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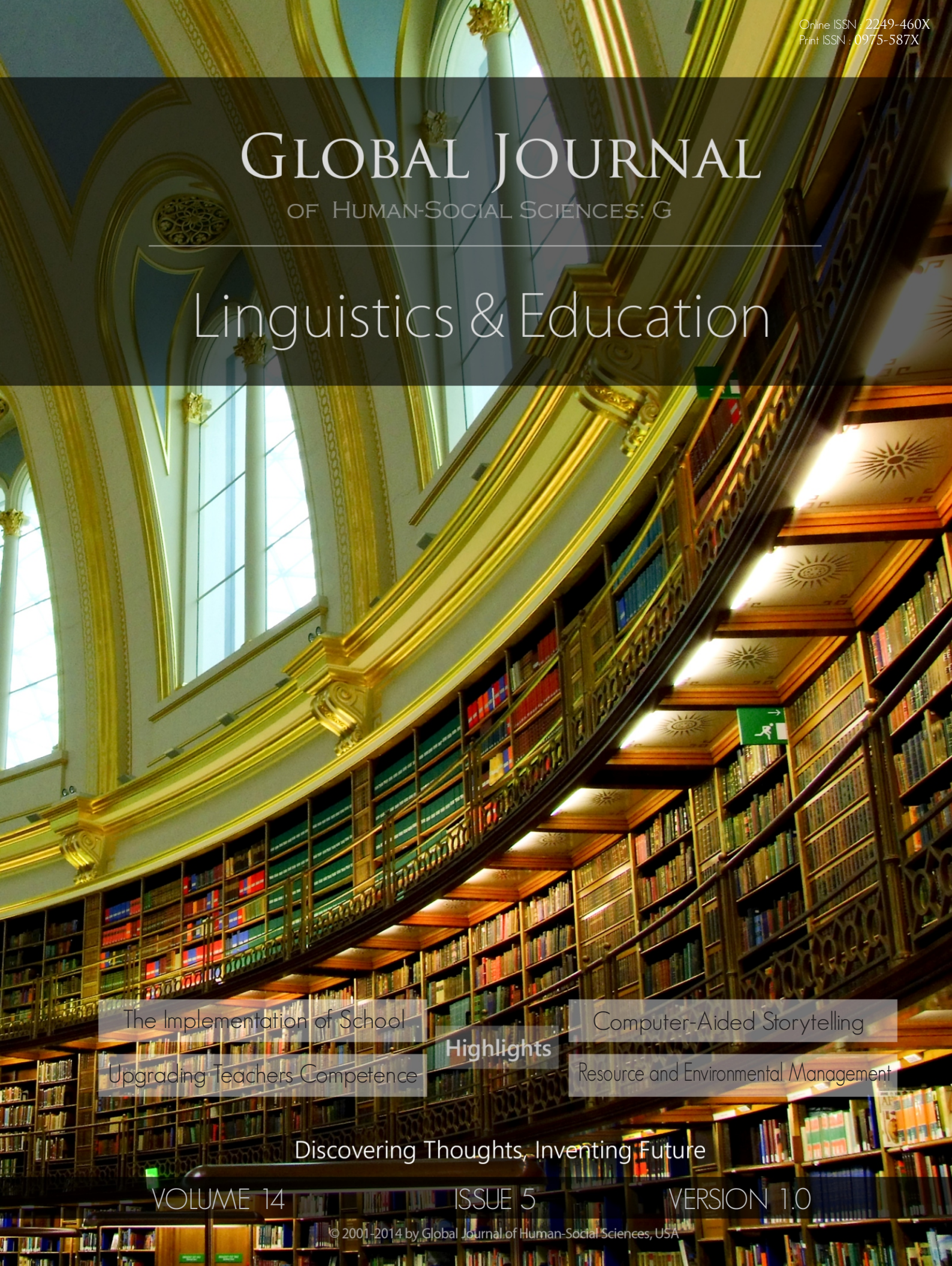

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VOLUME 14 ISSUE 5 VERSION 1.0

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Nativisation of Arabic Names: The Yoruba Language as a Case Study

By Dr. Fadoro & Jacob Oludare
University of Ibadan, Nigeria

Abstract- One unique characteristic feature of the Yoruba language, spoken in South Western Nigeria is that when words are borrowed into it from other languages, such words are nativised. Some scholars have discussed the rules that apply in such cases. However, this kind of study has not been extended to Arabic names borne by Yoruba people (to the best of my knowledge). This paper therefore discusses the rules that apply on some of these names.

Thirty Arabic names are purposively selected for discussion here. The theoretical framework adopted is natural phonology which operates with phonological processes that are deemed to constitute natural responses of human vocal and perceptual systems to the difficulties encountered in the production and perception of speech.

Yoruba speakers apply some phonological rules on Arabic names in an attempt to make them conform to the syllable patterns of the Yoruba language. Vowel insertions of two kinds take place. The first kind is epenthetic in nature, because it involves the insertion of an extra medial vowel to break consonant clusters. The other kind takes place at the word final position. This is done to prevent consonants from ending names since the Yoruba syllable structure is essentially an open one.

Keywords: yoruba language, arabic names, nativisation,natural phonology, phonological rules.

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It is categorically clear that the same rules that apply on words that are borrowed from other languages to Yoruba also apply on Arabic names commonly used by the speakers of the language, so the process is rule-governed and highly systematic.

Keywords: yoruba language, arabic names, nativisation, natural phonology, phonological rules.

Preamble

You (Muslims) will be called on the day of resurrection with your names and the names of your father, so let your names be good and nice. Prophet Mohammed.

I. Introduction

Names reveal to us how people think and how they see the world around them. A child's name often says more about the people who gave the name than about the child itself. Every society has its own systems and modalities of naming. Essien (2004) opines that naming has been an important duty man has had to perform, not only to distinguish animals from birds but man from man, to facilitate linguistic communication. The more we know about names, the more we know about our language, history, values, traditional religions, our ethnic cultures and even about ourselves. Names serve to confer identity, history as well as character and a society's reservoir of names reflect its history, religion, literature and its culture.

II. Arabic in Yorubaland

According to Malik (1995), the history of Arabic language is traceable to the advent of Islam in all Muslim communities that have embraced Islam. The implication of this is that the history of Arabic in Yorubaland began with the history of Islam in the area. It is a well known fact that the Arabic language, being the language of the Holy Qu'ran is inseparably linked with the Islamic religion. The exact date of entry of Islam to Yorubaland seems to be shrouded, though historical records confirm that mention was made of Muslims in Yorubaland as far back as the seventeenth century. Islam was established in Owu, Badagry, Ketu, Lagos, Igboho, Iseyin, Ikoyi, Ogbomoso and Oyo before 1840. Thus the Arabic language became an instrument of teaching and reading the Quran in schools. As the language of Islam, the Muslims cannot do without Arabic. They have to recite the Quran in its original language, the Salat which every devout Muslim is expected to say five times every day are in Arabic, so also the confession of faith and other religious expressions. The summary of this is that every true Muslim must have some exposure to the Arabic language (Malik 1995). Every true Muslim is also expected to take an Arabic name as a mark of total conversion to the religion. However, when these Arabic names are given, they are nativised, that is, pronounced as if they are Yoruba names. This is the major preoccupation of this paper.

III. Theoretical Framework

This work is situated within classical phonology, otherwise known as natural phonology which operates with phonological processes that constitute natural responses of human vocal and perceptual systems to the difficulties encountered in the production and perception of speech (Salami 2004). In classical phonology, a phonological process can be described as a mental operation which constraints segments by

Author α σ: Department of Linguistics and African Languages, University of Ibadan, Ibadan. e-mail: oluyemidare7@gmail.com

altering a single feature in its specification in order to make it easier to produce or easier to hear. According to Dziubalska-Kohczyle (2002: 11) the processes involved constitute natural responses of the human vocal and perceptual systems to the difficulties encountered in the production and perception of speech. These processes perform substitutions in order to adapt the speaker's phonological intentions to his phonetic capacities as well as enable the listener to decode intentions from the flow of speech. In the process of doing this, two opposing tendencies are simultaneously satisfied – that of ease of articulation and that of clarity of perception.

IV. Methodology/Data Presentation

As hinted in the abstract, thirty Muslim names formed the data for this work. These names are the ones commonly borne by Muslims around. However, to really understand how these names have been tampered with, we had to consult two colleagues in the Department of Arabic and Islamic Studies, University of Ibadan who supplied us with the original forms of these names. Let us present these names as rendered in Arabic side by side with their forms in Yoruba.

Table 1 : Data Presentation

Arabic Name	**Transcription**	**Yorùbá Form**	**Transcription**
Ishmā'il	iʃma'i:l	Súmọ́ílà	súmɔ́ílà
Badrud-Dīn	badrud-di:n	Bádírù	bádírù
Qādr	Qa:dr	Kádírì	kádírì
Luqmān	luqma:n	Lúkú (clipping)	lúkú
Abduṣ-Ṣamad	abdus-samad	Sàmọ́dù	sàmɔ́dù
'Abdul-Wāḥid	abdul-wa:hi:d	Wàídì	wàídì
Abdur-Razzāq	abdur-raza:q	Ràsákì	ràsákì
Abdul-Majīd	abdul-madʒi:d	Mọ̀jídì	mɔ̀dʒídì
Qāsim	qa:zim	Kásúmù	kásúmù
Sādiq	sa:diq	Sádíkù	sádíkù
Zabayr	zubajr	Sùbérù	sùbérù
Zaynab	zajnab	Sìnábù	sìnɔ́bù
Sa'īd	sa'i:d	Sàídì	sàídì
'Abdur-Rashīd	abdur-raʃi:d	Ràsídì	ràsídì
Ḥasān	hasan	Aásànì	aásànì
Ḥuzayn	huzajn	Òsénì	òsénì
'Abdul-Jalīl	abdul-dʒali:l	Jẹ̀lílì	dʒɛlílì
'Abdul-'Azīz	abdul-azi:z	Làsísì	làísì
'Abdul-Hàmīd	abdul-hami:d	Làmídì	làmídì
'Abdul-Yaqīn	abdul jaqi:n	Yẹ̀kínì	jɛ̀kínì
Kāmil	ka:mil	Kámílù	kámílù
Ghazzāli	Gazali:	Kàsáálí	kàsáálí
'Abū Bakr	Abu:-bakr	Bákàrè	bákàrè
Junayd	dʒunajd	Jìnádù	dʒìnádù

Note: A dash (-) put on the top of a vowel signifies length.

Apart from the above, fifteen other Arabic names are used to exemplify morphology and syntax.

V. Data Analysis

As could be seen from the data above, the Arabic forms of the names look very different from their Yorùbá counterparts. This is because of the fact that we are dealing with two different languages with different sound systems. Before we go further, let us present the sound systems of the two languages side by side for comparison and contrast.

