CHAPTER FIVE

A COMPARISON OF THE IEEE AND LA INTRODUCTIONS

5.0 Introduction

In response to Research Question 1, this chapter will summarize and assess the results and developments arising from a comparison between the IEEE and the LA introductions as they appear in Chapter Four. The first section attempts to draw a comparison between the two sets of introductions by utilizing the quantifiable categories identified in the move-steps of the three moves. The second section proceeds with the comparison in the discussion of the length of moves and move-steps within considerations of a mention in the respective publication guides. The third section expresses the comparison in the discussion of the functions of the tenses and modals used. The final section sums up the similarities and differences between the two sets of introductions, the IEEE and LA, in determining the relative predominance of the active and passive voices. The accompanying data derived from frequency distribution for sections one to four, have also been summarized in the form of tables for ready reference.

5.1 General Similarities and Differences between IEEE and LA Introductions.

To account for the observed similarities and differences between the IEEE and LA introductions, the analysis draws on three sets of results: first, findings on the quantifiable categories which explain the writer's command of discoursal strategies in composing, second, findings on length and distribution of moves/move-steps which elucidate the response of the writer in catering for the different levels of readership, and third, findings on the use of grammatical features like tenses, modals and the active and passive voices which show the relationship between form and meaning in the use of language. The three similarities can be drawn from the following parallels: in making choices of linguistic expression of quantifiable categories in Moves 1 and 2; in maintaining similar sentential length in the move-steps of Moves 3 and 1; and in using 'can' as the most versatile modal. The differences lie in: the choice of quantifiable categories in Move 3, the sentential length of Move 2 and the frequency of the use of the present perfect and past tenses as well as in the distribution of the active and passive voices in writing. It must be pointed out that pertaining to tense considerations, only the predominant forms of the verb will be investigated as any attempt to cover the subject thoroughly would merit a separate study.

5.2 Comparison of Quantifiable Categories in Moves/Move-Steps

Referring to Appendix 12, several conclusions can be drawn regarding the use of the quantifiable cohesive categories for both the IEEE and LA introductions. This will be discussed within the context of the moves / move-steps since the cohesive categories are closely bound up with the context of each move / move-step. The quantifiable categories considered under Move 1 are: in Step 1, the 7 ways of asserting centrality; in Step 2, the 3 orientation types of citations and the distribution of references; and in Step 3, the distribution of negative elements.

a. Quantifiable Categories in Move 1

The quantifiable categories found in Move 1 have been tabulated as follows:

Table 5.1
Ways of Asserting Centrality

Move-Step / Move	Quantifiable Category Ways of Asserting Centrality	% of Instances In IEEE Introd.	% of Instances in LA Introd.
Move 1 Step 1 (Establishing Centrality)	i) Claiming interest	**14.1%**	-
	ii) Claiming importance	**37.2%**	**45.5%**
	iii) Ascribing to central characteristic of issue	20.5%	13.6%
	iv) Claiming wide application	20.5%	18.2%
	v) Claiming increase in number quantity	5.1%	22.7%
	vi) Claiming many investigators	2.6%	-
M1 – S1	**Total %**	**100%**	**100%**

In Move 1 Step 1 (Table 5.1), the most common way of establishing centrality for both the IEEE and LA authors, is by claiming importance. Among the IEEE authors, there are seven ways of establishing centrality as compared to the four ways among local authors. Thus, there appears to be a larger variety of ways in establishing centrality in the case of the IEEE article authors than with the local article authors. This may suggest a greater awareness of the issues involved in the subject of the investigation; for instance, the IEEE authors appear to be more knowledgeable about the number of investigators in a similar field than in the case of the local authors since they are working at the hub of cutting-edge engineering technology while their counterparts are relatively on the fringes.

