

○ 'IDEAL-PROBLEM-SOLUTION' (IPS) MODEL: A DISCOURSE MODEL OF RESEARCH ARTICLE INTRODUCTIONS (RAIS) IN EDUCATION

Zifirdaus Adnan University of New England, New South Wales, Australia

Dr. Adnan is the Convener of the Indonesian Language and Studies Program, School of Arts, University of New England. He has published two books, book chapters and journal articles on genre analysis of Indonesian research articles, and articles on other major fields in Indonesian studies such as the acquisition of Indonesian by adult learners and terrorism in Indonesia.
zadnan@une.edu.au

Research article introductions (RAIs) play a significant role in gaining publication, and therefore have been studied by many applied linguists. Research into RAIs published in Indonesia has begun to be developed (Adnan, 2009; Mirahayuni, 2001; Safnil, 2000), and generally conclude that Indonesian Humanities RAIs were structured differently from English RAIs. However, as these are early studies, their findings still awaits scrutiny, and little information on Indonesian RAIs especially in Education has been published. Several models describing discourse structure of research article introductions have been proposed, but they have been problematic when applied to analyse RAIs. This paper reports an examination of the applicability of two important models, the CARS (Swales, 1990) and the PJP model claimed to be an Indonesian model of Humanities RAIs (Safnil, 2000), using a selection of 21 Indonesian research article Introductions (RAIs) written by Indonesian academics in Education. It concentrates on the following questions: To what extent do these models fit the data and why? The examination found that none of the RAIs fit the CARS, and only less than half fit the PJP model for various reasons. Therefore a new model is proposed. This model fits most of the data. The paper claims that apart from national concerns, discourse patterns of RAIs are also affected by writing guides provided by the discipline.

KEY WORDS: academic writing, discourse analysis, research article (RA), research article introduction (RAI)

INTRODUCTION

Research articles introductions (RAIs) have been well-studied by applied linguists, as this section is considered both difficult to write and can affect the chances for publication. The difficulties may be due to factors such as not knowing the desired rhetorical patterns, not knowing the current state of the literature, inability to show stance, etc. Genre studies of RAIs published in Indonesia have begun to develop but still at an early stage, and their findings still

need examination. One general finding from those studies that needs further research is that Indonesian RAIs are structured differently from the rhetorical patterns of English RAIs as synthesized in the CARS model. This paper will report an outcome of research, which further examines this general finding. It will report the results of a study on twenty-one RAIs written by Indonesian academics in Education. But before proceeding, I will describe briefly social, political and funding background to research and research writing in Indonesia, which might be necessary to shed light on the structure of RAIs written in the country.

RESEARCH AND RESEARCH WRITING IN INDONESIA: A BRIEF OVERVIEW

Indonesia is the biggest country in Southeast Asia, and the fourth-biggest in the world in terms of population size, but it is still far behind some of its smaller neighbours such as Singapore and Malaysia in terms of the number of research articles published internationally and economic prosperity. The situation was far worse before the establishment of the New Order Regime led by General Suharto in 1966. General Suharto and his regime were determined to develop the country in all sectors in particular the economy and education, replacing the political orientation of the previous government. So, the core ideology adopted by the new regime during its thirty-two years (1967—1998) in power was ‘development’ (Mas’oed, 1983). All resources including money and researchers themselves should be devoted towards developing the country, so they have to spell out that their research is aimed at that (Soemardjan, 1994). Due to the fact that the government is the main source of funding for research, it is expected that when they apply for funding they show how their study contributed to the country’s development (Safnil, 2000). So, socially, academics are expected to serve the community and support government development policy. Similarly, academics are expected to follow the guide of their seniors in terms of research and research writing. Conformity is an ideal. The subsequent democratic governments, known as *reformasi* (reform) (1999—present) governments, have also used the same ideology although perhaps with a different emphasis.

Similar emphasis on national interest is not unique to Indonesia, however. Gunnarsson, Linell and Nordberg (1994), for example, also reported a similar sentiment is expected in Sweden. Similarly, the Australian Research Council (2009) requires Discovery and Linkage Grant applicants to show how their study contributes to the Australian national interest (See Australian Research Council Website for funding rules of both Discovery and Linkage Research Grants 2009).

As in many other developing countries, financial remuneration for academics in Indonesia was very low especially before the substantial increase in education funding recently (The

Parliament agreed to increase the funding for education from approximately 4-5% to 20% in 2003). Therefore, capacity to purchase sources is extremely limited. So, reliance on government funding is strong. On the other hand, libraries do not have sufficient resources to purchase academic journals especially those published overseas. The situation has been made worse by the drastic fall in the value of the currency against foreign currencies such as the US and Australian dollars since the Asian financial crisis in 1998 (Interview with a librarian at the Indonesian Institute of Science Library in 2005). So, authors have to find ways to secure government money for future research.

One way to ensure future financial support from the government is to develop a strong public credential as a supporter of a government development policy. To help develop this credential, an author clearly shows in their articles that their studies have benefited a government development program, e.g. by helping solve education problems. By emphasizing this point in their RAIs, authors publically develop an impression as a champion of government program. Such an impression could be a powerful reference in support for a future grant application.

THE STUDY

This article reports on a study of the discourse patterns of RAIs written by Indonesian academics who taught at Institutes for Teacher Training and Pedagogy (abbreviated in Indonesian as IKIP). Before being transformed into universities in 1999, these institutes were found in most provinces in Indonesia. The articles studied here were randomly drawn from government-accredited journals published in most IKIPs in West and Central provinces of Indonesia: these provinces include North Sumatera, West Sumatera, Jambi, Special Territory of Jakarta, West Java, Central Java, Special Territory of Yogyakarta, East Java, and Bali. The research was limited to these provinces because of time and financial constraints.

Two models, the CARS (Swales, 1990) and the PJP Models proposed by Safnil (2000) were initially examined *vis à vis* the RAIs, and because I found them unable to satisfactorily capture patterns emerging from the data, a new model was designed and tested. The CARS was selected because of its significant influence upon the study of RAIs. Although an amended version of the CARS Model has been published (Swales, 2004), I did not use it as I found it somewhat problematic because some of the features of the original CARS Model appear to be overlooked in the amended model particularly concerning real-world statement of significance (More details on this in the next section). The PJP model was examined because it has been claimed as an Indonesian model and it was influenced by the CARS Model.

The PJP Model was proposed by Safnil in his PhD thesis (Safnil, 2000) based on his analysis of Indonesian RAIs in three disciplines i.e. Economics, Education and Psychology. As summarized in Figure 1, this model consists of four moves, each move has several possible steps.

In Move One, Establishing shared schemata, the author establishes a general frame of mind to be used by the author as background information for his/her research report and for the reader to understand the report. The background information usually used can be a definition of the key term (Step A), a relevant government policy (Step B), a brief story of the field (Step C), geographical setting of the research (Step D), or a general claim (Step E). An author can employ one or more of these options.

In Move Two, the author establishes the research field by introducing the topic and/or pointing to a research problem or phenomenon, and reviewing current knowledge and practice.

Move Three following justifies the research project by employing one of these steps: pointing to inconsistency in previous findings or claiming that the topic has not been studied, or making a claim that the topic is necessary to do research on, or saying he/she is interested in looking at the topic.

In Move Four, the author(s) announces the research by employing one or more of these steps: presenting the purpose, making the research questions, mentioning particular features, saying the benefits, presenting the main findings, announcing the hypothesis, or presenting a solution to the problem.