Table 2 : Yorùbá and Arabic Consonants

Manner of Articulation	Place of Articulation		Yorùbá		Arabic	
Plosive	Bilabial		b		b	
					b:	
	Alveolar		t	d	t	d
					t:	d:
	Velar		k	g	k	g
					k:	g:
	Labio-velar		kp	gb		
	Uvular				q	
					q:	
	Glottal				?	
					?:	
Nasal	Bilabial			m		m
						m:
	Alveolar			n		n
						n:
Affricate	Palato-alveolar			dZ		dZ
						dZ:
Fricatives	Bilabial					
	Labio-dental		f		f	
					f:	
	Dental				Π	Δ
					Π:	Δ:
	Alveolar		s		s	z
					s:	z:
	Palato-alveolar		Σ		Σ	
					Σ:	
	Uvular				Ξ	®
					Ξ:	®:
	Pharyngeal				ħ	≥
					ħ	≥:
	Glottal		h		h	
					h:	
Approximant Lateral	Lateral	Alveolar		l		l
						l:
	Trill	Alveolar		r		r
	Palatal			j		j
						j:
	Labio-velar			w		w
						w:

Table 3 : Arabic Vowel

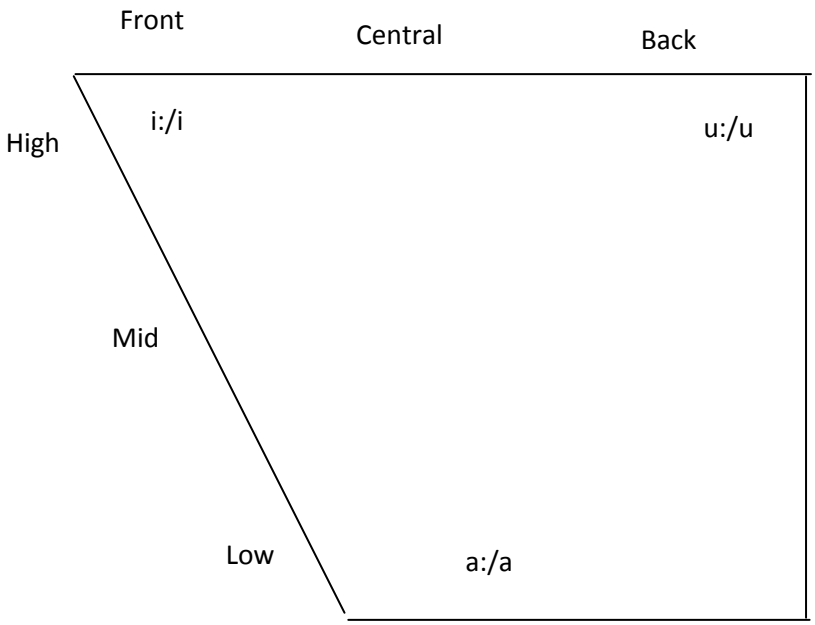
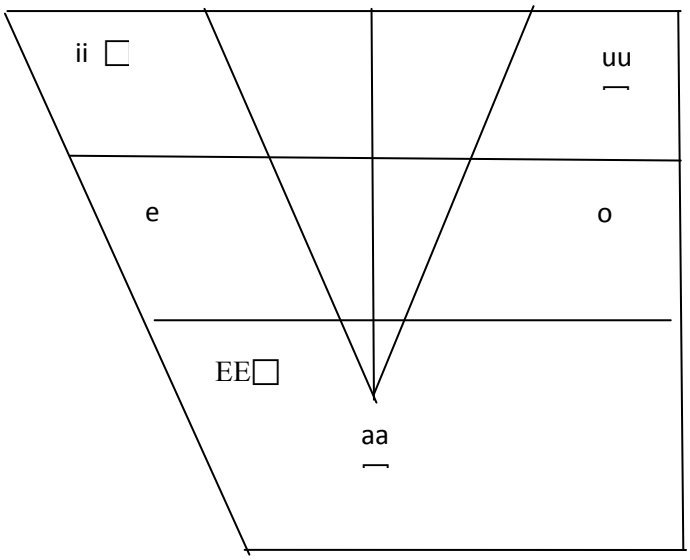


Table 4 : Yorùbá Vowel



As reflected on tables 2 – 5, Arabic has 48 consonant segments, made up of 24 normal consonants and 23 geminates, whereas Yorùbá has only 18. In terms of vowels, Arabic has only 6 vowels, 3 of which are short vowels while the remaining 3 are long. Yorùbá on the other hand has 12 vowels, made up of 7 oral vowels and 5 nasal vowels. These differences in the sound systems of the two languages result in substitution. When consonants that are not attested in Yorùbá are found in Arabic names, such consonants are replaced with the ones available in Yorùbá which shares some features with the latter. Examples of these are /z/ replaced by /s/, and /q/ which is replaced by /k/, we shall see these examples shortly. As regards the vowels, Yorùbá has more vowels than Arabic and this is demonstrated in terms of the number of vowels that appear in the names. For instance, the nasal vowels which are 5 in Yorùbá are not available in Arabic. Apart from that, Yorùbá has /e/, /o/, /ɛ/ and /ɔ/ which are not attested in Arabic. We shall see exmaples of names in which these vowels occur in the Yorùbá forms shortly. Also, the Arabic language has long vowels which Yorùbá does not have. These long vowels are replaced with their short counterparts in Yorùbá.

VI. Phonological Processes

a) Clipping

A clip is a shortened form of a word; one or more syllables may be cut off. In English, nouns and verbs are the lexical items that are usually clipped, while

in Yorùbá, only personal names are clipped (Lewis 2004). This process of clipping personal names has been carried over to Arabic names. We have copious examples of this in our data. Let us look at some of them.

Abdus-Samād	→	sàmọ̀du
'Abdul-Wahid	→	wǎíđì
'Abdul-Majīd	→	mɔ̀dʒidi
'Abdul-Jalīl	→	dʒɛ̀lili
'Abdul-Yaqīn	→	jɛ̀kínì
'Abdul-Bakr	→	bákàrè

As could be seen above, the form 'Abdu' which means 'servant of' has been cut off. Thus, we are now left with the main names which in turn have been manipulated in different ways. In the above names, the forms that are clipped are used as prefixes to the names. We have another type of clips which involves suffixes. Let us look at some examples.

a. Badrud-dīn → bádírù
b. Najīm-dīn → nɔ́dʒimù
c. Quamar-dīn → kàmɔ́ ru`
d. Misbau-dīn → músíbáù

The form 'di:n' which is attached to the names above means 'religion'.

After the clipping has been done the main elements are not left alone, they are manipulated in different ways to conform to the phonology of Yorùbá.

b) Consonant Substitution

Consonant substitution is a natural process which is language universal. Generally, when words which contain consonants that are not attested in Yorùbá are borrowed from other languages. Such consonants are substituted with the ones that are available in the language. Let us look at some examples:

Qāsim → kásúmù
Sādiq → sádíkù
Zubāir → sùbérù
Zaynab → sínábù

As shown above, the consonants 'q' and 'z' have been replaced with 'k' and 's' respectively. The simple reason for this is that 'q' and 'z' which are attested in Arabic are not attested in Yorùbá. So, the logical thing to do is to replace them with 'k' and 's' which sound very much like them and are available in Yorùbá.

c) Vowel Insertion

Vowel insertion is introduced for two major reasons. These are: one, to break consonant clusters, because Yorùbá language does not permit consonant cluster in a syllable or even in words. As hinted in the abstract, this process is epenthetic in nature. Let us look at some examples.

Bakr → bákàrè
Badru → bádírù
Ishmā'īl → sùmóílà
Abdu- → àbùdù

As shown above, the consonant clusters in the Arabic forms have been broken through the process of vowel insertion. This process is referred to as epenthesis. The second kind of vowel insertion is introduced to prevent consonant from ending words. Yorùbá language does not allow consonants to end words. When names that end with consonants are brought into the language, vowels are inserted to end such names. Let us look at the examples below:

Sāmad → sàmɔ́du`
Wahīd → wǎíđì
Jalil → dʒẹ̀lili
Yaqīn → jɛ̀ki`ni
Najīm → nádʒimù
Yānus → jínúsà

As shown above, vowels have been inserted at the word final position to prevent the names from ending with consonants. Also, long vowels symbolised by a dash on top of the vowel ā, ī and ū are replaced by short ones. According to Owolabi (1995), the process of vowel insertion is not arbitrarily done. There are rules involved. For instance, if the consonant that ends a word (name) is labial, then the vowel to be inserted is 'u'. If the vowel that precedes the last consonant is a front vowel, then either of 'i' or 'e' is to be inserted. On the other hand, if the vowel that precedes the last consonant is a back consonant, the vowel to be inserted is 'u', which itself is a back vowel. If the last consonant and the vowel that precedes it are labial or they have anything to do with the back of the mouth, then 'u' is the vowel to be inserted.

Let us briefly look at our data in the light of Owolabi's postulation.

a. If the last consonant in the word (name) is (+ labial), then 'u' is usually inserted.
   Zaynab → sìnábù
   Qāsim → kásúmù
   Najīm → nádʒimù
   Habīb → àbíbù

   As seen in the data above 'b' and 'm' which are (+ labial) attract 'u' as the inserted vowel. However, this is not always so. Let us look at the data below:

   Wahhāb → wàhábì
   Alīm → aálímì

   In the data above, even though the names end with 'b' and 'm' respectively, 'i' is inserted at their word final position.

b. Front vowels at the root of the words (names) attract 'i' or 'e'. Let us look at the examples below:
   Wahid → wǎíđì
   Jalil → dʒɛlíli̲
   Yaqin → jẹ̀kínì̲
   Majīd → mɔ̀dʒídì
   Rashid → àʃídì̲

The names above all have 'i' which is a front vowel in their root, thus they attract 'i' as the inserted element. Maybe this is the reason why 'halim' attracts 'i' inspite of the final consonant 'm' which is [+ labial].

c. Back vowels at the root e.g. 'o' and 'u' tend to attract 'u' as the inserted element. Examples:

i. Abdul → ábúdù
ii. Zaynab → sínábù
iii. Junayd → dʒinàdu
iv. Samād → sàmɔ́dù

As seen above, 'u' and 'ọ' which are back vowels attract 'u' as the inserted element.

The summary of all the above is that the process of vowel insertion is not arbitrary. It is systematic and highly rule governed.

d) Prothesis

When an extra initial consonant is inserted in the root, the process is referred to as prothesis. In our data, we have two instances of this process. In the two cases, the consonant inserted is 'l'. Let us look at these examples:

Abdul-Azīz → làsísì → lǎísì
Abdul-Amīd → Hamīd

A look at the form prefixed to the names 'abdul' which means 'servant of' suggests that the inserted 'l' derives from the final consonant of the prefix.

VII. Morphology and Syntax of Arabic Names

Before concluding this paper, it would be necessary to look at an aspect of the morphological and the syntactic analysis of Arabic names. This will serve to differentiate between Yorùbá names and Arabic names. At the morphological level, the distinction between the male and female gender is made manifest. Let us look at the following examples:

Table 5 : Gender as a morphological component

Male	Female	Meaning
(Muti)'	Mutiah	The obedient one
(Rafi)'	Rafiah	The elevated one
(Rābi')	Robiah	The fourth child
(Rāshī:d)	Rosheedah	The righteous person
(Shākir)	Saakirah	Reminder (of God)

A look at the data above suggests that the female gender is indicated on the names by the morpheme 'ah' which is prefixed to the roots. In Yorùbá, the difference between the names of males and females does not usually manifest at the morphological level like the above, except in some cases, the difference is often implied. In fact, there are names which I used to regard as exclusive to males but in recent times, this does not seem to be so. Some of these are:

Table 8 : Examples of unisex names in Yorùbá

Names	Meanings	Gender Male/Female
Olúrántí	The Lord has remembered me	M/F
Olúrèmílekún	The Lord has wiped my tears away	M/F
Olúsayọ̀	The Lord creates joy.	M/F
Olúdare	The Lord justifies me.	M/F

In recent times, I have come across ladies who bear these names, which I used to assume were only for men. At least there are still names whose femine attachment is sure.