Table 5.2
3 Orientation Types of Citations

Move / Move-Step	Quantifiable Category - 3 Orientation Types of Citations	% of Instances in IEEE Introd.	% of Instances in LA Introd.
Move 1 Step 2 - Literature Review	(i) Strong Author Orientation	15.7%	27.7%
	(ii) Weak Author Orientation	2%	8.3%
	(iii) Subject Orientation	**82.3%**	**63.9%**
M1 – S2	**Total %**	**100%**	**100%**

In Move 1 Step 2 (Ttable 5.2), of the three types of orientations in citation, both the IEEE and LA authors seem to favour the use of the subject orientation type

the most, and the weak author orientation type, the least. In most cases, it is due to following the dictates of the publication guides.

Table 5.3
Distribution of References as per Introduction

Move / Move-Step	Quantifiable Category - Distribution of References As per Introduction	% of Instances in IEEE Introd.	% of Instances in LA Introd.
M1-S2	1 – 5 references	30%	55%
	6 – 10 references	24%	20%
	11 – 15 references	30%	-
	16 – 20 references	6%	-
	21 – 25 references	4%	-
	26 – 30 references	2%	-
	0 references	4%	25%
M1 – S2	**Total %**	**100%**	**100%**

Table 5.3 shows that the majority of the introductions in both the IEEE and LA introductions carry 1 to 10 references in each case though in the case of the IEEE introductions, the range is more extensively spread out.

Table 5.4
Distribution of References as per Sentence

Move/Move-Step	Quantifiable Category - Distribution of References As per Sentence	% of Instances in IEEE Introd.	% of Instances in LA Introd.
	1 reference	51%	45.8%
	2 references	22.6%	29.1%
	3 references	11.9%	12.5%
	4 references	3.1%	4.2%
	5 references	4.6%	4.2%
	6 references	3%	-
	7 references	1.5%	4.2%
	8, 10 & 11 references	1.9%	-
	54 references	0.4%	-
M1 – S2	Total %	100%	100%

It is also found that most of the sentences in both sets of introductions carry 1 to 3 references as shown in Table 5.4, though here again, the number of references carried in the IEEE introductions can extend to 11. This indicates that the IEEE introductions, as compared to the local counterparts, show a more meticulous scholarship in its referential profundity.

Table 5.5
Distribution of Negative Elements

Move / Move-Step	Quantifiable Category - Distribution of Negative Elements	% of Instances in IEEE Introd.	% of Instances in LA Introd.
Move 1 Step 3 - Establishing a Gap	Determiners	4.5%	6.4%
	Adverbs	15.5%	11.1%
	Lexical Items	**32.9%**	**38.1%**
	Others (Single – instance items)	14.8%	23.8%
M1 – S3	**Total %**	**67.7%**	**79.4%**

In Move 1 Step 3 (Table 5.5), there is a greater use of negative elements than that of connectors in establishing a gap. Of the three types of negative elements, the most commonly used is that of the lexical items while the least commonly used is that of the determiners.

Table 5.6
Distribution of Connectors

Move/ Move-Step	Quantifiable Category – Connectors	% of Instances in IEEE Introd.	% of Instances in LA Introd.
	"However"	20.6%	14.2%
	"Although"	6.5%	3.2%
	"But"	5.2%	3.2%
M1 – S3	**Total %**	**32.3%**	**20.6%**

Table 5.6 shows that, of the three connectors that are most commonly found, the most popular choice appears to be the connector, 'however'. These similarities exemplify a shared recognition between the IEEE and the local authors of the need to justify the present research by tracing back to the shortcomings of previous work.

b. Quantifiable Categories in Move 2

The quantifiable categories that are found in Move 2 have been tabulated as follows:

Table 5.7
Distribution of Compound Nouns

Move/ Move-Step	Quantifiable Category - Compound Nouns	% of Instances in IEEE Introductions	% of Instances in LA Introductions
Move 2 Step 1 - Defining Scope or Explaining Method	i) 2-noun compound nouns	88%	78%
	ii) 3-noun compound nouns	10.5%	18.7%
	iii) 4-noun compound nouns	1.1%	3.3%
	iv) 5-noun compound nouns	0.2%	-
	v) 6-noun compound nouns	0.2%	-
M2 – S1	**Total %**	**100%**	**100%**