Move 1: Establishing Shared Schemata by

- Step A Defining the key terms and/or
- Step B Referring to the government policy; and/or
- Step C Giving a short story of the research field; and/or
- Step D Describing the geographical setting of the research; and/or
- Step E Making a general claim.

Move 2: Establishing the Research Field by:

- Step A Introducing the actual research topic; and/or
- Step B Identifying the research problem or phenomena; and
- Step C Reviewing the current knowledge and practice.

Move 3: Justifying the Present Research Project by:

- Step A Indicating inconsistency in previous study results; or
- Step B Claiming that the topic has never been explored; or
- Step C Claiming that the topic is necessary to investigate; or
- Step D Claiming interest in investigating a particular topic.

Move 4: Announcing the Present Research by:

- Step A Announcing the research purpose; and/or
- Step B Stating the research questions; and/or
- Step C Describing the specific features of the research;
- Step D Stating the expected benefit of the research; and/or
- Step E Announcing the principal findings; and/ or
- Step F Proposing the research hypothesis; and/or
- Step G Suggesting a solution to the research problem.

Figure 1
Summary of the PJP Model (Safnil, 2000)

This model depicts Indonesian RAIs as having several major differences compared to English RAIs as described in the CARS model. For examples, none of the options in Move One stress the importance of the research field in an attempt to prove to the experts that the field is a significant area of research, or that it has attracted the attention of many researchers. Although Move Two steps present some similarity with English research articles e.g. presenting a research problem and reviewing the current knowledge, the nature of the review is not necessarily leading to find a research niche in the literature which needs to be occupied by the current study. This point is evident in Move Four. Two of the four possible steps (Steps Three and Four) to justify the study are not necessarily about the state of the current knowledge in the literature because they are not outcomes of a critical assessment of previous studies, but of real-world situation (Safnil, 2000). Step Two looks like a statement about the literature, but mostly it is derived from real-world or practical problems. Step One reflects a review of the literature, but not many RAIs employ this step. In short, the PJP Model has described Indonesian RAIs as largely influenced by real-world or practical concerns.

Although this description may be generally true, the model had not been examined using other sets of data. One of the objectives of this study was to conduct this examination. The study reported here is part of a broader project involving RAIs from Linguistics and Social and Political Sciences. Education RAIs were selected for this paper because the analysis found a unique pattern in them, and the pattern is consistent across the board compared to the other two disciplines. Their patterns are more complex, and are not discussed here.

REVIEW OF OTHER STUDIES

Several generic models for analysing RAIs have been proposed. They are the 'problem-solution model' (Zappen, 1985), the Four Move Model (Swales, 1981), the CARS model (Swales, 1990), and the amended 'CARS' model (Swales, 2004). The Problem-solution model was originally proposed by Eugene Winter (1971, as cited in Hoey, 1983) and further discussed and developed by Hoey (1983). Hoey elaborates this model showing how to analyse English discourse by identifying lexical signals, using narrative interrogation, elaborating interrogation, and by using subordination/conjunctions with detailed examples. He mentions that there are more basic elements of this model, namely situation, problem, response and evaluation (Hoey, 1983). 'Situation' refers to what state someone or something is at. 'Problem' is defined as 'an aspect of the situation requiring a response' (p. 51). 'Response' is what one person or a party does in response to the problem. 'Evaluation' is defined as how good or bad the outcome of response is. This model is useful for analysing a common English discourse. Nevertheless, it was Zappen (1985) who proposed this model for

RA Introductions, which was critiqued by Swales (1990) because in his view not all research (articles) begins with a problem. Citing his scientist colleagues, he pointed out that:

...part of the difficulty with fitting a problem-solution schema onto introductions is the fact that 'problems' or research questions or unexplained phenomena are the life-blood of many research undertakings (1990, p. 140).

He goes on to say that:

Perhaps it is not therefore surprising Adam Smith (1987) found that medical RAIs she examined either failed to contained a recognizable problem or tended not to foreground it' (1990, p. 140).

He proposed a new model, the CARS (Swales, 1990) which was a revision of his previous 'four-move' model (Swales, 1981). This CARS Model consists of three moves, namely Establishing a territory, Establishing a niche, and Occupying the niche. Basically, this model depicts an English research article as an attempt by an author to stress the significance of the topic in the eyes of researchers, to critically review the literature to find 'niche' which could be a weakness, an unanswered question(s), an under developed area of research, or a gap, and to show how this niche is to be 'occupied' by his/her research (For more details see Swales, 1990).

Since its introduction, this CARS model has been used by many researchers across different disciplines and across cultures. Across disciplines, this model has been applied to English RAIs in many disciplines such as Conservation Biology, Wildlife Biology (Samraj, 2002), Medical Science (Nwogu, 1997). Some findings of these studies support the model, but some do not. Across cultures, this model has been applied to RAIs in Arabic (Najjar, 1990), Polish (Golebiowski, 1999), Malay (Ahmad, 1997), and Indonesian (Adnan, 2009; Mirahayuni, 2001; Safnil, 2000). Ahmad (1997) proposes a model for Malaysian RAIs name 'Project Justifying' (PJ) which influences the PJP Model examined in this study. All these studies found that generally not many of the RAIs in these languages completely fit the model. A major issue concerns difficulties in applying Move 2 of the model (i.e. Establishing a niche) (Ahmad, 1997; Golebiowski, 1999).

There have also been suggestions to improve the model. For example, the idea of 'real world territory' vs. 'research-world territory' was proposed by Connor and Mauranen (1999) as a result of their analysis of research grant proposals submitted to the European Union Funding Agency. Samraj (2002) also proposed the introduction of 'research-world' versus 'real-world' importance to Move 1, Step 1A (Centrality claim) to capture two different kinds of centrality claims found in her data, because this Step accommodates only the 'research-world

significance' as it only refers to the 'discourse community' as the audience (Swales, 1990, p. 142), which appears to imply the research community in a particular field (See Swales, 1990, pp. 23–27 for characteristics of a discourse community). She also suggests the inclusion of 'positive justification for research', which seems to be absent from the original CARS. There is also a suggestion that review of the literature could appear at different locations, not only in Move one.

In response to these suggestions, Swales (2004) has modified the CARS and published a new version, which I would call the 'Amended CARS Model'. However, as mentioned earlier, this amended model is a little problematic at least for one thing. One of the core steps of the original CARS Model requires review of previous studies and as such it requires an assessment of the extent of research development thus far (Swales, 1981, 1990). In other words, the author is expected to make a 'research-world' statement of significance (Connor & Mauranen, 1999; Samraj, 2002; Swales, 1990) to show the significance of the field for researchers, or in Swales' word 'to claim centrality' (1990), by saying for example the field has attracted a lot of attention or many studies have been carried out of the field. This strong focus on the research-world of the CARS Model is made clearer by Swales' definition of the discourse community as the audience of research articles, i.e. people having familiarity with the knowledge and sophisticated terms used in the field. As such, they expect an article published in their field journal to present new research findings. So, the audience of the research article is not just any members of the public who are familiar only with general knowledge, but experts in the field. Swales (2004) only refers to Samraj's suggestion, there is no mention of Connor and Mauranen's. However, when responding to Samraj's (2002) suggestion that the first Move of the CARS Model should be embedded with 'research-worlds' and 'real-world' terms to classify statements of significance, he rejects the suggestion, implying both categories are acceptable in the model. He says that real-world claims '... can just as easily be situated in the research world' (Swales, 2004, p. 228). I find this claim overlooks the two key concepts used in the original CARS Model mentioned earlier (the need to assess previous studies in order to make a research-world statement and the definition of discourse community), and there are no statements found in the introduction to the amended model which suggest changes to these two key concepts.