At the syntactic level, a look at the meanings of many of these names suggests that they are phrases as opposed to Yorùbá names which are mostly sentences. Let us take a look at the following examples:

Table 6 : Arabic Names as 'Noun Phrases

Arabic Names	Meanings	Syntactic Analysis
Misbau-dīn	Lamb of religion	Noun Phrase
Shamsu-dīn	Sun of religion	Noun Phrase
Qamoru-dīn	Moon of religion	Noun Phrase
Najmu-dīn	Star of religion	Noun Phrase
Abdur-Rahīm	Servant of the most merciful	Noun Phrase
Abdur-Alīm	Servant of the most knowing	Noun Phrase
Abdul-Ghaffīr	Servant of the all forgiven	Noun Phrase
Abdul-Basīr	Servant of the all-seeing	Noun Phrase
Abdul-Kabīr	Servant of the greatest	Noun Phrase
Abdul-Jabār	Servant of the compeller	Noun Phrase

When compared with the following Yorùbá names which are analysable into sentences, the difference is clear:

Table 7 : Yorùbá Names as Sentences

Yorùbá Names	Meanings	Syntactic Analysis
Olúdáre	The Lord justifies me	Sentence
Adémọ́lá	Crown attracts wealth	Sentence
Ayọ̀túndé	Joy has come again	Sentence
Olúyẹ́misí	The Lord honours me	Sentence
Olúwakọ́redé	The Lord has brought goodies	Sentence
MójọláJésù	I enjoy the goodness of Jesus.	Sentence
Fọ́lọ̀runsọ́	I commit him to God for safe keeping	Sentence
Fadọrọ	Ifa creates wealth	Sentence
Oyètade	Chieftaincy is equivalent to royalty	Sentence
Adéjùmọ̀	Royalty surpasses knowledge	Sentence

VIII. Conclusion

This paper has examined the phonological processes involved when Arabic names are nativised by the Yorùbá people. These processes are clipping, consonant substitution, vowel insertion, one of which is epenthesis, while the other one takes place at the word final position and prothesis which involves consonant insertion at the word initial position. Following Owolabi (1989), we have observed that the process of vowel insertion is not an arbitrary one. It is rule governed and systematic.

The kind of vowel that is inserted would depend on the vowels and consonants that are found in the root of the names on which the process of insertion is to take place. Consonant substitution, on the other hand, is necessitated by the fact that the consonants that are replaced do not exist in the sound system of the Yorùbá language. We have also taken a brief excursion into the morphological component in which '-ah' suffixed to a root indicates the feminine gender. This as we have observed does not apply to Yorùbá where mostly the distinction is implied. The distinction is usually clear when pet names (oríkì) are involved.

Finally, we have examined the fact that at the syntactic level, Arabic names are mostly analysable into noun phrases whereas Yorùbá names are mostly analysable into sentences. Definitely, there would be some exceptions to this analysis, this can form the basis for another work of this nature. In conclusion, the Process of nativisation of Arabic names Achieve two major purposes. One is ease of pronunciation and the other one serves orthographic purpose in that there is no confusion on how these names would be written down in Yorùbá. This reminds us of the confusion and problems involved in the spelling of same English words. Most of these problems are traceable to the fact that when these words are borrowed, no attempt is made at nativising them in terms of spelling even though that might have been done in pronounciation.

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Revisiting High School Students' Learning Styles in English Subject

By Mubashra Khalid & Dr. Aroona Hashmi
University of the Punjab, Pakistan

Abstract- The prime motive for this endeavor was toexplore thetenth grade English class students' preferred learning styles studying in government secondary school so that English subject teachers could tailor their pedagogical strategies in relation to their students learning needs. Further aim of this study was to identify any significance difference among the students on gender basis, area basis and different categories of school basis. The present study was an attempt to accomplish the objectives like to identify the tenth grade English class students learning styles.

The population of this study consisting of all the secondary level schools working in the government sector and positioned in the province of Punjab. The multi stage cluster sampling method was employed while selecting the study sample from the population. The scale used for the identification of students' learning styles in this study was developed by Grasha-Riechmann. The data collected through learning style scale was analyzed by employing descriptive statistics technique. The results from data analysis depict that learning styles of the majority of students found to be Collaborative and Competitive. Overall, no considerable difference was surfaced between male-female, urban-rural, general-other categories of 10th grade English class students learning styles.

Keywords: learning style, learning style scale, grade, government sector.

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I. Introduction

From last two decades, a plethora of researches have been conducted by different researchers on the learning styles of the students (Kayes, 2007; Garcia et al., 2007;Coffield et al., 2004;Li, Chen, & Tsai, 2008; Welsh et al., 2007; Reynolds & Vince, 2007; Herbert & Stenfors, 2007;Sievers, 2007; Hyde, 2007;Armstrong et al., 2008).By the efforts of these researchers a vast literature was surfaced finding the connection among the learning styles of the students, teaching styles of the teachers and its ultimate consequences on the performance of the students. The researchers believed that the prior knowledge about the students' learning process considerably facilitate the instructors to decide the appropriate instructional method and technique which will be most suitable for the students. On the basis of these researches, a good teacher tries to have prior knowledge about the preferred learning styles of his students' so that he can better arrange and design his teaching ways, learning activities and material. The prime objective of present endeavor is to explore the preferred learning styles of the English subject students at the tenth grade level so that their instructor can tailored. Adjust and develop their pedagogical strategies for English subject course for their grade tenth students.

Author α σ: Assistant Prof, IER, University of the Punjab. LHR. Pakistan. e-mails: mubushirakhalid@yahoo.com, aroonahashmi@gmail.com

II. Review of Literature

It is very difficult to have a precise definition about the term 'learning style' due to the fact that every researcher defined it in different perspective (Keefe, 1982) considered learning styles in a behavior way and elaborated the three aspect of behavior as cognitive, affective, and psychological. These characteristics of behavior sprovide the certain indications about a learner that how he receives, process, interactand respond to the different learning environments. The learning style an approach by which a learner receive and retain some knowledge or information irrespective description of the process (Dunn's, 1984). (James and Gardner, 1995) consider the learning styles as a response of the individual to various distinct environments of learning. (Grasha,1996), considered individual's learning styles as the individual special attributes which persuade the ability of a student to get knowledge, students' interaction with its teachers and classmates and his participation in experiences of learning.

The venerable belief about that every individual learns in a different and unique way most likely has its origin in primeval Greeks civilizations (Wratcher, et al., 1997). Since a long, researchers and writers pointed out that several individuals have a preference towards certain learning methods over and above other individuals. This distinct character of every learner is named as learning style, which describe each students' exclusive preference of learning or preferred way of learning and which is quite helpful for instructors for the purpose of small group planning and make easy students individual instruction process (Kemp, et al., 1998).(Grasha1996), considered individual's learning styles as the individual special attributes which persuade the ability of a student to get knowledge, students' interaction with its teachers and classmates and his participation in experiences of learning.

According to Fritz (2002), the evolution and development in learning style field is very much associated and based on the evolution and development of research in human cognitive and brain

development, human psychology, and his interaction with its society, culture and values. Just like as every instructor possesses a distinctive fashion of presenting, delivering and imparting instruction, similarly their students possesses a distinctive way of getting this education, knowledge of different disciplines and various skills. These distinctive features of every student for getting and processing the classroom instruction, information and various skills are referred to their preferred learning styles (Fritz, 2002).

The researchers believed that the having knowledge of the individual learning process considerably facilitate the instructors to decide the appropriate instructional method and technique which will be most suitable for the students. On the basis of these researches, a good teacher tries to have prior knowledge about the preferred learning styles of his students' so that he can better arrange and design his teaching ways, learning activities and material. The prime objective of the current study is explore the learning styles of the English subject students at the tenth grade level so that their instructor can tailored. Adjust and develop their pedagogical strategies for English subject course for their grade tenth students.

III. Methodology

All the tenth grade English subject teachers and their class students of all the secondary schools working under the government sector and located in the Punjab province was the theoretical population of the present study. The multi stage cluster sampling technique was used while selecting the study sample from the population. Since the province of Punjab is consist of nine administrative Division, From these nine administrative divisions, four schools from each division (two male schools from each urban and rural area, two female schools from each urban and rural area) and two schools (one male and one female) from the category of Central Model Schools, Pilot Secondary Schools and Comprehensive Schools were randomly selected. Forty two schools were selected by simple balloting method. The sample of this study was consists of all the English subject teachers of tenth grade and their class students of the Forty two schools of the Punjab province which were randomly selected. To measure the learning styles of 10th grade students, Grasha-Riechmann Student Learning Styles Scale was adopted by the researcher and subsequently was employed in the current study. There are 60 items in this instrument havingfive-point likert-type scale; which fluctuate from the strongly disagree to strongly agree range. Six distinct learning styles approachers could be identified by employing this learning style scale (Grasha, 1996). Although the validity and reliability issues of this scale were already established by the Grasha and Riechmann in their study (Grasha, 1996), for this study, Cronbach-alpha reliability coefficient of Grasha learning style scale was found to be 0.86.

IV. Data Presentation, Analysis and Results

Grasha-Riechmann Student learning Style scale was administered amongst the 10th grade English subject students in a typical class room setting. The data gathered through this learning style scale was statistically analyzed by using computer software SPSS. The results of the data analysisand findings thereof are narrated hereunder:-

a) Findings: Learning Styles of Tenth Grade English Class Students

Mean scores of the sample students were first calculated by the researcher on the basis of six sub categories of the scale then a comparison was made of the resultant scores with the different range of the learning scale as proposed by (Grasha ,1996), as exhibited below:-

The information depicted in Table 1.presented the mean scores of the students on six categories of the learning styles. It is clear from the table that students mean scores on the Collaborative and Competitive learning styles are 3.92 and 3.80 respectively which implied that on the categories of collaborative and Competitive learning styles, students mean scores were fall under the category of "High". The sample students also scored "Moderate" on four learning styles i.e. "Dependent, Avoidant, Participant, Independent," Learning Styles. According to this data, the majority of students learning style found to be Collaborative and Competitive.

Table 1.Grasha-Riechmann Learning Style Scale –on six learning style categories

The mean score analysis on the six categories of learning styles of the students shown in the table2 demonstrated that sample students learning styles of the schools under study found to be as Collaborative and Competitive learning styles.

Table 2.Mean Scores of the Students on Six Categories of Scale

b) Findings: Male and Female Students Learning Styles

The comparison between male and female students' was performed by the researcher on six sub categories of the Scale so that to get the response of the above research question. The resultant outcomes of the process is depicted in the below table respectively.

The analysis of the data in Table3 demonstrated that no considerable difference was established between the mean scores of male and female students on Independent learning styles as ($p > .05$). On Avoidant, Competitive and Collaborative learning styles, a significant difference was established among the

students mean scores between male and female categories as in all these cases the ($p < .05$).. No significant difference found between the mean scores of male and female students on Dependent learning styles as ($p > .05$). on the other hand, no difference was established in the learning styles of male and female students on Dependent and Participant learning styles categories as in both cases the value of ($p > .05$).

Table3. Summary of One Way ANOVA Results on Mean Scores of Male/Female

c) *Findings: Urban & rural students' Learning Styles*

The researcher performed the comparison between Urban and Rural English school studentsby using Grasha-Riechmann Learning Style Scaleon the six categories so that to have the response of this research question. For this purpose, first mean score and SD of urban and rural students were computed and afterward, to have a comparison between urban and rural sample students, the researcher conducted the one way ANOVA of the urban and rural students mean scores on six sub categories of learning style scale. The resultant outcomes of the process is depicted in the below table respectively.