In Move 2 Step 1 (Table 5.7), in defining the scope of the research or explaining the method of investigation, of the six types of compound nouns used, the majority is of two nouns, and to a lesser extent, three nouns. However, there appears to be a larger range in the number of nouns found in the IEEE introductions than in the local ones; in the case of the local introductions, the maximum number of nouns inherent in compound nouns is four as compared to six, in the case of the IEEE introductions. This suggests a greater complexity in the use of language with the greater density of nouns as is found in the compound nouns.

c. **Quantifiable Categories in Move 3**

The quantifiable categories in terms of two types of statements, purposive and descriptive, that are found in Move 3 have been tabulated as follows:

Table 5.8
Distribution of 2 Types of Statements in Stating Purpose

Move / Move-Step	Quantifiable Category - 2 Types of Statements	% of Instances in IEEE Introd.	% of Instances in LA Introd.
Move 3 Step 1 - Stating Purpose	i) Purposive/Teleological Moves	38.5%	18.7%
	ii) Descriptive/Ontological Moves	61.5%	81.3%
M3 – S1	**Total %**	**100%**	**100%**

In Move 3 Step 1 (Table 5.8), there are two distinct ways in which the purpose is stated though the descriptive or ontological type is more popularly used than the purposive or teleological type in both the IEEE and the local introductions. This indicates a consensus among both sets of authors on the structuring of the purpose statements.

Table 5.9
Distribution of 3 Types of Statements in Presenting Research

Move/ Move-Step	Quantifiable Category - 3 Types of Statements in Presenting Research	% of Instances in IEEE Introd.	% of Instances in LA Introd.
Move 3 Step 2 - Present Research or Sequence	Summative	21.3%	69.2%
	Evaluative	29.8%	7.7%
	Commentative	31.9%	23.1%
	Implicit	17%	-
M3 – S2	**Total %**	**100%**	**100%**

In Move 3 Step 2 (Table 5.9), the three types of statements used in presenting research or the sequence of steps are more evenly distributed in the IEEE than in the local introductions. Nevertheless, the commentative type of statements is by far the largest in the IEEE introductions while in the local article introductions, the predominant type of statements is that of the summative type. This exemplifies a greater flexibility in the semantic realization of this move-step in the IEEE than in the local article introductions.

Table 5.10
Distribution of Use of First/Third Person

Move/ Move-Step	Quantifiable Category - First /Third Person	% of Instances in IEEE Introd.	% of Ionstances in L:A introd.
Move 3 Step 3 - Results	i) First Person – 'We'	22.5%	-
	ii) Third Person	66.7%	100%
	iii) Combined (i) & (ii)	11.1%	-
M3 – S3	**Total %**	**100%**	**100%**

In Move 3 Step 3 (Table 5.10), of the three ways in which the results are presented, the results are mostly expressed in the third person. There is, however, a difference in that the IEEE introductions also utilize expressions in the first person as well as a combination of first and third persons though the third person is exclusively used in the local introductions. Here again, is demonstrated a greater flexibility in the syntactic realization in the IEEE than in the local introductions.

Table 5.11
Distribution of Organizational Structures

Move/ Move-Step	Quantifiable Category - Organizational Structures	% of Instances in IEEE Introd.	% of Instances in LA Introd.
Move 3 Step 4 - Organizational Structure	3 Types i) Use of locative phrase	16.3%	-
	ii) Use of collapsed structure	10.2%	-
	iii) Combined (i) & (ii)	2%	13.4%
	Implicit organization	71.4%	86.6%
M3 – S4	**Total %**	**100%**	**100%**

In Move 3 Step 4 (Table 5.11), there is a general practice for the authors to include the organizational structure of the article in an implicit way. In other words, it is an obvious deduction from the statement of purpose itself. To a lesser degree, there seems to be a preference for the use of a locative phrase to that of a collapsed structure in the case of the IEEE introductions while a combination of the use of a locative phrase and a collapsed structure is the practice in the local introductions.