Despite Swales' rejection of embedding the 'research world vs. real-world' dichotomy in the first Move of the CARS Model, and his critique of the 'problem-solution' model, evidence from the data analysed in my study suggests both the dichotomy and the problem solution model are important. The introduction of dichotomy is important as the 'real-world significant' claim is well supported by the data and cannot be accommodated by the original CARS for the reasons mentioned earlier. The 'problem-solution' model is important because

it has more currency in the data than to the CARS does. Perhaps this is because every research project has to have a research problem — at least according to four influential research writing guides consulted for this study. I adapted their names as follows:

1. The Rifai Guide (Rifai, 1995). This guide was published by the most authoritative higher education body in Indonesia i.e. the DIKTI in collaboration with Gajah Mada University (one of the major and oldest universities in Indonesia)
2. The IKIP Malang Guide, written by a team of senior academics from IKIP Malang and published by this IKIP; this is the most influential IKIP in Indonesia as many academics from other IKIPs completed their Masters and PhDs here
3. The PKMB Guide, written by an senior academic from IKIP Jakarta and used there, but also sold in public bookshops,
4. The IKIP Padang Guide, used at IKIP Padang, a major IKIP in Sumatra.

What is interesting and perhaps unique about the pattern found in the data is the way the authors formulate the problem. This way is common to all of them. This paper will present the results of the analyses using the CARS, the PJP and the proposed model, and discuss why they differ and why the new model is more appropriate. Before presenting these results, I will present the methods of achieving them.

METHODOLOGY

Twenty-one RAIs were selected randomly after undergoing two stages of procedure. In the first stage, journals were selected using three criteria, i.e. from Education because academics in the field of Education play a critical role in producing teachers. They have accreditation status granted by the Indonesian Directorate of Higher Education (DIKTI), and they were published between 1980 and 2004. Having accreditation status was considered important because it shows that the journals have met the government standards. The era of 1980 to 2004 was selected in order to ensure that all the journals were published during two eras, before and after the IKIPs became universities (The transformation began in 1999). In stage 2, articles were selected from the selected journals using one criterion i.e. they must be based on empirical research. Forty-three articles were selected. Out of these forty-three articles twenty-one were randomly selected and later analysed. Each article is coded with ‘Edu’ (see Appendix for reference details and numbers of these articles).

This study adopts a qualitative approach in that patterns are drawn from in depth and repeated observation of the data sources. However, reliability is ensured not only through in depth and repeated observation, but also from triangulation when applicable. For example, to

confirm that the patterns drawn from the articles are reliable, information was also collected from interviews with some authors and journal editors and from Indonesian guides to writing a research article. These guides were collected from some of the institutions and one general guide published by the DIKTI.

The analysis was conducted in three stages. The first stage was a quick reading of the whole article and the taking of a brief summary of the contents. The purpose was to ensure an overall understanding of the whole article, and the summary was to be used in subsequent analysis for a quick reference. The second stage of analysis concentrated on the introductions. Prior to this stage, a table with all the moves and steps of the CARS Model was developed. At his stage, each introduction was read and each realisation of the steps was copied and pasted on the corresponding column in the table. The third stage includes analysing and calculating the instances of the realisation of the steps, and making notes of patterns. Re-readings of the whole introductions were conducted to ensure accuracy. The patterns were then further examined by comparing them with the information gathered from authors, writing guides, and journal editors.

RESULTS

RESULTS OF THE ANALYSIS OF 21 EDU RESEARCH ARTICLE INTRODUCTIONS (RAIS) USING THE CARS MODEL

The results show that none of the 21 Edu research article introductions (RAIs) fully fit the CARS model. The main problems concerned Moves 1 and 2. None of the RAIs completely fit Move 1 because all the RAIs established the significance of the research fields in terms of real world situations with the general public and government officials as the target audience rather than the discourse community as the model requires (Swales, 1990). A few RAIs seemed to have Move 2 establishing the niche, but when examined closely, they can't be categorized as such. However, most of the RAIs include Move 3, announcing what the study is about or what the purposes are.

RESULTS OF THE ANALYSIS USING SAFNIL'S PJP MODEL

Compared to the CARS, more RAIs fit the PJP model of Safnil (2000) but not as many as expected. The main problem concerns the heart of this model, namely the structure. This model is named a 'Problem Justifying Project' model. However, in this model, 'problem' is not included in the Move 'Justifying the Current Research Project' (Move 3) where this model expects authors to justify their study. Instead, the problem is put in Move 2 (Establishing the Research Field). Thus, there is a discrepancy between the name of this

model (Problem Justifying Project) and the actual move where the justification is made. The author of the model admitted that the authors of the RAIs from which he drew his model might have assumed that stating the research problem was sufficient to justify the research. He suggested this because his Move 3 (Justifying the Current Research Project) was found in less than 50% of his data (RAIs) (Safnil, 2000, p. 256). My data, 21 Edu RAIs, suggested less, i.e. only eight out of 21 (38.09%) RAIs employed this Move.

I believe that the reason for the discrepancy is that the author of the PJP Model was influenced by the CARS model and thought he had to follow the idea of 'Establishing a Territory' which forms the first Move of that model, because Safnil himself says that his model was a 'hybrid' of both the PJ Model of Ahmad (1997) and the CARS (See Safnil, 2000, p. 190).

Another structural problem for this model is the absence of 'Announcing the Present Research' as one of the steps in his Move Four. This absence created a problem for the present study when trying to assign a step to a statement found in my RAI data which simply said what the article was about, not its purposes. In short, this model is problematic because some of the RAIs in the present study do not announce their purposes, but simply state what they did. For example, Edu 14 says:

Example 1 Secara operasional penelitian ini mengkaji pengaruh interaktif antar metode dan kondisi pengajaran terhadap hasil pengajaran. (Edu 14).

(Operationally, this research investigated interactive effects of methods and the environment of teaching to the outcomes of teaching.)

This is not a statement of purpose, but of what has been done. A step saying 'announcing the present research' or 'stating the present research' would be more appropriate. With its current formulation, the above examples fit the Move, but none of the steps.

Based on the above results and evaluation, it is necessary to formulate a model that is specific for Edu RAIs.

'IDEAL-PROBLEM-SOLUTION' (IPS) MODEL: A MODEL FOR INDONESIAN RESEARCH ARTICLE INTRODUCTIONS (RAIS) IN EDUCATION.

The model I am proposing for the research articles written by Indonesian educators (henceforth: Edu RAIs) is called the 'Ideal-Problem-Solution' (IPS). Edu RAI authors normally identify a problem in a particular [educational] context and use it as the main reason for conducting the study. This problem is raised by contrasting an ideal situation with the existing situation. As mentioned in the Review of other Studies, every study should describe such a problem, which in Indonesian is called *masalah penelitian* or *permasalahan penelitian* (research problem). It refers to a problem that exists in a community. A problem is such because it impedes the achievement of an 'ideal' situation. A research question is known as *pertanyaan* (question) and it is a question(s) which a study intends to address. The study, then, examines the problem in a study and proposes practical recommendations in order to solve the problem(s).

This IPS model differs from Safnil's PJP model in that the IPS model includes 'describing the Ideal' (situation). Another difference is that it includes problem raising as a step to justify the study (Move 2), which in Safnil's PJP Model is not. It means that this IPS model solves the problem Safnil's PJP Model has, that is low support for it from the data.