The results in table 4 exhibited that no considerable difference could be established between rural and urban students' mean scores on the learning style sub categories of Competitive, Collaborative, Dependent and Independent styles of learning as mentioned by Grasha as the value of $p > .05$. contrarily, there existed a considerable difference, as evident from the above table, between rural and urban students mean scores on the sub categories of Avoidant and Participant learning styles due to the fact that the value of $p < .05$.

Table 4.Summary of One Way ANOVA Results of Rural/Urban students

d) *Findings: Learning Styles of Students studying in different categories of Schools*

The researcher performed the comparison amongst the General, Comprehensive, Pilot and DPS school students using the Grasha-Riechmann Learning Style Scale as the instrument on its six subcategories so that this research question could be addressed. For this purpose, first mean score and Standard Deviation of general, comprehensive, pilot and DPS school students were computed and afterward, to have a comparison amongst the sample students of the above mentioned schools, the researcher conducted the one way ANOVA of Mean scores of the general, comprehensive, pilot and DPS school students from sample schools on six sub categories of learning style scale. The resultant outcomes of the process is depicted in the below table respectively.

It I evident from the information generated in Table 5 revealed that no considerable difference was established among the mean scores of the students of General, Comprehensive, Pilot & DPS school on the sub categories of Competitive, Dependent, Collaborative, Independent styles of learning as in all these cases the value of $p > .05$. on the contrary, a considerable difference surfaced amongst the mean scores of the students belonging to General, Comprehensive, Pilot & DPS schools on the sub categories of Avoidant and Participant learning styles as in these cases the value of $p < .0.5$.

Table 5.Summary of One Way ANOVA Results of Mean Scores of General,

V. Discussion

This study investigated the learning styles of the 10th grade English class secondary school students in order to facilitate their English subject teachers to formulate their strategies for teaching the English subject so that learning outcome could be enhanced. Grasha-Riechmann learning style inventory was used as a research tool and for the categorization of students' learning styles on the categories as described by the Grasha. After analyzing the data collected from the sample students, the dominant learning styles of the sample students of government sector schools were discovered as the collaborative learners and competitive learners. Further analysis of the data showed that gender related difference was found between students learning styles but no difference was found between urban-rural and different categories of schools of government sector in Punjab province which means that group learning styles of urban and rural students are similar nature.

Results produced by the present study have importance for the English subject teachers of secondary schools because it can help the teachers to construct and formulate their teaching strategies for better delivery and learning of English language. In this study, since the results pointed out that the students' learning styles of the majority of the students were identified as collaborative and competitive learners, the teaching strategies of the English teachers should be in consonance of students these preferred learning styles.

Grasha(1996) described the characteristics of the collaborative style learners that these learners prefer to get information in the class room by collaborating with other students of their class and they share their learning experiences and ideas with their classmates. The English subject teachers should employ such teaching methods and teaching techniques that are more suitable and match for collaborative style students. The main focus of these teaching strategies should be that the these strategies urge and emphasize the English subject students to work collectively in different groups on the learning tasks as designed by the instructors or students' designed working projects. The class teacher should build their learning task on

concrete concepts with the help of examples which come first of these learning tasks. This learning task must match the learning objectives of their course work and should be in order of difficulty levels. Students may be assigned in different groups randomly and students may be asked to find solution of some problems, topics or course related assignments. The formation of groups and activity sessions of the students must be pre designed and time bound. All the groups and the students working within the groups should feel independence in their individual learning and then reach on conclusion after deliberating collectively. The outcomes of every groups should be compared with other groups and the teacher should synthesize their learning efforts and further elaborate, clarify, explain and answer their questions. The teacher should always leave them thinking on some new food of thoughts relating to heir course work. The role of the teacher is very crucial when working with collaborative style of learner as this teaching learning environment demands a cordial relationship with students and a strong rapport with his students. A teacher feels a challenging task while working such students.

The other dominant learning style of the sample students of this study is competitive learning style. The students having this style of learning are very enthusiastic about their learning due to the fact that they always want to compete with other students of their class. They want to perform better in their coursework so that they can perform better than other students. The motivation behind their hard work is the personal recognition and certain rewards. They are always instructor-centered learner and very attentively involved what their class teacher gives the information. They have certain leadership qualities and always strive for the prominent position in the class.The teachers should pay attention such students and encourage such students so that they can build more leadership qualities.

As the characteristics of learning styles which were identified in this study, fall under two corner of learning style continuum, the question moot up is for the consideration of the class teacher is how he or she will select or modify his/her instructional styles for a class of students having both collaborative and competitive style of learners. How a teacher can maintain a balance between these two learning styles requires certain considerations for a teacher. A teacher should know the various teaching styles methods and approaches so that he can better perform in the class room. The learning environment should be students and subject centered so that different style of learners could easily be accommodated. The collaborative style of learners could perform better in students-centered learning environment. The learning task should be designed in such a way that students can work both individually and in groups. Cooperation and competition among the students should be created by developing such learning task that students can develop their individual knowledge for the future. The teacher should always have an up to date knowledge about the individual as well as collective learning preferences of their students.

VI. Conclusion

The prime objective of this study was to investigate the 10th grade English class students' learning styles in anticipation that their class room teachers can adapt to and change or adjust their preferred teaching styles with students' learning styles in a view to enhance the learning outcomes in the English subject. The results emanating from the descriptive statistics techniques of this study suggest that the learning styles of a great number of students of the sample school were found to be Collaborative and Competitive.

a) Competing interest

The authors declare that they have no competing interests.

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Computer-Aided Storytelling in the EFL Classroom

By Mauro Dujmović & Ivana Bančić
University of Pula, Croatia.

Abstract- People use stories to construct meaning and to communicate. The skills of storytelling are crucial for engaging in casual conversation and successful communication in general. In the 21st century children are faced with various modalities of representation, which require new ways of reading, listening, interpreting and thinking. Children are engaged in those different modes of interaction and the nonlinear and multimedia world. Along with the advance of technology, the classic storytelling has also seen some developments in EFL classrooms around the world. In a modern classroom it is necessary to address multiple literacies and digital storytelling combines the ancient art of telling stories with a variety of digital tools and multimedia. Computer-aided storytelling has become an important tool of instruction for students of English as a foreign language, as well as their educators. This article aims to present an overview of the practical uses of computer-aided storytelling in English language classrooms. Nevertheless, the implementation of the aforementioned instructional tools in EFL classrooms entails different challenges for both students and educators. The paper includes the discussion of the most important benefits and challenges of computer-aided storytelling.

Keywords: EFL classroom, computer-aided storytelling, computer-assisted learning.

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I. Introduction

Storytelling has long been an integral part of the human experience and has played a significant role in the development of culture and beliefs. The technique of storytelling is something we start to master at the age of two, both as a teller and a listener of stories; it is something we have done for thousands of years. It may even be hard-wired in our brains as one of the things we have an innate capacity to do. The attractions of narratives are obvious: stories help us understand complexity, can enhance or change perceptions, they bypass normal defense mechanisms and engage our feelings. We use stories to construct meaning and communicate ourselves to another. That is why stories are an important part of our everyday life, self-expression and communication. Children learn by composing stories about their surroundings as they play. By constructing stories children construct knowledge of the world around them and about their part in it. The skills of storytelling and understanding basic story structures and meanings are essential to casual conversation, understanding of literature and successful communication in general.

In a world which encompasses different forms of communication, children are faced with various modalities of representation, which entail new ways of reading and listening, interpreting and, consequentially, thinking. Children are engaged in those different modes of interaction and the non-linear and multimedia world. Along with the advance of technology, the classic storytelling has also been rejuvenated in classrooms around the world.

New interactive and non-linear texts are emerging in order to extend the ways in which meaning can be communicated. In the following sections of the article we will present the technique of animated storytelling as a computer-aided form of storytelling, a method which takes into account the needs of 21st century students and the different types of literacy the modern environment requires. For example, Kress stresses that the 'visual may be more useful for transmitting large amounts of certain kinds of information' (Kress 1998: 55). This transition does not affect only written texts, but also the world of storytelling.

As Walter Ong maintains, 'the electronic transformation of verbal expression has brought consciousness to a new age of secondary orality' (Ong 2002: 132). It is possible to suggest that the concept of secondary orality, with its connection to the media, carries important implications for contemporary education. As different authors have suggested, in a modern classroom it is necessary to address multiple literacies such as technology literacy, visual literacy, media literacy and so many others originating from the mediated world we live in.

Digital storytelling also combines the ancient art of telling stories with a variety of digital tools and multimedia, such as images, audio and video. Digital stories revolve around a topic, and although there are many different types, Robin (2008) argues that it is possible to categorize the major types into three major groups: personal narratives, historical documentaries, and stories designed to inform or instruct the viewer on a particular concept or practice. Due to the fact that this method of storytelling requires more advanced computer skills, it is more suitable for older children and

Author α: Assistant professor, Faculty of Economics and Tourism "Dr. Mijo Mirković," Juraj Dobrila University of Pula, Pula, Croatia.
e-mail: mdujmov@unipu.hr
Author σ: Teaching and Research Assistant, Department of Educational Sciences, Juraj Dobrila University of Pula, Pula, Croatia.
e-mail: ibancic@unipu.hr

animated storytelling can be viewed as an introduction into project based digital storytelling. In the following section we will analyze the role of stories in a foreign language classroom.

II. Stories in a Foreign Language Classroom

Scholars have suggested and proved that storytelling is an effective instructional strategy for enhancing motivation and improving the learning performances of pupils. It can improve memory by allowing pupils to recall the prerequisite learning and help establish interaction among learners (Bruner 1996). Also, in the case of digital storytelling, Bran (2010) suggested that it could attract the students' interest and enhance their learning achievement.

Storytelling is a practical and powerful teaching tool, especially for early language learning. However, teachers in language classrooms may hesitate to incorporate storytelling into language instruction because of an already overloaded curriculum. English foreign language (EFL) teachers may find additional problems such as having little prior experience with integrating storytelling into language teaching, locating appropriate stories, and lacking the cultural and language abilities to handle storytelling in English.

Teaching English to young learners has become especially important in recent years, as the introduction of primary EFL teaching in a number of European countries suggests. Classrooms are places where people meet with the aim of learning. This kind of engagement is inevitably social and learning through stories in classrooms is not different. The social relationships involved in storytelling include establishing social groups and ways of interacting with others; gaining and maintaining status and social position and also acquiring appropriate ways of thinking, problem-solving, valuing and feeling.

Children enjoy listening to stories in their mother tongue and understand the conventions of narrative. For this reason stories can provide an ideal introduction to the foreign language presented in a context that is familiar to the child. Children's exposure to stories in the target language introduces them to a full range of language, which is absolutely central to success in the target language. Introducing stories successfully in the classroom needs careful planning. To understand a story in a foreign language, pupils must feel involved and relate it to the aspects of their own. This takes some gradual preparation, which could spread over several lessons. The overall aim of using stories is to encourage general comprehension and to trigger off a wealth of purposeful language learning activities.

Listening to stories should be a part of growing-up process for every child. Educationalists and psychologists have shown that stories have a vital role in the child's development and in the development of language. We know that children are active participants in their acquisition of language. Their language patterns are learned in social contexts while they are interacting with other children and adults. Studies continue to confirm that the development of vocabulary and syntactic complexity in language are more advanced in children who are frequently exposed to a variety of stories.