As can be seen from the preceding discussion, there are many similarities in the quantifiable categories found in the move-steps of Moves 1 and 2 in the IEEE and LA introductions despite slight differences in terms of a greater range of choices in the quantifiable categories in the IEEE than in the local introductions while the main

differences arising between the two are found in Move 3 Step 2 and Move 3 Step 4. This shows that in general, Moves 1 and 2 of the IEEE and the local introductions share many common features in terms of their quantifiable categories but at each move-step level, it is clear that there is a distinctly wider range of choices under the quantifiable categories identified in the case of the IEEE introductions. On the other hand, it is found that Move 3 in both cases is structured differently in 2 move-steps.

5.3 Length, Distribution and Publication Guide Reference of Moves/Move-Steps

The variation found in the length and distribution of the moves/move-steps in terms of number of sentences can be reflective of the writer's response in catering for the different levels of readership. However, it is found that corresponding references in the publication guides provide a more definite basis in accounting for the observed differences. In general, the move-steps are of similar length in Moves 1 and 3 but not so in Move 2 in both the IEEE and LA introductions. The length of moves/move-steps and the distribution of move-steps with corresponding references in the publication guides are expressed as a percentage as shown in the table 5.12.

Table 5.12
Length of Moves/Move-Steps

Move/ Move Step	Length of Move/ Move-Step in IEEE Introductions (%)	Length of Move/ Move-Step in LA Introductions (%)	% of IEEE Introd.	Reference In IEEE Publioca-tion Guide	% of LA Introd	Reference In LA Publication Guide
M1-S1 M1-S2 M1-S3	Shortest in M1 (4.8) Longest in M1 (25) - (12.5)	Shortest in M1 (8) Longest in M1 (16) - (12)	74% 90% 84%		80% 80% 60%	
Move 1	**Longest Move (42.3%)**	**36%**	-	-	-	-
M2-S1	-	-	94%		95%	
Move 2	**Shortest Move (27.4%)**	**Longest Move (44%)**	-	-	-	-
M3-S1 M3-S2 M3-S3 M3-S4	(4.9) Longest in M3 (18.2) Shortest in M3 (2.2) - (5)	- (4) Longest in M3 (14) Shortest in M3 (0) - (2)	90% 86% 16% 56%	 Implicit -	55% 80% 5% 60%	Implicit - -
Move 3	**(30.3%)**	**Shortest Move (20%)**	-	-	-	-

From Table 5.12 is drawn the following conclusions:

(i) It is found that the shortest and the longest move-steps in Moves 1 and 3 are the same in the IEEE and the LA introductions. Move 1 Step 1 is the shortest as the authors need not devote much space in establishing centrality as opposed to Move 1 Step 2, which is the longest in Move 1 because the review of literature can be rather extensive, depending on the maturity of the technology involved.

(ii) However, it is evident that the length of the moves differs in that Move 2 is the shortest move for the IEEE authors whereas it is the longest, for the LA authors. This is due to the fact that there is the tendency for the local authors to dwell on the description of the solution assumed while the IEEE authors, on the whole, prefer merely to touch on it. The longest move for the IEEE authors is that of Move 1 as on the whole, the IEEE authors are more articulate in defining a problem; on the other hand, the shortest move for the LA authors is Move 3, since the local publication guide appears to be noticeably silent on at least two move-steps in this particular move.

(iii) As concerning the distribution of the move-steps in the moves, it is noted that a corresponding mention in the publication guide may exert an influence on the insertion of a move-step as can be seen in the move-steps of Move 1 and 2. In Move 3, it is seen that there is no reference made of Move 3 Step 1; subsequently, a low percentage results as in the IEEE and the LA introductions. However, despite the lack of mention in the publication guide in connection with Move 3 Step 4, which is organizational structure, there is a reasonable percentage of evidence of this move-step in both the IEEE and the LA introductions as organization is implicit in the very structuring of the introduction itself.