The basic idea of this IPS Model is as follows. A problem(s) is normally generated by the authors by contrasting what they perceive as 'the ideal' situation against the 'existing' real world situation(s) such as the current teaching practice, current approach to student errors, current teaching methods, etc. The presence of the problems (as defined by the reality falling short of the ideal) is used as the main reason to justify a study. In other words, the justification of a study is developed on the basis of the existence of problems. As such, the study is undertaken mainly in order to contribute to solving the problems so that the ideal can be attained. This is why some of the RAIs include expected 'practical benefits' (See Strategy 2 of Move 2 below). Figure 2 summarizes the IPS model.

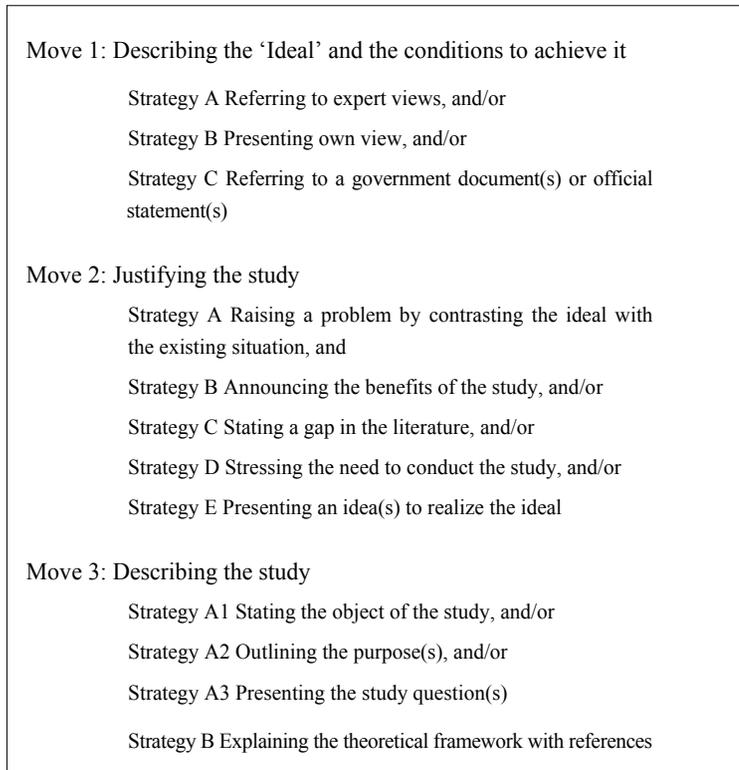


Figure 2
The Ideal-Problem-Solution (IPS) model

As shown in Figure 2, the model has three moves, i.e. Move 1: Describing the 'Ideal' and the conditions to achieve it, Move 2: Justifying the study, and Move 3: Describing the study. Essentially, these three moves mean that, in the introduction of an article, the author(s) describes an ideal situation, which is usually something the related parties wish to achieve (Move 1). They then contrast it with the existing situation(s), which impedes the achievement of the 'ideal situation', and raise a problem (Move 2, Strategy A), which provides the main justification for the study. They may support this justification by announcing the benefits of the study (Strategy B), and/or state a gap in the literature (Strategy C), and/or stressing the need to conduct the study (Strategy D), and/or presenting an idea(s) to solve the problem. They, then, describe the study (Move 3) by stating the object of the study (Strategy A1),

and/or outlining the purpose(s) (Strategy A2) and/or presenting the study question(s) (Strategy A3). As shown above, each move has several possible strategies. I use the word ‘strategy’ rather than ‘step’ because a ‘strategy’ may occasionally appear in a different place in the Introduction for example after Move 3, while a ‘step’ tends to suggest a more rigid sequence. Strategy is defined as “procedures” employed “as a way of reaching a goal” (Richards & Schmidt, 2002, p. 515). ‘Announcing the benefits of the study’, for example, may appear at the end of the text, but its logical function is to support the argument for justifying the study (Move 2). The moves and strategies are detailed below with examples from the data.

MOVE 1: DESCRIBING THE ‘IDEAL’ AND THE CONDITIONS TO ACHIEVE IT

The first move is “Establishing the ‘ideal’ situation” that the author thinks should be achieved by everyone concerned, and ‘the condition(s)’ that need to be created in order to achieve it. The word ‘ideal’ is put in inverted commas because it is what the author perceives to be so in the context of his/her article, and what he/she thinks the community and the government would be happy with. If the author writes about teaching methods in an institution, the ‘ideal’ situation is successful teaching, where the methods are effective and the outcomes please all the concerned parties. There are three possible strategies in this first move. Each of these strategies may come alone or together with one or more of the others.

MOVE 1 - STRATEGY A: REFERRING TO THE EXPERT VIEW(S)

The first possible strategy in describing the ‘ideal’ is by citing the view(s) of one or more experts in the field. The purpose is to show that the project is academically based and therefore scientifically justified. Here is an example.

Example 2 Hilgard dan Atkinson (1967) menyimpulkan bahwa **orang kreatif lebih fleksibel** dibandingkan orang yang kurang kreatif. **Fleksibilitas ini membuat orang kreatif dapat menghindari rintangan-rintangan dalam memecahkan persoalan yang dihadapi** (Gandadipura, 1983). (Edu 2)

(Hilgard and Atkinson [1967] concluded that **creative people are more flexible** compared to those who aren’t. **Flexibility makes creative people capable of avoiding obstacles in solving problems** [Gandadipura, 1983]).

The bold phrases signal ‘the ideals’. The ‘ideal’ is having ‘graduates who are creative’ as this type of people are flexible and can avoid (overcome) obstacles when solving problems.

MOVE 1 - STRATEGY B: PRESENTING OWN VIEW

Sometimes the Edu authors did not use citations in describing the 'ideal'. An example of this strategy is as follows.

Example 3 Dalam pengajaran IPS di Sekolah Dasar dan pengajaran geografi di Sekolah Menengah Pertama (SMP), peta merupakan media instruksional yang sangat penting. Hal ini disebabkan karena peta adalah gambaran konvensional fenomena permukaan bumi yang diperkecil pada sebuah bidang datar... Konsekwensinya adalah perlu diperhatikan tentang **ketersediaan dan penggunaan peta di sekolah**. (Edu 10)

(In teaching Social Sciences at primary schools and teaching geography at junior high schools, maps form a very important instructional media. This is because a map is a conventional description of the phenomena on the surface of the earth depicted on a flat surface. ... In this case, **the availability and use of maps at schools** need to be taken care of.)

The 'ideal' here is implicitly stated i.e. the availability of suitable maps and proper method of using them because the purpose of the study is to investigate the availability of maps at schools and the ways they are used.