The main reasons for using stories while teaching a foreign language to children are as follows:

1. *Motivation* – children express a great desire for stories and they are always happy to listen or read; stories can help develop positive attitudes towards the foreign language and language learning and create a desire to continue learning
2. *Imagination* – children can become personally involved in a story as they identify with the characters and try to make their own interpretation of the narrative and illustrations
3. *Meaning* – children always look for the meaning because if they find the meaning, they understand the story and, consequently, are motivated to try to improve their ability to understand even more
4. *Fluency* – fluency in speaking is connected with not being afraid of making mistakes and constructing meaning from a limited language – this involves intelligence and creativity
5. *Language awareness* – thanks to stories, children begin to 'feel' the foreign language and become aware of certain language items and sentence constructions which will enrich their thinking and gradually enter their own language production
6. *Stimulus for speaking and writing* – the children are prompted to respond to a story by speaking and writing; they need to share their opinions of what they have listened to
7. *Communication* – stories and the follow-up activities develop a sense of being and having an audience as well as of sharing and collaborating; storytelling can thus help build up the child's confidence and encourage social and emotional development
8. *General curriculum* – stories can be used to enlarge children's powers of awareness, analysis and expression; also to consolidate learning in other school subjects across the curriculum.

III. Teaching English Through using it

In the last decades, technology has become wonderfully accessible to teachers, students, parents, and the entire general public in most countries. More exciting than technology itself is how it can be applied in the classroom. The value of technology for early language learning lies in its ability to extend learning

beyond the traditional curriculum. The foundation of future learning success should be patterned by using software and activities that help students learn how to think and learn. Modern technologies are very powerful because they rely on one of the most powerful genetic biases we have – the preference for visually presented information. Television, movies, videos, and most computer programmes are very visually oriented and therefore attract and maintain the attention of young children.

The technologies from which young children benefit most are those that are interactive and allow children to develop their curiosity, problem-solving ability and independent thinking skills. Children have to have an integrated and a well-balanced set of experiences to help them grow into capable adults who can handle social-emotional interactions as well as develop their intellectual abilities.

Nevertheless, there are many obstacles to overcome if technology, and specifically computers, is to be used effectively in the classroom. Because of the lack of programmes designed to promote some higher-level thinking, it has become the teacher's responsibilty to design lessons which incorporate technology effectively.

IV. Computer Aided Teaching and Learning

Computer-assisted learning is now available to most teachers and students. A well-designed computer-assisted learning programme is believed to efficiently facilitate both teaching and learning processes. In recent years, the processing capabilities of computers have increased dramatically. One result of these trends has been the ability to provide highly visual and interactive learning environments on computers, and, along with this, learning environments become more complex.

All these aspects of computers have their uses in the educational application of computers. The use of a computer for listening exercises often provides not only sound, but also visual input providing students with more contextual clues. There is a number of specialised programmes that allow children with certain information-processing problems to get a multimedia presentation of content so that they can better understand and process the material. They are able to see the written words and see a visual image and hear the sounds – all at the same time. Combining these sensory modalities helps a child to more efficiently internalize information about a topic, especially if they have, for example, an auditory processing difficulty or a reading disorder.

There has been much debate over the use of computer-assisted language learning (CALL) in the EFL classroom over the past decade, but there are many uses of computer in the classroom. CALL can be successfully employed not only for grammar practice and correction, but also for communicative activities. Successful communication learning is dependent on the student's desire to participate. When asked to communicate about various situations, students should also be involved in the actual situation. Decision-making, asking for advice, agreeing and disagreeing, and compromising with fellow students are all tasks that cry out for 'authentic' setting. It is in these settings that CALL can be used to great advantages. By using the computer as a tool to create student projects and provide context, teachers can employ the computer to help students become more involved in the task, thereby facilitating the necessity of effective communication within a group setting.

In language learning as well in science education, several studies have reported that students like learning language via computer technology (Shea 2000), and that, given the choice between learning text or audio and computer and video, they prefer learning via computers and video. A number of studies has investigated whether the simultaneous presentation of audio and visual information taxes cognition at the expense of comprehension. One hypothesis in this debate is that, because any symbol system can carry meaning, restriction of the flow of information to a single channel reduces the amount of data that must be processed and allows the learner to focus more effectively on the significance of the message. But, researches conducted by Hibbing and Rankin-Erikson (2003) and Boster, Meyer, Roberto and Inge (2002) have suggested that the use of multimedia in teaching helps students retain new information and facilitates the comprehension of difficult material. Consequentially, we can conclude that animated storytelling can provide educators with a powerful tool to use in their classrooms.

V. Computer-Aided Storytelling

Throughout the ages, storytelling has evolved from an oral tradition to a digital display. With the advent of affordable digital videocameras, easy-to-use software, DVDs and the Internet, we can now tell and disseminate our stories in new and interesting ways. Today's twist on the oral tradition are animated storytelling and digital storytelling. While in traditional storytelling the fictional world is presented through the use of descriptive prose, in an animated story the picture is painted with several non-traditional elements, including sound, graphical characters and an animated storyline. Animated storytelling is the intersection between the age-old art of storytelling and the access to powerful technology that is easy to use.

In the following paragraphs we will present some of the issues considering the use of animated storytelling with young learners, as well as the benefits

and the potential drawbacks of using computer-aided storytelling. The criteria for selecting animated stories will also be suggested. Finally, we will concentrate on several classroom activities. Animated storytelling advocates an integral approach, not simply using the story in isolation but within a sequence of tasks: pre-viewing, while-viewing and post-viewing, always depending on the role chosen for the story.

a) The Power of Visual Learning and Animated Storytelling

Visual learning is a proven method in which ideas, concepts, data and other information are associated with images and presented graphically. Animated stories, picture stories, concept maps or plots are some of the techniques used in visual learning to enhance thinking and learning skills.

The New London Group presented a definition of literacy which includes understanding and control of representational formats, such as visual images and their relationship to the written word. It could be argued that the same goes for storytelling. Also, Kress (1998) suggests that graphics hold more meaning and are central to the meaning of modern texts and meaning-making systems. It is suggested that pupils better remember information when it is presented and learned both visually and verbally. Linked verbal and visual information helps students make connections, understand relationships and recall related details. With the powerful combination of visual learning and technology, students learn to clarify thoughts, organize and analyze information, integrate new knowledge, and think critically.

b) Benefits and drawbacks of using animated stories in the classroom

Telling, watching or listening to a story is a central part of classroom life. Actually, we can either read, tell, listen to, watch or play the story. From time to time it is good to use animated stories. Why and how? Some important benefits of using animated stories in the classroom are as follows: (1) the story can be repeated as many times as needed, (2) students learn that computers can help provide and execute useful ideas, (3) there are visuals, sound, animations, reading, also writing included at the same time, so they enhance understanding, (4) the story can be stopped at certain points to make it more interesting, to involve students or to clear certain meaning of it, (5) there are authentic sounds, voices and native speakers acting and reading the story, (6) children enjoy language learning with cartoons and animated storylines, (7) children gain confidence through repetition: by watching an animated story several times, children can learn through absorption and imitation.

There are, however, several potential drawbacks that teachers should note: (1) teachers have to be able to use the computer and software, (2) the computer does not always work when you need it, (3) children are used to passively watching TV at home on the sofa, so teachers should try to avoid the learners "switching off" by providing stimulating activities where the child can interact with and learn from the computer.

c) Criteria for selecting animated stories

When selecting an animated story for use in the classroom, certain general criteria should be kept in mind:

1. *Watchability* – Is the story interesting? Would a young native speaker want to watch this video?
2. *Completeness* – The ideal animation tells a complete story or its section. This idea of completeness is important for young learners whose primary motivation for watching a story is enjoyment.
3. *Length* – The length of the story is important, it should not be too long, perhaps between four and seven minutes, depending on the learning objective.
4. *Level of maturity* – Children mature very quickly, so a group of 7-year-olds watching a story made for 5-year-olds would probably reagard it as "too childish." On the other hand, using an animated story intended for older children with a group of younger children might lead to the children not being able to understand the concepts in the story.
5. *Availability of related materials* – Many authentic stories now come with ready-made materials that can be used for language teaching. Other stories may have been adapted from books, which could be used in the classroom to support the animated story.

If animated story is being used for presenting language or for comprehension tasks there are, however, further factors which should be considered when selecting a story:

1. *Degree of visual support* – A good idea is to choose scenes that are very visual; the more visual the story is, the easier it is to understand.
2. *Clarity of picture and sound*
3. *Density of language* – This notion refers to the amount of language in a particular time. Animated stories in which the language is dense are more difficult for learners to comprehend.
4. *Language content* – In using an animated story to present language, an important factor to consider is the linguistic item presented in the scene. Another important factor is the amount of repetition of the language content. Authentic stories for young learners will often contain a lot of repetition. It is also useful to see if the linguistic content in the story can be linked to that of the language curriculum of the course book, thus providing a way to integrate storytelling into the course as a whole.

5. *Language level* – The language level of the story should be appropriate for the level of the class, having in mind the comprehensible input.

VI. Using Animated Stories

Stories can be used to provide a variety and extra language practice by supplementing or complementing a course book. If the teacher is not required to adhere rigidly to a course book, animated stories can be used as short basic syllabuses in their own right, offering a novel alternative to the course book.

There are three main dimensions in which animated stories can add to learning in the whole school curriculum:

1. Stories can be used to reinforce conceptual development in children.
2. Stories are a means of learning how to learn. This category covers: reinforcing thinking Strategies, developing strategies for learning English, developing study skills.
3. Stories can also be used to develop other subjects in the curriculum.

a) Pre-computer work (pre-viewing)

Any pre-viewing activity will be associated with developing learner's comprehension strategies. Native speakers use many strategies to aid comprehension and these strategies can also be applied to learning a foreing language. Some of the suggested activities are as follows:

(1) talk to children about their experience of what will be the central topic of the story, (2) use a warm-up activity, (3) pre-teach the words words and phrases which are important for understanding the story, (4) use games to introduce the language needed, (5) children watch the story with sound off and then guess the topic and the content, (6) children read articles/stories connected to the topic, (7) learners predict the story by numbering the pictures from the story on the appropriate worksheet, (8) use the flashcards of the story and ask learners if they can guess what happens in the story.

b) Computer work (while-viewing)

In most cases, the teacher will want the learners to watch the animated story more than once. The aims for watching the story for the first time and further times will probably be different. The tasks to be completed while viewing a story for the first time are commonly associated with developing listening skills and, in particular, listening for global understanding. The activities for the second or third viewing are often associated with providing information and presenting or reinforcing language. During this stage pupils may listen for specific information or pre-taught vocabulary, grammatical structures, confirm the predictions made in the pre-viewing activity, stop the story to comment.

c) Post-computer work (post-viewing)

Post-viewing activities are often connected to the idea of using language that came from the video or the video could simply have been used as a stimulus and the post-viewing tasks are not connected in any way to language found in the video.

For the post-computer work, the teacher has to prepare different materials such as pictures, word and sentence cards, flashcards, handouts, etc. Some animated stories are accompanied by ready-made materials that teachers can choose, print and simply take into the classroom. Activities which could be included into the post-viewing stage of animated storytelling are making posters, acting out a scene, re-writing a part of the story or writing dialogues.

In conclusion, practice has shown that a well-designed animated storytelling application can motivate, save time, and help address learner weaknesses. In addition to increasing both student motivation and learning efficiency, the computer-aided storytelling can help young learners establish positive attitudes toward foreign language discourse.

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The Implementation of School based Curriculum (A Case at state High School 2 Padangsidimpuan)

By Saifuddin L. Simbolon
State University of Padang, Indonesia

Abstract- This research was aimed to describe 1) the curriculum implementation at High School 2 Padangsidimpuan; 2) to describe the supporting factors and inhibiting factors of curriculum implementation at State High School 2 Padangsidimpuan; 3) to find the solution towards the factors inhibiting the curriculum implementation at State High School 2 Padangsidimpuan; 4)to describe the steps on curriculum development at State High School 2 Padangsidimpuan.