5.4 Functions of Predominant Tenses and Modals

This study focuses only on the use of predominant tenses and modals through frequency to the exclusion of other tenses and modals which are of minimal value to

the analysis. The predominant tenses are the present, present perfect and past tenses while the predominant modals are 'can' and 'may'. It is found that the most versatile tense is that of the simple present and the most versatile modal is 'can'. The versatility of a tense or modal is attributed to its varied functional values which are reflected through simultaneous occurrence in the three moves.

Table 5.13
Functions of the Present Tense in the 3 Introductory Moves

Tenses	Occurrence in Move	Functions in IEEE Introductions	Functions in LA Introductions
Present Tense	Move 1	1. To establish centrality of subject of investigation by attributing to its role. 2. To indicate author's stance towards cited work.	1. to establish importance 2. to indicate applicability of approach in present research 3. to establish gaps consecutively in showing up consequences of gap
	Move 2	To represent a marked future aspect of unusual certainty	To define concepts
	Move 3	1. To reassure the reader by initiating a known point of reference 2. To state a possible outcome of situation. 3. To explain the main steps of process in a sequential manner	1. to state purpose (in active form) 2. to report on procedures already carried out (in passive form)

From Table 5.13 are the following conclusions drawn:

(i) It is clear that the present tense is the only tense of the 3 tenses that can occur simultaneously in all the 3 moves in both the IEEE and LA introductions. However, after this point of similarity in comparison, the IEEE and LA introductions differ in many ways.

Table 5.14
Functions of the Present Perfect and Past Tenses in the 3 Introductory Moves

Tense	Occurrence in Move	Functions in IEEEE Introductions	Functions in LA Introductions
Present Perfect Tense	Move 1	1. To establish a link between the past and the present. 2. To report on past actions and imply that a method is currently being actively applied by researchers.	To illustrate an action that has happened in the past and is still continuing into the present moment.
	Move 2	To indicate an action in the past * closely related to the present moment.	same as above
	Move 3	To realize the expectations carried in M1	same as above
Past Tense	Move 1	1. To refer to quantitative results of past literature that are non-supportive of some aspects of work described in articles. 2. To convey a non-committal sense	To indicate an action in the past
	Move 2	To substantiate past reports. *	To indicate that the models used are not applicable to the present Research
	Move 3	To indicate reporting of main steps in a process	To indicate reporting of main steps in a process.

* Non-Simultaneous Occurrence of Tense/Modal in other Moves.

(ii) In the case of the IEEE introductions, for instance, both the present perfect and the past tenses can occur simultaneously in 2 moves; in other words, both these tenses are to be found in Moves 1 and 3 at any one time despite the fact that the tenses may also occur in Move 2 but not simultaneously as in the other 2 moves. In the case of the local article introductions, the present perfect tense can be found occurring in all the 3 moves simultaneously; in contrast to this, the past tense can only be simultaneously used in only two of the moves, which are Moves 1 and 2 though it can also be used exclusively in Move 3.

(iii) It can be seen that the present tense, and the past tense, to a lesser extent, perform a variety of functions as compared to the rather limited functions of the present perfect tense in both the IEEE and the LA introductions.

Table 5.15
Functions of the Predominant Modals in the 3 Introductory Moves

Modals	Occurrence	Functions in IEEE Introductions	Functions in LA Introductions
Can	Move 1	To indicate probability	To indicate a lack of capability
	Move 2	To express theoretical possibility in solution assumption	To denote a theoretical possibility in making assumptions
	Move 3	To describe procedural correctness	To express theoretical possibilities*
May	Move 1	To indicate factual possibility	To suggest a factual possibility
	Move 2	same as above	same as above * -
	Move 3		

- Non-simultaneous occurrence of Modals in other moves

(iv) It is noted that the modals 'can' and 'may' (Table 5.15) are used simultaneously in all the 3 moves in the IEEE introductions while in the case of the LA introductions, there are discrepancies, for example, the modal 'can' is simultaneously used in Moves 1 and 2 though it can also used separately in Move 3; and the modal 'may' is used simultaneously in Moves 1 and 2 but is never used in Move 3.