MOVE 1 - STRATEGY C: REFERRING TO A GOVERNMENT DOCUMENT(S) OR OFFICIAL STATEMENT(S)

Another strategy to establish the 'ideal' is to refer to a government document such as a law, government decree, curriculum, official statements, etc. This is different from Strategy A in that this strategy is aimed at gaining support from the government, showing that the project is based on and supportive of the government policy, so it's socially and politically justified. For example:

Example 4 Berdasarkan Peraturan Pemerintah Republik Indonesia Nomor 30 Tahun 1990 tentang Pendidikan Tinggi, perguruan tinggi bertugas menyelenggarakan pendidikan tinggi yang bertujuan untuk:

1. **menghasilkan lulusan yang dapat menjadi anggota masyarakat yang memiliki kemampuan akademik dan atau profesional yang dapat menerapkan, mengembangkan, dan atau menciptakan pengetahuan, teknologi, dan atau kesenian,**
2. **mengembangkan dan menyebarluaskan ilmu pengetahuan, teknologi, dan atau kesenian serta mengupayakan penggunaannya untuk meningkatkan taraf kehidupan masyarakat dan memperkaya kebudayaan Nasional (Pasal 2, ayat 1). (Edu 17)**

(Based on the Government Regulation number 30, 1990, on Higher Education, Higher Education institutions are expected to run higher education to:

ARTICLES

1. **produce graduates who can become members of society who possess academic and/or professional skills, who can employ, expand, and/or produce knowledge and technology, and/or arts,**
2. **to expand and publicize sciences, technology, and/or arts as well as using them to improve the standard of living of the people and to enrich the national culture** [Chapter 2, Article 1].

The underlined parts are the names of the government documents and bold parts describe the ideal situations.

Table 1 shows the results of analysing the 21 Edu RAIs using Move1 of the IPS model. (The total number of occurrences exceeds the number of RAIs because two or three strategies may occur in any one RAI). As shown in Table 1, this move is well realized in the data. Strategy 1B (Presenting own view) is the most common, appearing in 14 or 66.66% of the RAIs, followed by Strategy C (Referring to a government document[s]), appearing in 12 or 57% of the RAIs. Strategy A (Referring to Expert’s view) is the least common strategy, realised only in nine or 42.85% of the RAIs.

Table 1

Summary of the results using Move 1: Establishing the ‘Ideal’ and the condition to achieve it.

| Number of RAIs | Move 1 Strategies | | |
|--------------------------|---|---|--|
| 21 Edu Research Articles | Strategy A Referring to expert views, and/or | Strategy B Presenting own view, and/or | Strategy C Referring to a government document(s) or official statement(s) |
| N = 21 | 9 RAIs (42.85%) | 14 RAIs (66.66%) | 12 RAIs (57%) |

MOVE 2: JUSTIFYING THE STUDY

Justifying the study is defined as an attempt by the author(s) to convince the audience to accept the study. In Indonesia, an important part of the audience is government authorities as they are the main funding source, and they expect any project they support to bring benefits to the development of the country. The strategies used by authors in the articles reflect this sentiment.

Most of the authors of the Edu RAIs use a number of strategies to justify their studies. As in Move 1, some of the strategies may appear at the end of the RAIs. Each strategy is described below.

MOVE 2 - STRATEGY A: RAISING A PROBLEM BY CONTRASTING THE IDEAL AND THE EXISTING SITUATIONS.

The main strategy used to justify the study is raising a problem by contrasting the ideal with the existing situations. By adopting this strategy, the author can identify a problem that inhibits or prevents the achievement of the 'ideal'.

Establishing a real-world problem, that prevents or inhibits the realization of the 'ideal', is an essential element for justifying the study. My data suggest 20 out of 21 RAIs refer to real world problems. The following is an example from Edu 15.

Example 5 Pembelajaran matematika pada jenjang pendidikan dasar akhir-akhir ini sangat memprihatinkan. Hal ini, terlihat bahwa hasil belajar matematika yang berupa nilai atau skor pada jenjang pendidikan dasar masih dinyatakan rendah bila dibandingkan dengan nilai atau skor mata pelajaran lainnya (Hasil Ebtanas, 1994, 1995, 1996) (Edu 15).

(Recently the teaching of mathematics at primary schools was a matter for concern. This was reflected in the outcomes, i.e. in the form of [students'] marks or scores at primary schools, which have been said to be low compared to the average scores of other subjects [results of National level examinations 1994, 1995, 1996]).

The bold is the problem as a result of contrasting students' marks in mathematics and in other subjects.

This strategy is important in persuading the authorities (own university or the government) to support the study, e.g. by providing funding, because one of the roles of academics and universities in Indonesia is to support the government development program. By clearly establishing the relationship between their research project and the government's development aims, the authors show that the project is benefiting the government program, and therefore, it is worth government support.

MOVE 2 - STRATEGY B: ANNOUNCING THE BENEFIT(S) OF THE STUDY

The main strategy (Strategy A) is sometimes supported by other strategies such as stating the practical benefits of the study. In the following example, the practical benefits are explicitly stated.

Example 6 Temuan penelitian ini dapat **memberikan manfaat** dalam usaha meningkatkan kualitas belajar mengajar matematika. (Edu 12)

(The findings of this research **can benefit** attempts to improve the quality of teaching and learning of mathematics).

The bold phrase explicitly signals the benefit.

However, such a statement of benefits is only considered an additional support for the argument that justifies the study because it appears only in a small number of the Edu RAIs (See Table 2). Nonetheless, they function to strengthen the case made in Strategy A, i.e. by showing that the study will help solve the problem(s). The RAIs that offer the benefits always provide practical recommendation(s) at the end as a realization of what is promised in the Introduction. However, this is not to say that every RA that has a practical recommendation(s) will present practical benefit(s) in its Introduction, but the RAs that state the benefits in the Introduction always have practical recommendations presented after the Conclusion. In other words, if the benefits are presented, there must be practical recommendations, but the RAs that have practical recommendations do not necessarily state the benefits in their Introductions.

MOVE 2 - STRATEGY C: STATING A GAP(S) IN THE LITERATURE

Another strategy is 'stating a knowledge gap'. This can be expressed by saying, for example, 'no study has been conducted', 'it is interesting to examine', 'it is necessary to study', 'no empirical data is available', or any other statement along these lines. The following is an example.

Example 7 Meskipun pengajaran dengan pendekatan sinektika berguna untuk mengembangkan kreativitas siswa, **belum ditemukan data empirik tentang pelaksanaan pengajaran ini di Indonesia dan dampaknya terhadap kreativitas dan hasil belajar siswa.** (Edu 2)

(Even though teaching with Sinectic Approach is useful in developing students' creativity, **no empirical data (evidence) about the implementation and impact of this method on students' creativity and learning achievement have been found in Indonesia.**)

The bold phrases indicate the gap. This strategy seems comparable to Swales' CARS model, Step 1B of Move 2 (Indicating a gap), but not exactly. As mentioned in earlier, the difference is that Swales' model requires the presence of a critical review of previous studies, while this strategy does not as no critical review was found.

MOVE 2 - STRATEGY D: STRESSING THE NEED TO CONDUCT THE STUDY

This strategy can be realised using various expressions such as *perlu dikaji* (need to be investigated), *penting dikaji* (important to be studied), *masalah ini penting* (the issue is important), etc. This strategy is usually employed after the author(s) states a problem. The following is an example.

Example 8 Rendahnya perolehan belajar siswa dalam EBTANAS, khususnya dalam mata pelajaran matematika, merupakan hal yang sangat menarik untuk dicermati dan **perlu dikaji lebih mendalam** tentang faktor-faktor penyebabnya sehingga perolehan belajar tersebut rendah. (Edu 16)

(The low scores that students obtain in EBTANAS [National Examination for School Students after studying for six years at primary schools, or three years at high school], especially in Mathematics, is an interesting thing to examine and the causal factors **need to be investigated more deeply** [further].)

Here the author states a problem, namely the low marks students achieved in national examinations especially in mathematics, then stresses the need to investigate the (possible) causal factors (See the bold part of the example). The expression *sangat menarik* (very interesting) seems to function only to add an additional emphasis to the strategy, as there was no explanation of why it is interesting.