This research was qualitative approach. The participants were the stakeholders of State High School 2 Padangsidimpuan. Observation and interview were used to collect the data.

The findings showed that the implementation of curriculum at State High School 2 Padangsidimpuanwas not optimally implemented, due to lack of mastery the competence of teachers1) teachers cannot arrange learning planning based contextual; 2) the supporting factor of curriculum implementation at State High School 2 Padangsidimpuanwere from quality achievement, availability of media and school gerographic. Meanwhile found the factors inhibiting the curriculum were lack of teachers' pedagogy mastery, professional competence, and social competence;3) there were solutions towards the factors inhibiting the curriculum implementation at State High School 2 Padangsidimpuansuch produce meaningful teaching, change the concept of curriculum paradigm, change the paradigm of teaching into based religious, and provide motivation for students; and 4) the steps were used to develop the curriculum such planning instruction, learning experiences, and learning outcomes assessment.

Keywords: *school based curriculum, curriculum implementation, supporting factors and inhibiting factors of curriculum implementation, steps on curriculum development*

GJHSS-G Classification : *FOR Code: 930599p*

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I. Introduction

The aim of national education is to form a perfect Indonesian man, who is responsible to the harmony of society and the nation. This is as set out in Law No. 20of the National Education System of 2003"the purpose of national education is "to develop potential of students to become a man of faith and fear of God, noble, healthy, knowledgeable, skilled, creative, independent and become citizens of a democratic and accountable".

Author: Doctor of Education State University of Padang.
e-mail: muhammad.kristiawan@yahoo.co.id

One of the governmental policies in the field of education is to develop curriculum. This policy was intended to address the actual problems that exist in society. Developing or changing the curriculum for each type sand level of education are expected gradually to overcome actual problems or conditions. Various actual problems or objective conditions on the ground occurs as a result of the gap between the capabilities of graduates of educational institutions with market needs, as described by Jalal(2002: 1) as follows:

> Current field in fluencean education is about labor. Total employment of graduates of educational institutions available in the market quite a lot, but most of them do not yet have the competence and qualifications required by employers whether at the local, domestic, and national levels. Second, economic activity, industry, commerce, and various businesses in the service sector Indonesia already have a global reach. This of course will require human resources (HR) has the high competence and professionalism. Third, activities, either in agriculture, manufacturing, service industries, and public service become increasing lyled by technology. Fourth, Indonesia today's business world tends to increase the cooperation that is more strategic their business partners abroad in order to gain maximum benefit from the impact of globalization. For this case, Indonesian workers need to be equipped with various capabilities to enter the working world increasingly globalized.

To overcome the above-mentioned objective conditions, required the development or change in the curriculum to produce graduates who fit the needs of the community. Curriculum development should refer to the change orientation providing education increasingly relevant to science and technology, the needs of industry, labor market needs, and development needs. Thus, the current curriculum needs to be repaired, adjusted and refined in order to fulfill the above requirements. Inappropriate Curriculum, must achieve educational goals, which can give direction to the achievement of those objectives. Therefore, according to Mudlofir (2002: 52) the curriculum "must be strategies, materials, discipline, building, and implementation of the curriculum. The curriculum is a

considered the national philosophy, strategy development, the nature of the students, science and technology".

Enforcement of the Law of the Republic of Indonesia Number 22 of 1999 on Regional Government and Government Regulation No. 25 of 2000 concerning the authority of the provincial governments an autonomous region carries implications for the autonomy and democratization of education, including the study at the school. The law requires a change in the management of the learning that is centralized decentralized. Religious Ministry Team (2003:2), states: "a shift in empowerment schools means to improve the continuing quality of learning and integrated. The focus of the efforts is the improvement of the curriculum".

Curriculum Improvement Undertaken By The Ministry of National Education fromcurriculum1968 to the curriculum in 1975, and then updated with the curriculum 1984, refurbished in 1994and in 2004 was known as curriculum based competence (CBC). The government through the educational department also continues to upgrading for the principals and the teachers in order to absorb and implement the new curriculum well. In 2006 a new curriculum is applied again in accordance with the Government Regulation No. 19 of 2005 on National Education Standard Sand National Policy No. 22of 2006on the Content of standards curriculum was called School Based Curriculum, which is made by the teachers. However the ability of teachers to prepare their own curriculum is still limited.

Religious Ministry Team (2005: 3) states that "the successful implementation of the curriculum is certainly indicated by the change in the pattern of learning activities, instructional media, assessment, and curriculum management which enable to improve the quality of the process and the learning outcomes". There new al curriculum will create a meaningful learning when accompanied by the changes of the curriculum management. Therefore, the management of school based curriculum geared to empower existing resources in the area of schools in managing curriculum unit level education.

In the development of this new curriculum, some changes to the curriculum previously occurred. According to Jalal (2002:2) curriculum development is now more directed to curriculum changes, changing the goal-oriented approach of the curriculum or content, fixing the curriculum objectives of the needs of science mastery into mastery competence needs to work, changed the paradigm of supply-driven to demand(market)-driven, changed the assessment and recognition of competence is only done by the educational institution, or by the government be performed by the graduates and industry professional associations, or by credible institution.

Imron (1996: 165) argues that "the application of curriculum requires teachers to perform their duties as planners, implementers, and evaluators of teaching". As a planner, the teacher should be able to describe the curriculum into the syllabus. Then, the teacher must be able to plan the organization of teaching, management of teaching and learning activities, classroom management, and media of teaching and assessment. Various factors influence the absorption of students are the approach of teachers, instructional media, techniques, learning strategies curriculum, materials, discipline, and the implementation of the curriculum.

In the field of education, which holds the key in the generation and development of the student's absorptive capacity is primarily a teacher. A teacher who wants to develop absorptive capacity on their student must first try to keep his own creative. As was mentioned earlier that the factors influence the absorption approach students are teachers, instructional media, engineering, teaching and learning strategies, materials, discipline, building, and implementation of the curriculum. The curriculum is a set of plans and arrangements regarding the purpose, content, and teaching materials and methods used to guide the organization of learning activities to achieve specific educational goals. In the implementation of the curriculum, the Ministry of Education has set the basic framework of Competency Standards and the Basic Competency.

The curriculum is an operational concept developed and implemented by each unit of schools. The development is based on educational unit, potential areas, or the characteristics of the region, local culture and social learners.

Enforcement of the Law of the Republic of Indonesia Number 32 of 2004 on Regional Government demanding the implementation of regional autonomy and insight democracy in education. Management education is centralized originally turned into decentralized. Decentralization of education management by granting authority to the educational unit to prepare curriculum refers to the Law No.20 Year 2003 on National Education System.

Decentralization of educational management which is expected meets the needs and conditions of the area. The real decentralization of educational management unit is given the authority to make decisions regarding education for the management of education, such as curriculum management, both in the preparation and implementation in the education unit. Tilaar (2002: 370) states teachers are "the key success factors to improve the quality of education. The role of the teacher is needed in every institution in managing the learning process". Creating school based management in accordance with the demands of the State schools in terms of quality.

Learning process is the one that exists at Padangsidimpuan City Department of Education. Padangsidimpuan City Department of Education requires the management and organization especially education management at the Department of Education Padangsidimpuan through the implementation of the curriculum. Educational curriculum content standards for High School by Ministry of Education (2007: 3), aims to:

1. Obtain an overview of the strengths and weaknesses of high school content standards in terms of the content of the document and its implementation.
2. Acquire a variety of conclusions about the content standards in terms of implementation and the draft document.
3. Providing advice in the form of short-term improvement of content standards.
4. Providing advice in the form of long- term proposal form of curriculum content standards for the future.

The ability of a graduate education related to the demands of the curriculum based competence includes three domains are the cognitive, affective, and psychomotor. Learning and teaching is a process that contains a series of actions of teachers and students on the basis of mutual education that takes place in a situation to achieve a particular goal. Hamalik (2001: 3) states that the learning component is determined by various elements are "(1) the student, with all the characteristics that are trying to develop as optimal as possible through learning activities; (2) the purpose, is something expected after the teaching and learning activities; and (3) teacher, always strives for the right teaching related to learning experience". Interaction learning occurs reciprocally between teachers and students was a key condition for the continuity of the learning process. That is, not only the relationship between teachers and students, but in the form of education or inter action not only convey the message form the subject matter, but rather the planting of attitudes and values on students who are learning.

Learning and teaching is a process that contains a set of actions of teachers and students on the basis of mutual education that takes place in a situation to achieve a particular goal. Interaction learning occurs reciprocally between teachers and students was a key condition for the continuity of teaching. Interaction in the broadest sense, not just the relationship between teachers and students, but the form of the interaction of education. In this case, the teacher not only to deliver the message in the form of material lesson, but planting attitudes and values on students.

The implementation of the curriculum in the educational system, especially high school will change the way teachers teach. In contrast to the way teachers teach more prior to the achievement of the subject matter, then the process of learning in the curriculum is concerned with the achievement of competence in the form of knowledge and skills and a positive attitude of students towards the material being taught. Changes in the way teachers teach in the implementation of the school curriculum proposed byKarim (2002: 6) as follows:

> By using curriculum, teachers teach and students are taught during the exam tests. Teaching activities are expected to expand the horizons of knowledge, improve skills, and foster a positive attitude that is reflected through the way students think and how to act as an impact study results. Therefore, it needs to change the way teachers teach. Teachers need to provide a variety of learning activities that have implications for the diversity of learning experiences, so that students are able to develop competence after applying knowledge. For this purpose, active learning strategies (active learning) through multi variance method is suitable when going to apply the curriculum.

The main problem is related to the implementation school based curriculum at High School 2 padangsidimpuan was the readiness of the teacher. Teachers generally takes a relatively long to implement curriculum effectively. Most of the teachers are less well understood important aspects contained in the curriculum, and how to evaluate the curriculum learning outcomes (results of interviews with high school teachers Padangsidimpuan). In line with Sukmadinata (2003: 3) the curriculum is designed ideally and very good, but in reality it would be difficult to materialize in the area given, the ability of teachers to implement the curriculum were very limited. On the other hand, the curriculum must be disseminated in a comprehensive manner, so that in the future there will be no deviation on implementation of the curriculum.

Education should focus on mobilizing resources to implement educational curriculum. All resources must be managed according the rules of pedagogic and scientific. Teachers must follow the changes by changing the mindset of today's needs. Teachers must follow the training of professional development programs that are periodic. Teachers and staff should be able to follow the training, seminars, and study visits. Teachers in private, and institutional school, must find solutions and strategic steps to participate in various programs increased knowledge and skills to support learning. Teachers must also motivate themselves to develop their potential achievement. Another challenge was the implementation of this curriculum that teachers also need to increase the duration of reading a ook or the results of research on learning and education or reviewing classroom action research.

Although various levels of training curriculum given to the teachers, but the teacher's ability in

designing technical to implement the new curriculum is often less than satisfactory. On the other hand, teachers must understand the competencies needed by the community and learning strategies curriculum that must be done for every subject matter to be taught.

