracted Content Words	Visual Representation
Jam	

## 3 CONCLUSIONS

It can be concluded that the mood analysis can help interpreting the visual aspect of content words. Even though it might be difficult to connect the functional aspect to the syntactic aspect of a word in a program system, it is still possible to employ those notions

together for determining the content words visualization.

## 4 RECOMMENDATION

The system discussed in this paper is still a model. It is recommended for the next researcher to develop the prototype which is applicable for the storyboard-making production. Other visual variables such as the tone of reference and the colour schemes guidelines for the storyboard also need to be considered.

## ACKNOWLEDGEMENTS

The author would like to thank Bonbin Studio for giving a privilege to analyse the environmental public service animation scripts. Many regards are also sent to Syarifuddin and Aria Dhanang for the discussion.

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