MOVE 2 - STRATEGY E: PRESENTING AN IDEA(S) TO REALIZE THE IDEAL

This strategy is also an attempt to justify the study because by presenting the idea(s), the author can show the audience that he/she knows the ways to solve the problem.

Example 9 **Sistem pembelajaran alternatif yang dicobakan dalam upaya meningkatkan keefektifan internal sebagaimana tersebut di atas adalah sistem pembelajaran individual.** Strategi pembelajaran ini dikembangkan berdasarkan pendekatan Aptitude Treatment Interaction (ATI), yang berasumsi bahwa suatu perlakuan pembelajaran tidak selalu cocok untuk setiap pebelajar (Jonassen, 1972). Menurut Gagne (1979), strategi ini dalam pembelajaran lebih sesuai dengan adanya individu pebelajar dalam suatu kelompok yang terdiri atas 25 orang. Ketentuan tersebut sesuai dengan

jumlah pebelajar dalam satu kelas pada pembelajaran termasuk matakuliah MKE di Jurusan Pendidikan Teknik Mesin (PTM) FPTK IKIP MALANG. (Edu 5)

(The alternative teaching method that has been tested, in search of higher effectiveness, is an individual approach. This strategy (method) is developed based on Aptitude Treatment Interaction (ATI), which assumes one teaching method does not suit every learner (Jonassen, 1972). According to Gagne (1979), this method suits the individuals who study in a group of 25 people. This number matches the number of students in a class including in the Energy Converter Unit, Department of Mechanical Engineering, FPTK, IKIP Malang).

All strategies in Move 2 of this IPS model were evaluated against the data, and the results are summarised in Table 2. As Table 2 shows, none of the individual strategies appeared in the majority of the RAIs. However, this move was well represented because one or more of the strategies appeared in each of the RAIs. Therefore, this move can be considered as obligatory.

Table 2

Summary of the results of analysing the 21 Edu RAIs using Move 2 Justifying the study* (N=21)

| Strategy A: Raising a problem by contrasting the ideal and the existing situations and explaining why the 'ideal' is not achieved. | Strategy B: Announcing the benefits of the study | Strategy C: Stating a gap in the literature and the necessity to conduct a study | Strategy D: Stressing the need to conduct the study | Strategy E: Presenting an idea(s) to realize the ideal |
|--|--|--|---|--|
| 19 RAIs (90.47%) | 12 RAIs (57%) | 14 RAIs (61%) | 3 RAIs (14.28%) | 3 RAIs (14.28%) |

*The total number of occurrences exceeds the number of RAIs (N) because two or more strategies may occur in one RAI.

MOVE 3: DESCRIBING THE STUDY

In describing the study, my data suggested that the authors employ four major strategies. They are: (A1) stating what the subject of the study is about and/or (A2) outlining the purposes of the study; (A3) presenting the study question(s) and (B) explaining the theoretical framework with references. Each of these strategies is detailed below.

MOVE 3 - STRATEGY A1: STATING THE SUBJECT OF THE STUDY

In ‘Stating the subject of the study’ the authors state what the RA is to do. For example, it may say, *Makalah ini membicarakan* (This paper discusses), or *Penulis mencoba mengemukakan berbagai pendapat* (The author tries to present various views).

Example 10 Secara operasional penelitian ini mengkaji pengaruh interaktif antar metode dan kondisi pengajaran terhadap hasil pengajaran. (Edu 14).

(Operationally, this research examined the interactive [reciprocal] effects of methods and conditions of teaching on outcomes of teaching)

MOVE 3 - STRATEGY A2: OUTLINING THE PURPOSE(S) OF THE STUDY

When authors outline the purposes of their studies, they outline what they will achieve by doing the study. They may use expressions such as *Tujuan penelitian ini adalah untuk* (the purpose of this study is to), *Penelitian ini bertujuan* (this research is aimed at).

Example 11 Penelitian ini **bertujuan untuk** mengetahui ada tidaknya: (a) pengaruh penstrukturan buku ajar terhadap prestasi belajar matematika, (b). pengaruh strategi belajar terhadap prestasi belajar matematika, dan (c). pengaruh interaktif antara strategi belajar dan penstrukturan buku ajar terhadap prestasi belajar matematika (Edu 12).

(This research is **aimed at** finding whether or not the following things exist (are present, or are at play): (a) the effects of structuring of teaching books on learning outcomes in mathematics, (b) the effects of learning strategies on learning outcomes of mathematics, and (c) the interactive effects of the structuring of teaching books on learning outcomes of mathematics.)

The bold phrase *bertujuan* indicates the purposes of the study.

MOVE 3 - STRATEGY A3: PRESENTING THE STUDY QUESTION(S)

The idea of study question here is not the same as the idea of a research question discussed in Step 1C of Move 2 (Question raising) of the CARS model. A study question in this strategy

is formulated after an author has described the actual topic of the study while in Step 1C of the CARS model, a question is raised after a critical review of previous studies as an attempt to situate the study in the literature.

Example 12 Sesuai dengan apa yang sudah diungkapkan pada "pendahuluan" khususnya pada penelitian HB III/2 tahun 1995/1996 ini bisa dirumuskan pertanyaan sebagai berikut.

- 1) Komponen-komponen apakah yang dominan mendukung keberhasilan pencapaian hasil membaca permulaan secara maksimal?...

(In line with what has been stated in the 'introduction', especially in regard to the questions in the HB III/2 of 1995/1996 research, the questions can be formulated as follows:

- 1) What are the dominant components [factors] that contribute to the achievement of maximum results in early reading?...

MOVE 3 – STRATEGY B: EXPLAINING THE THEORETICAL FRAMEWORK WITH REFERENCES

This strategy sometimes takes up to two pages. Half occurred under a separate subtitle. The following is an example of a shorter one.

Example 13 Latar Belakang Teoritis

Pengawasan diperlukan dalam semua organisasi, termasuk organisasi, sekolah. Robbins (1982) memandang pengawasan sebagai suatu proses memonitor aktivitas-aktivitas untuk mengetahui apakah individu-individu dan organisasi-organisasi itu sendiri memperoleh dan memanfaatkan sumber-sumber pendidikan secara efektif dan efisien dalam rangka mencapai tujuannya dan memberi koreksi bila tujuan itu tidak tercapai. (Edu 17)

(Theoretical Background

Supervision is required in all organizations, including school organizations. Robbins [1982] sees supervision as a process of monitoring activities in order to find out whether the individuals and the organization itself receive and use educational resources effectively and efficiently in order to achieve its goal and rectify the situation when the goal is not achieved).

All strategies in this Move 3 were evaluated against the data. As shown in Table 3, the most common strategy of describing the study was Strategy A2 (Outlining the purposes of the

study). It appeared in 13 (61.90%) of the RAIs. However, it is not the only strategy. It can be replaced by either Strategy A1 or A3. The second common strategy is Strategy A3 (Presenting the study questions) and Strategy B (Explaining the theoretical framework with references), with both appearing in 12 (57%) of the Edu RAIs. Strategy A1 (Stating the subject of the study) was not very common, appearing only in five RAIs or 23.8% of the data. However, it can substitute the most common strategy (Strategy A2) because it appeared in three RAIs where Strategy A2 did not appear.