In fact, as a principal of State High School 2 Padangsidimpuan tend to reveal the basic competencies required of society and yet have sufficient capability in designing effective learning strategies in accordance with the demands of curriculum. It is recognized that the teacher is the key to the success of the learning process in schools. Therefore, expectations are often educational success imposed on teachers. One of the fundamental things is the teacher addressed by the mental readiness of the changes that occur at this time. Teachers should not be stuck in a routine and formality. There are many teachers are reluctant to update the information or improve knowledge and skills related to the profession. On the field there are many teachers who have not finished with his business. In addition, the availability of student learning, such as student learning media, tools and material practice, the latest reference books, and so on are poor. However, all teachers strive curriculum as it should, but optimally yet to be realized (the results of interviews with some of the teachers of High School 2 Padangsidimpuan). Therefore, through this study, researcher wanted to know the extent to which the implementation of curriculum at High School 2 Padangsidimpuan.

In the implementation of the curriculum, the evaluation is an instrument to see improvement, disadvantages and advantages of teaching. Evaluation is part of the process of improving the quality of school performance of the overall student competence. Mulyasa (2004: 103) states that the evaluation of learning outcomes in the implementation of the curriculum is done with class assessment, basic skills test, the final assessment of the educational certification, benchmarking, and program assessment. Evaluation of teaching is one of the means to determine whether or not the learning objectives achieved. Proven on any kind of education and processes of education is always evaluated. Therefore, evaluation is a very important component in teaching after the goal, materials, teaching and learning process.

The evaluation activity cannot be separated from the implementation of the curriculum. Because the evaluation of learning is also part of the education system which aimed to look at the success in achieving the goal. Evaluation is needed to provide feedback for teachers as a basis for improving the process of learning and the results used as the basis for preparing the remedial program.

The research problems based on the preliminary study on this research related to the implementation of curriculum are (1) teachers' competence, most of the teachers do not have sufficient capability in designing effective learning strategies in accordance with the demands of curriculum; (2) lack of student learning media, and the latest reference books; (3) learning environment was not conducive to implement curriculum; (4) evaluation used for learning less modifications; and (5) the evaluation of the implementation of the curriculum was not maximized.

II. Research Design

This study used qualitative approach. Qualitative is one kind of research that aims to describe systematic factual and accurate information on the facts, and try to describe the phenomenon in detail. Bogdan and Biklen quoted by Sugiyono (2007: 9) states that qualitative method is "a descriptive study that concluded the words or images of the figure". The same thing also expressed by Mukhtar (2000: 16) that the qualitative method is "one method used to find the widest possible knowledge of the research object when the study was conducted".

Furthermore, according to Lofland & Lofland (1984) qualitative researchers "chose to use himself and other human beings as instruments of collecting primary data". Based on the above expression that the meaning intended by the perpetrators themselves are based on situations and experiences, then analyzed inductively. The use of a qualitative approach, the data will be presented in the form of the dominant narrative, not in the form of numbers. This study used a qualitative method, which is commonly known in the field of education naturalistic inquiry. This approach, according to Namwi & Mimi (1996) departed from the paradigm first, double reality, constructed and holistic. Second, the researchers studied the relationship is interactive and cannot be separated. Third, the possibility of generalization is only possible in the context of the bond and time. Fourth, the possibility to establish a causal relationship is impossible to separate the fabric of the causes at all effect state simultaneously. Fifth, it is not value-free. Hopkins (1993), qualitative research has suggested that (1) natural background as a data source; (2) the researcher is the key instrument; (3) is more concerned with the process than the outcome; (4) tend to analyze the data inductively; and (5) the meaning of which is owned underlying actions are essential.

This research was conducted at State High School 2 Padangsidimpuan District of North Sumatra Province, Indonesia. The participants were (1) the principal; (2) teachers; (3) students; (4) the school committee; and (5) the supervisor. The focus of this study was the implementation of the curriculum at High School 2 Padangsidimpuan, based on this focus the data collecting techniques were observation, interview and documentation.

III. Findings

1. The implementation of the curriculum at State High School 2 Padangsidimpuan was not maximized due to: (a) the teachers were unable to calculate and set the details of the allocation of instructional time for learning, (b) the teachers were unable to formulate appropriate indicators of learning, (c) the teachers were unable to analyze the Minimum Standard Criteria (KKM), (d) the teachers were unable to prepare lesson plan contextually appropriate to the demands of the curriculum, (e) the teachers were unable to devise appropriate job sheet. However, they should implement curriculum based on several stages: socialization curriculum, creating a conducive atmosphere, setting a means of learning, foster discipline, self-reliance developing empowering teachers and staff.
2. The factors were supporting curriculum implementation at State High School 2 Padangsidimpuan can be seen from: (a) the quality of the achievements in participating in various competitions, (b) availability of adequate infrastructure facilities and geographic conditions and also easily accessible by school educators and learners, (c) the parents' level of concern is high enough to school. While the factors were inhibiting curriculum implementation: (a) lack of mastery teachers' pedagogical competence, (b) lack of control personal teachers' competence, (c) lack of mastery teachers' professional competence, (d) lack of mastery teachers' social competence, and (e) lack of socialization curriculum.
3. Several solutions can be done to address the factors inhibiting the implementation of the curriculum at State High School 2 Padangsidimpuan: (a) significant teaching, where teachers not only teach the material but also gives the meaning of the material, (b) changing the paradigm of curriculum into a groove early right to achieve a real goal, (c) changing the paradigm of teaching into based religious, (d) living the curriculum as well as possible, (e) clean the curriculum organs from irresponsible elements, (f) develop self-discipline and apply tut wuri handayani, (g) provide motivation for students to be able to develop their talents and potentials, (h) conduct educational equity, and (i) capable of empowering infrastructure optimally.
4. Steps to develop curriculum at State High School 2 Padangsidimpuan are (a) developing curriculum program includes an annual program development, semester program, module, weekly and daily programs, enrichment and remedial programs, and counseling programs; (b) implementing of learning, where the implementation of learning is essentially a process of interaction between learners and the environment, producing a change of behavior being better; (c) evaluating the process for improving the quality of school performance of the overall student competence. Evaluation of learning outcomes in the implementation of the curriculum is done in the class assessment, basic skills test, the final assessment of the educational unit and certification, benchmarking, and program assessment.

IV. Discussion

The findings showed that the implementation of curriculum at State High School 2 Padangsidimpuan was not optimally implemented, due to lack of mastery the competence of teachers. The findings of the research related to the research in New Delhi, India which was written by Agrawal (2004), the study clearly indicates that "English-language teaching conducted in Delhi State of India that sought to examine the assumption that a change in an evaluation pattern can trigger curricular reform". The next relevant study related to the finding was the research in United State of America which was produced by Asiala, Brown, DeVries, Dubinsky, Mathews & Thomas (2004) concluded that "certain mental constructions for learning mathematics, including actions, processes, objects, and schemas, and the relationships among these constructions".

This research is related to the finding in Sweden which was released by Bakker, Chance, Jun & Watson (2004) concluded that "questions can help us theorize regarding the implications for education (including curriculum development and instructional methods), for professional development, for assessment, and for future research". Next, this research is also related to the research in New York which was produced by Clements (2007) that "traditional strategies such as market research and research-to-practice models are insufficient; more adequate is the use of multiple phases of the proffered Curriculum Research Framework". The next research related to the finding was in Australia was written by Billet (2005) "an ideal curriculum directed towards full participation is subject to the affordances of the interests of managers, co-workers and factors affecting production, as well as the intentionalities of worker-learners themselves".

Handler (2010) in United State of America supports this research where he found "the role of curriculum leader is an appropriate one for teachers, and provides suggestions for the restructuring of university curricula and otherwise better prepare teachers to fulfill the curriculum leader role". Huizen, Oers & Wubbels (2005) in Amsterdam, Netherlands also supports this research where he found "contemporary teacher education demonstrates the continued use of competency-based, personality-based and inquiry-based approaches. These approaches are commonly

regarded as representing alternative paradigms for designing curriculum and pedagogy. Vygotskian theory, a teacher-education environment offers support to trainee teachers for developing a professional identity". Next, Hussain, Dogar, Azeem & Shakoor (2011) in Pakistan on his finding stated that "a significant association between existing process and desired process for curriculum development. Some new trends showed a mark difference like Memorandums of Understanding, Expressions of Interest, study tours and learner cognitive level". Then, this research is related to the research in Wales & England which was produced by John (2006) concluded that "technical curriculum planning has been the dominant model underpinning student teachers' lesson-planning for a generation or more in England and Wales. Building on recent developments in socio-cultural theory, an alternative, dialogical model of lesson planning is offered which not only emphasizes context-dependency but also sees planning itself as a practice".

This research is related to the finding in South Africa which was released by Kruger (2008) concluded that "the elemental-fundamental approach, if used appropriately, leads to effective teaching that culminates in genuine learning". Next, this research is also related to the research in Kenya which was produced by Njogu (2012) that "curriculum theory should reinvent itself to offer solutions of myriad educational problems and then assert a dominant field living obsequiously as other disciplines in social sciences". Next, Pacheco (2012) in United State of America on his finding stated that "some notions of the curriculum and refer to questions related to the curriculum, such as the nature of the curriculum, elements of the curriculum and curriculum practices".

Pinar (2006) in United State of America supports this research where he found "some have termed it 'reconceptualism', others the new curriculum theory. Both terms suggest more thematic unity among the curriculum writing characterized as the 'reconceptualization' than, upon close examination, appears to exist". Ryder & Banner (2010) in UK also supports this research where he found "curriculum development projects reflecting largely social and individual aims were appropriated by other stakeholders to serve political and economic aims. A curriculum reform body representing all stakeholder interests is needed to ensure that multiple aims are considered throughout the curriculum reform process". Next, Ultanir & Ultanir (2010) in Turkey on his finding stated that "students within the same course possessed educational backgrounds ranging from university graduates to those who had never attended a day of school in their lives. The motives behind course attendendance exhibits a diversity of viewpoints among the adult learners. Most of the learners stated that they were learning the subject material for the first time".

V. Conclusion

Based on the findings through interview, observation and discussion above, it can be concluded, that the implementation of curriculum at State High School 2 Padangsidimpuan was not optimally implemented, due to lack of mastery the competence of teachers 1) teachers cannot arrange learning planning based contextual; 2) the supporting factor of curriculum implementation at State High School 2 Padangsidimpuan were from quality achievement, availibility of media and school gerographic. Meanwhile found the factors inhibiting the curriculum were lack of teachers' pedagogy mastery, professional competence, and social competence; 3) there were solutions towards the inhibiting the curriculum implementation at State High School 2 Padangsidimpuan such produce meaningful teaching, change the concept of curriculum paradigm, change the paradigm of teaching into based religious, and provide motivation for students; and 4) the steps were used to develop the curriculum such planning instruction, learning experineces, and learning outcomes assessment.

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Ain't Gonna Study War No More: Teaching and Learning Cooperation in a Graduate Course in Resource and Environmental Management

By John R. Welch & Evelyn Pinkerton
Simon Fraser University, Canada

Abstract- Research into factors and theories of cooperation and into managing relations between human communities and ecosystems has blossomed in recent decades, yet few published works examine how these advances may be conveyed to students of resource and environmental management. We question whether ongoing changes in sociocultural and biophysical environments will lead to selfperpetuating crises or to precedent-setting types and scales of cooperation? Will higher education and university curricula continue to be part of our 'environmental problem' or emerge as essential parts of responses to the failure of resource management institutions? Are graduate students in environmental fields being prepared to meet the challenges they will likely face as resource management researchers and decision makers? We examine these questions through the lens of a course we have taught to over 300 graduate students in Simon Fraser University's School of Resource and Environmental Management. The course emphasizes the acquisition and application of conceptual and practical knowledge and skills centered on cooperation among individuals and groups with diverse values and interests.