(v) The range of functions performed by the modal 'can' is found to be greater than in the case of the modal 'may'.

It can thus be seen that the present tense is the most versatile tense in terms of its capability to be used simultaneously in all the 3 moves as well as the variety of functions it is intended to perform. In a similar vein, the modal 'can' is found to be the most versatile modal in connection with its capacity for simultaneous use in all the 3 moves together with its relatively broad range of functions.

5.5 Predominance of the Active and Passive Voices

The use of the active and passive voice does not merely indicate the grammatical expression of the subject-verb-object pattern or the reverse of it, but that a change of voice signals a change of emphasis to make the meaning clearer or indicate importance in the use of language. The passive voice, in particular, denotes the linguistic structure used for marking given and new information (Nystrand, 1982, p.89). On the whole, there does not seem to be any agreement between the IEEE and the LA authors on the use of the active and passive voices in the semantic realization of the three moves.

Table 5.16
Predominance of Active and Passive Forms of Tense

Tense	Predominance of Active Voice in I.E.E.E. Introduction Moves	Predominance of Passive Voice in I.E.E.E. Introduction Moves	Predominance of Active Voice in I.E.E.E. Introduction Moves	Predominance of Passive Voice in LA Introduction Moves
Present Tense	Moves 1, 2 & 3 (all strong predominances)	-	Moves 1 & 2 (strong predominances) Move 3 (weak predominance)	-
Present Perfect Tense	-	Move 1 (strong predominance) Moves 2 & 3 (weak predominance)	Move 1 (strong predominance)	Move 2 (weak predominance)
Past Tense	-	Move 1, 2 & 3 (all strong predominance)	Move 1 (strong predominance)	Move 3 (strong predominance)

Table 5.16 has been condensed from tables found in Appendices 8, 9 and 10 and the following conclusions are drawn:

(i) In the case of the IEEE introductions, all the 3 moves of the present tense are mainly expressed in the active form while the present perfect and the past tenses are in the passive form. In contrast to this, in the case of the LA introductions, not only the 3 moves of the present tense are expressed in the present tense but that the present perfect and the past tenses in Move 1 are expressed in the active form; this means that the present perfect tense in Move 2 and the past tense in Move 3 are expressed in the passive form.

Table 5.17
Predominance of Active and Passive Forms of Modals

Modals	Predominance of Active Voice in I.E.E.E. Introduction Moves	Predominance of Passive Voice in I.E E.E. Introduction Moves	Predominance of Active Voice in I.E.E.E. Introduction Moves	Predominance of Passive Voice in LA Introduction Moves
Can	-	Moves 1, 2 & 3 (strong predominance)	Move 1 (weak predominance)	Move 2 (strong predominance) Move 3 (weak predominance)
May	Moves 1, 2 & 3 (weak predominance)	-	Move 1 (strong predominance)	Move 2 (weak predominance)

(ii) In the use of the modals (Table 5.17), the modal 'can' is used in the passive form of all the 3 moves while the modal 'may' is used in the active form of all the 3 moves. As in the case of the LA introductions, only Move 1, in which the modals 'can' and 'may' are used, is in the active form, while the remaining moves in which the 2 modals have been used, are in the passive form.

Thus, in the LA introductions, the present perfect and the past tenses appear to be more evenly spread between the active and the passive forms while in the IEEE introductions, it is more clear-cut in that it is either active or passive for each of the three tenses. Thus, as in the case of the tenses, the modals appear to be more evenly distributed between the active and passive forms in the case of the LA introductions than in the case of the IEEE introductions where one modal 'can', appears to be

predominantly in the passive form while the other modal 'may', appears to be predominantly in the active form.