Table 3

Summary of the results for Move 3: Describing the study (N = 21)

| Strategy A1: | Strategy A2: | Strategy A3: | Strategy B: |
|----------------------------------|-------------------------------------|--------------------------------|--|
| Stating the subject of the study | Outlining the purposes of the study | Presenting the study questions | Explaining the theoretical framework with references |
| 5 RAIs (23.8%) | 13 RAIs (61.9%) | 12 RAIs (57.14%) | 12 RAIs (57.14%) |

A small number of the Edu RAIs (2RAIs or 9.5%) did not state the purpose. In such instances, the purpose appears in the Abstracts. Maybe the authors believed that the purpose had been made clear because it had been presented in the Abstract. Overall, Move 3 was found in 19 RAIs or 90.04% of the data, so it can be said that it is an obligatory move for the Edu RAIs, noting that if it does not occur in the Introduction, it has to be mentioned in the Abstract.

DISCUSSION

This study was aimed at investigating the best model to account for Indonesian research article introductions in Education. It began with a trial of the influential CARS model of discourse pattern of English research articles Introductions, and followed by testing the Indonesian PJP model designed by Safnil (2000). The questions for both trials were: To what extent do the generic discourse structures of the RAIs fit these models and why? The results answer the half of the first question that is none of the RAIs fully fit the CARS model. The PJP model performed better, but, despite being developed based on Indonesian Humanities RAIs, one move did not fit the data well (similar to the result of the test conducted by Safnil,

2000) and several structural problems were found. Therefore, a new model named the Ideal-Problem-Solution (IPS) has been proposed, and tested against the data. The results show that model fit the data well. Next section addresses the second half of the question.

THE CONCERN OF THE INDONESIAN EDUCATORS

The main concern of the Indonesian educators appears to be how to improve Indonesia national education as expected by their government. As a benchmark for assessing education standard in a particular context (depending on the focus of the research), they define an ideal situation. This situation may be made in one or more ways, for example by citing views of experts, government documents, their own view, and they then set the existing situation against it. The educator would then claim that a problem has emerged, and the emergence of the problem is due to a mismatch between the ideal situation and the existing situation. The presence of the problem forms the main justification for the study because without it, it is difficult to obtain funding from the government. This justification is reinforced with an offer to solve the problem, and an offering of the practical benefits. At the end of the article, there are almost always practical recommendations for solving the problems.

This concern is different from the main concern of the CARS model, that is, knowledge development. According to this model, to justify a study, one has to show whether the field is considered important by researchers (Establishing a territory, Move 1 of CARS), and how it contributes to knowledge development or the existing literature (Establishing the niche, Move 2 of CARS). To show its importance, the author should show how much the field has attracted interest or how many researchers have conducted research on it. To show the contribution of the study, the author should critically review previous studies in an attempt to situate the study among other studies. The difference between the CARS and the Indonesian educators, then, is this: whereas significant contribution to education is paramount in their Indonesian RAIs, in the CARS model, significant contribution to knowledge development is paramount.

Expressing how a study contributes to the national interest is not unique to Indonesia, but in other countries such as Australia such expression is made in a proposal for funding rather than in RAIs. This might have been due to the guide given in research guides provided by Indonesian influential institutions such as those published by the Directorate of Higher Education of Indonesia and IKIP Malang. One piece of advice given in these guides suggests this expression.

The Indonesian discourse pattern as proposed in the IPS model seems to have its root in the literature too. It is broadly similar to the ‘problem-solution’ model (Creswell, 2009; Hoey,

1983; Winter, 1971; Zappen, 1985). What is interesting in the Indonesian RAIs, however, is the contrasting of an ideal situation and the existing reality to generate a research problem. They do not go straight to the problem. This strategy of raising a problem is also found in the guides.

In conclusion, rhetorical patterns of the introductions of Indonesian research articles in Education seem to be affected not only by the national concerns but also by local writing guides provided by influential institutions.

ACKNOWLEDGMENTS

I am indebted to many people for supplying information for this study. These include academics for their information on the situation of academic life in Indonesia, librarians for information about library collections, and the anonymous reviewers who have provided useful feedback for the earlier draft of the paper.

REFERENCES

- Adnan, Z. (2009). Some potential problems for research articles written by Indonesian academics when submitted to international English language Journals. *The Asian EFL Journal Quarterly*, 11(1), 107–125.
- Ahmad, U. K. (1997). Research article introductions in Malay: rhetoric in an emerging research community. In A. Duszak (Ed.), *Culture and styles of academic discourse* (pp. 273–304). Berlin: Mouton de Gruyter.
- Australian Research Council. (2009). Linkage projects funding rules. Retrieved March 8, 2009 from http://www.arc.gov.au/nccp/lp/lp_fundingrules.htm.
- Connor, U. & Mauranen, A. (1999). Linguistic analysis of grant proposals: European Union research grants. *English for Specific Purposes*, 18, 47–62.
- Creswell, J. (2009). *Research design: qualitative, quantitative, and mixed methods approaches*. Los Angeles: Sage.
- Golebiowski, Z. (1999). Application of Swales' model in the analysis of research papers by Polish authors. *International Review of Applied Linguistics*, 37, 231–247.
- Gunnarsson, B.-L., Linell, P. & Nordberg, B. (Eds). (1994). *Text and talk in professional contexts. Selected papers from the international conference "Discourse and the Professions", Uppsala, 26–29 August, 1992*. Uppsala: ASLA.
- Hoey, M. (1983). *On the surface of discourse*. London/Sydney: Sage.
- Mas'ood, M. (1983). *The economic and political structure during the Early New Order, 1966–71*. Unpublished PhD dissertation, Ohio State University, Ann Arbor, Michigan.

ARTICLES

- Mirahayuni, N. K. (2001). *Investigating textual structure in native and non-native English research articles: strategy differences between English and Indonesian writers*. Unpublished PhD dissertation, The University of New South Wales, Sydney, Australia.
- Najjar, H. Y. (1990). *Arabic as a Research Language: The Case Study of the Agricultural Sciences*. University of Michigan, Ann Arbor.
- Nwogu, K. N. (1997). The medical research paper: structure and functions. *English for Specific Purposes*, 16(2), 119-138.
- Richards, J. & Schmidt, R. (2002). *Longman dictionary of teaching and applied linguistics* (3rd ed.). London: Longman.
- Rifai, M. (1995). *Pegangan Gaya Penulisan, Penyuntingan dan Penerbitan Karya Ilmiah Indonesia*. Yogyakarta: Gadjah Mada University Press.
- Safnil. (2000). *Rhetorical structure analysis of the Indonesian research articles*. Unpublished PhD dissertation. The Australian National University, Canberra, Australia.
- Samraj, B. (2002). Introductions in research articles: variations across the disciplines. *English for Specific Purposes*, 21, 1-17.
- Soemardjan, S. (Ed). (1994). *Culture, development, and democracy: a tribute to Soedjatmoko*. Tokyo/New York: United Nations University Press.
- Swales, J. (1981). *Aspects of research article introductions*. Birmingham, UK: Ashton University, the Languages Studies Unit.
- Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.
- Swales, J. (2004). *Research genres: exploration and applications*. Cambridge: Cambridge University Press.
- Winter, E. (1971). A clause-relational approach to English texts: a study of some predictive lexical items in written discourse. *Instructional Science*, 6(1), 1-91.
- Zappen, J. (1985). Writing the introduction to a research paper: an assessment of alternatives. *The Technical Writing Teacher*, 12, 93-101.

APPENDIX: LIST OF ARTICLES

No. Education (Edu)

- 1 Sukidjo (2004). *Sikap Guru di Daerah Istimewa Yogyakarta terhadap Pengembangan Profesi* (Teachers' attitudes to Professional Development in the Special Territory of Yogyakarta). *Cakrawala Pendidikan*, 23(3), 439-459.
 - 2 Gani, H. A. (1996). *Relevansi Kurikulum 1994 SMK Jurusan Otomotip dengan Kebutuhan Industri Otomotip* [The relevance of 1994 Vocational Curriculum for Automotive Discipline to the Automotive Industries]. *Jurnal Pendidikan Humaniora dan Sains* 2 (1 & 2), 33-40. (UNMA)
 - 3 Sudjoko, S.M. (1990). *Dampak Pendidikan Wanita pada Masalah Kependudukan* [The Impact of (the Levels of) Woman Education on Population Problems]. *Cakrawala Pendidikan*, 9 (Special edition), 1-8. (Universitas Yogyakarta)
 - 4 Nio, B.K.H. (1995). *Peranan Pertanyaan Peringkat Tinggi Dalam Proses Selajar Mengajar Terhadap Penalaran Siswa SMP Negeri Di Propinsi Sumatera Barat* (The Effects of High-Level Questions in Teaching and Learning on the Reasoning of Students in Public Junior High Schools in West Sumatra). *Forum Pendidikan*, 20(2), 33-48.
 - 5 Nyoto, A. (1994). *Pengembangan Pembelajaran Individual: Penerapannya pada Matakuliah Mesin Konversi Energi (MKE) di Jurusan Pendidikan Teknik Mesin FPTKIKIP MALANG* (Developing Individual Learning: It's Implementation in Energy Conversion Engine Unit (Course) in the School of Mechanical, Faculty of Engineering IKIP Malang). *Jurnal Pendidikan Humaniora dan Sains*, 1 (1), 83-91. (University of Malang or UNMA).
 - 6 Gani, H. A. (1996). *Relevansi Kurikulum 1994 SMK Jurusan Otomotip dengan Kebutuhan Industri Otomotip* [The relevance of 1994 Vocational Curriculum for Automotive Discipline to the Automotive Industries]. *Jurnal Pendidikan Humaniora dan Sains* (UNMA) 2 (1 & 2), 33-40.
-

- 7 Kustiono (1996). *Intensitas Pemanfaatan Sumber Belajar Lingkungan Masyarakat oleh Guru Sekolah Dasar di Kabupaten Pemalang, Jawa Tengah* [The Intensity of the Use of the Surrounding Community by Teachers of Primary Schools in Pemalang Regency, Central Java]. *Jurnal Pendidikan Humaniora dan Sains (UNMA)* 2 (1 & 2), 41-52.
 - 8 Jalinus , N. (1997). *Study Tingkat Kepedulian Guru Menengah Kejuruan Akan Inovasi dalam Implementasi Kurikulum SMK-Teknologi 1994 (Studi Kasus Di SMK Teknologi Padang dan Bukittinggi)* [A Study of Teachers' Creativity in the Implementation of Technology High Schools in 1990 (A Case Study in Padang and Bukittinggi)]. *Forum Pendidikan* 22 (2), 58-71. (UNP)
 - 9 Kumaidi. (1995). *Penyekalan Angka Rapor Calon Mahasiswa sebagai Variabel Penjangkar* [Assessing the Use of High School Marks as the Basis for Entry to IKIP Padang, using the Students' Achievement at IKIP Padang as a Parameter]. *Forum Pendidikan*, 22 (1), 58-71. (UNP)
 - 10 Sriartha, I.P. (1997). *Evaluasi Ketersediaan Dan Penggunaan Peta Sebagai Media Instruksional P Ada Pendidikan Dasar Di Daerah Kabupaten Buleleng. Aneka Widya*, 30 (1), 1-10. (STKIP, Singaraja, Bali)
 - 11 Herusantosa, S. et al. (1997). *Studi Penelusura Efektivitas dan Efisiensi Metode dalam Proses Belajar Membaca Permulaan di Sekolah Dasar.* [A Study of the Effectiveness and Efficiency of Methods in the Teaching of Early Reading]. *Aneka Widya*, 30 (1), 1-10 (STKIP, Singaraja, Bali)
 - 12 Suharta, I.G.P. (1997). *Pengaruh Penstrukturan Buku Ajar dan Strategi Belajar terhadap Prestasi Belajar* [The Effect of the Structuring of Textbooks and Learning Strategy towards Learning] Outcomes. *Aneka Widya*, 30 (1), 46-56. (STKIP, Singaraja, Bali)
 - 13 Sidharto, S. (1989). *Problem Pelaksanaan Pendidikan Dasar (Basic Education) sebagai Penunjang Pembangunan di Negara Berkembang: Suatu Tinjauan Komparatif* [The Problems of Basic Education in Support of Development in Developing Countries, a Comparative Study. *Cakrawala Pendidikan*, 8 (Special Edition), 55-66. (IKIP Yogyakarta)
-

-
- 14 Panjaitan, B. (1997). *Pengaruh Interaktif antara Pemberian Balikan dan Motivasi Berprestasi terhadap Perolehan Belajar* [The Effects of Feedback and Motivation to Perform on Learning Outcomes]. *Jurnal Teknologi Pembelajaran, Teori dan Penelitian*, 5 (1), 35-40.
 - 15 Haling, A. (1997). *Kemampuan Guru Sekolah Dasar Melakukan Analisis Pembelajaran Matematika* [The Ability of Primary School Teachers in Analysing Learning of Mathematics]. *Jurnal Teknologi Pembelajaran, Teori dan Penelitian*, 5 (1), 41-49.
 - 16 Siagian, S. (1997) *Penguasaan Siswa SMU Kelas I terhadap Bahan Prasyarat Belajar Geometry* [Performance of the First Year Students of Senior High Schools in Pre-Geometry Lessons]. *Jurnal Teknologi Pembelajaran, Teori dan Penelitian*, 5 (1), 50-56.
 - 17 Hilaluddin, S (2004). *Hubungan Keefektifan Pengawasan Kepala Sekolah Dengan Keefektif An Mengajar Guru-Gur SMP Negeri di Kabupaten Kendari*. *Jurnal Pendidikan Humaniora dan Sains*, 3 (2), 45-52. (UNMA)
 - 18 Rustamam, N.Y. (1997). *Perubahan Konseptual Siswa Latar Belakang Budaya Berbeda Conceptual* [Changes in the Students of Different Cultural Backgrounds]. *Mimbar Pendidikan*, 16 (1), 48-53. (Universitas Bandung).
 - 19 Supriatna, N. (1997). *Sikap Guru-guru Mainstream Anglo-Australia* [The Attitudes of the Main Stream Anglo-Australian Teachers]. *Mimbar Pendidikan*, 16 (1), 54-64.
 - 20 Effendi, Mohammad (1997). *Pengembangan Model Pembelajaran Bahasa Anak Tunarungu Berdasarkan Pendekatan Komunikasi Total Di Slb Bagian B 9 (Tunarungu)* [Developing Learning Model of Mute Children Based on Total Physical Approach at Special School Section 9 (For the Mutes). *Ilmu Pendidikan*, 24 (1), 40-53.
 - 21 Kuswandi, D (1997) *Pengembangan Model Pembelajaran IPS yang Menggunakan Masyarakat sebagai Sumber Belajar* [Developing Learning Model for Social Science using the Community as a Source of Learning]. *Ilmu Pendidikan*, 24 (1), 54-67.
-