Keywords: collaborative learning; collective problem solving; education for sustainable development; experiential education; graduate studies in environmental education; servant leadership; theories of cooperation.

GJHSS-G Classification : FOR Code: 930203p, 930102p

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I. Introduction

'It is not the similarity or dissimilarity of individuals that constitutes a group, but interdependence of fate.' Kurt Z. Lewin, 1939

It has been a half century since the publication of Cooperation in Change (1963), Ward Good enough's landmark book on applications of social science in regional and international development. During the same period, and especially since 1990, there has been a proliferation, across North American and internationally, of programs in environmental science, studies, and management for undergraduate, graduate and post-graduate learners (Clark et al., 2011a; McGowan, 2004; Zurayk et al., 2010). Perhaps because of the breath of the field of resource and environmental management and the diversity of the contributing academic specializations, there is little consensus or convergence on preferred curricular orientations or trajectories (White and Mayo, 2005:33). Some faculty have advocated for course and program emphases on negotiation and dialogue (Ness and Williams 2008; Suskind, 2000), on human dignity and environmental justice (Clark et al., 2011b; Washington and Strong, 1997), on sustainability (White, 2002), on environmental ethics (Martin and Beatley, 1993), on experiential learning (Wagner et al., 2012), on applied knowledge and action research (White and Mayo 2005), or on inter- and trans-disciplinary approaches (Focht and Henderson, 2009; Maniates and Whisse, 2000; Moslemi et al., 2009; Winner and Champion, 2012).

These are all important topics and compelling pedagogical and curricular orientations, of course, though a fundamental question remains: are we, and other faculty members working at the interfaces of environmental and resource management training, research, and outreach, part of the solution or contributors to the 'institutional failure in resource management' invoked by Acheson (2006)? Our answer is that it depends less on what we (or others) consider to be true today than on what our students learn and, more importantly, what they do with their learning after departing our classrooms and programs.

As academic processes unfold, relentless change at global and lesser scales seems to be outstripping efforts to create resilient human ecosystems. Losses in biodiversity and ecosystem service capacities show that humans are making our planet more toxic, more climatically variable, and generally riskier and less hospitable to human and non-human communities (UNEP, 2012a). Even as we lament the likelihood that future generations will have to make up for our apparent failure to establish effective institutions and sustainable societies, we are committed to doing what we can right now. We offer our thoughts and practices as part of a still-emerging dialogue on the topic of teaching resource management at the graduate level. The next sections of this article review the apparent failure of resource management to address environmental problems and our efforts to train those pursuing careers in resource management and related fields. We examine social science literature on cooperative institutional arrangements that illustrate principles for sustainable resource management. We then discuss training that seeks to convey these principles where we teach, at Simon Fraser University,

Author: Simon Fraser University. e-mail: welch@sfu.ca

British Columbia, Canada. The last two sections of the article describe the 'Social Science of Resource Management' course we have offered since 1996 and offer recommendations regarding graduate student teaching and curriculum development in environmental education.

II. Institutional Failure in Resource Management

Despite Good enough's still-valid principles and practices for deriving public benefits from development-related environmental alterations, barrages of demographic, technological, economic, and political dynamics often limit goods flowing from even careful, creative, and concerted resource management initiatives. It is difficult to dispute Acheson's (2006:118) assertion that

'The world is facing a resource management crisis. Large numbers of marine fisheries have been seriously depleted. Forests are being harvested at unsustainable levels; acid rain and smog are problems in widespread parts of the industrialized world; soil erosion threatens vast areas; parts of Africa and the Middle East are returning to desert; industrial waste dumps make life hazardous for large numbers of humans and other animals; many rivers and estuaries are polluted; and virtually every large lake in the world is in a precarious state.'

Indeed, the Global Environmental Outlook 5 compiled by the United Nation's Environmental Programme (UNEP, 2012b:6) broadens and underscores Acheson's dire observations: 'As human pressures on the Earth System accelerate, several critical global, regional and local thresholds loom or have been exceeded. Once these have been passed, abrupt and possibly irreversible changes to the life-support functions of the planet are likely to occur, with significant adverse implications for human well-being.' Lertzman's (2009:344) conclusion is that if 'avoiding population declines, species loss, erosion of ecosystem services, and degradation of environmental quality in general are the criteria for a successful management system, then modern resource management systems cannot be considered successful.'

Because the causes of environmental problems are diverse, so must be the solutions. Acheson and UNEP agree that developments in systems of collective values, rules and regulations have failed to keep up with the proliferation and intensification of many risk factors. Acheson (2006:128) writes, 'Few generalizations can be made about the reasons humans are unable to manage natural resources, save for the fact that failure is traceable to a lack of willingness or ability to solve collective-action dilemmas to produce effective rules.' The probability of finding ideologically or technologically driven or 'one size fits all' solutions to environmental problems is low and diminishing. The scale and complexity of many management issues, coupled with widespread perceptions that all modifications to institutions for environmental and resource management result in lost jobs (Canada, 2011), is leading in many jurisdictions to centralized, state- and market-based decision making. Acheson (2006:126) finds reasons to be concerned about this trend, observing that, by 'making it impossible for local governments to experiment in solving problems, top-down management policies stifle learning and curtail adaptive responses to problem solving.'

III. When and how Cooperation Happens in Resource Management

More encouraging news comes from resource management efforts grounded in closely linked social and ecological systems. Our knowledge continues to grow concerning the social, economic, political, and ecological conditions that permit cooperation and other altruistic behavior and institutions to flourish. Dominant Western views of human nature as inevitably competitive and egotistical have been effectively challenged (Keltner, 2009). Counter examples and antidotes to the tragedy of the commons are now well documented (Netting, 1993; Ostrom, 1990; Poteete et al., 2010).

Because common pool resources are problematic to manage in a top-down manner due to excludability and sub tractability issues, social science literature regarding those institutional arrangements that permit cooperation in resource management usually address fish, forests, water, wildlife, rangelands, etc. (Feeney et al., 1990).Cooperating parties usually include the government agency with an official mandate to manage the resource and a local community with historical dependence on an adjacent resource. More complex arrangements involve multiple government agencies and multiple parties claiming rights to access and use the common pool resources.

Since the mid-1980s, findings from anthropology and ecology on the self-regulating capacities of rural communities (Acheson, 1975; Berkes, 1981;Johannes, 1978; McCay and Acheson, 1987;Swezey and Heizer, 1977) have stimulated integrative research by anthropologists, political scientists, economists, ecologists, and planners on the benefits of co-operative power-sharing between self-regulating communities and government agencies (Agrawal, 2002; Armitage et al., 2007; Berkes, 1999; Dyer and Mc Good win, 1994; Feit, 2005; Pinkerton, 1989;Plummer, 2009; Schlager and Ostrom, 1993; Wilson et al. 1994; Pinkerton and Weinstein, 1995;; Wilson et al., 2003).This ever-expanding literature is generating insightful hypotheses about the conditions under which such cooperation is likely to emerge

successfully and to promote sustainability in the use of common pool resources.

Coming to terms with appropriate management strategies involves far more than understanding conditions supporting the creation of cooperative institutions; the nature of both the resource and the community must also be considered. For example, to make investments in cooperative institution-building feasible, the resource must be sufficiently abundant, culturally or economically important, adjacent to the community, or possess other value-enhancing attributes. Similarly, to make cooperation within the community and with government agencies and other parties a likely option, the community must be sufficiently dependent on the resource, have clear membership, strong leadership, sufficient trust, conflict resolution capacity, legitimacy, and shared norms and values about the need for sustainable management.Leaders in successfully cooperating communities can usually articulate a broad, holistic vision regarding sustainability and galvanize the political will of the community to work consistently toward the vision (Agrawal, 2002;Jentoft, 2000; Pinkerton, 2009;Pinkerton and John, 2008; Welch et al. 2011a).

If these permitting resource and community conditions are sufficiently met, cooperative power-sharing institutional arrangements can often be built.In examining what conditions support the resulting cooperation between parties, scholars have emphasized distinct and important roles played byde jureand de factorights asserted by the community on at least two levels: (1) The community must have strong access rights, as well as sufficient local livelihoods tied to these rights such that it is not tempted to develop livelihoods that would pollute or degrade local the resources.(2) The community has, or is willing to assert, higher-level management rights, such that it can cooperate with government in making decisions not only about collecting data on resource status, interpreting the data, formulating a local harvesting plan based on the data, monitoring and enforcing the plan, monitoring and enforcing habitat protection, but also decisions about allocating rights to particular users within the community, and making higher level policy about what vision guides the lower-level decisions (Above needs literature citations).

In addition to management studies of resource-dependent communities, the literature from the sociology of bureaucracies and the behaviour of organizations is helpful in identifying the characteristics of government agencies which make for effective and cooperative behavior (Bolman and Deal, 1997; Clarke and McCool, 1996; Lane and Stephenson, 2000; Pinkerton, 2007; Scott, 1998; Senge, 1990; Wilson, 1989). The capacity of these agencies to act cooperatively is highly variable. Because many graduate students in resource management end up working in government agencies and other bureaucracies, research on effective task groups (of 5-7 people) provides an important theoretical and practical locus for understanding cooperation and for first hand experiences via in-class exercises and the group work discussed below. In sum, we now have hundreds of case studies of successful and less successful cooperation in resource management, and such cooperation has been shown to produce resource Management outcomes superior to those resulting from competitive, market-driven and top-down institutional arrangements. Taken together, these casessuggest hypotheses about what conditions favour the emergence of cooperative, shared resource management decision-making and governance.

IV. Translating what we Know about Cooperation into Pedagogy

Given their emphases on regional and global scale governance, it is not surprising that neither UNEP nor Acheson explicitly address academic training for resource managers. Nonetheless, the need for adaptive learning (and managing) is pervasive. Acheson writes, 'To manage resources effectively, we will have to be quite imaginative. We will need to combine various elements of privatization, government control, local control, and managerial techniques. In ways we have not imagined could be done' (Acheson, 2006:129). Similarly, UNEP (2012b:16) emphasizes that, because 'there is no universal solution to environmental degradation, a range of tailored responses is required to reflect the diversity of regional needs. In areas of common global concern, however, coordination, participation and cooperation are critical for jointly meeting internationally agreed goals and targets, while also addressing the capacity deficits.' The UNEP (2012b:16) report provides a more specific recommendation on the need to 'align environmental policy and programmes with sustainable development goals by strengthening education for and raising awareness of sustainability issues.'

From Acheson's and UNEP's dire conclusions and the literature reviewed above, we derivefour general recommendations regarding university training in resource management. Higher education should train professionals who are able to (1) engage, learn from, and collaborate with resource users on multiple social and spatial scales; (2) work with resource-dependent communities and governments to craft institutions harmonized to match specific resource-user-situation configurations and meet dynamic management needs; (3) assess the values and costs of their interventions (and non-interventions) in local and regional resource and environmental management and boost local and regional capacities accordingly; and (4) identify and encourage factors affecting successes defined by scale-

appropriate groups of resource stakeholders. We think this list provides a broad curricular template for graduate studies in resource management for the twenty first century, and possibly longer.

But more is needed to integrate and drive such training and to encourage its applications. To this four-part template we suggest a fifth element not addressed by Acheson or UNEP: (5) harness personal, values-based commitments to the protection of environmental integrity. We recognize that resource management is, in the purest sense, a value-neutral suite of related professions, not a preference or system of values. We understand the field of resource management includes managing resource destruction, extraction and mitigation, as well as protection and conservation (Lertzman, 2009). We agree that universities exist to create and mobilize knowledge and skill, not to indoctrinate or promote specific schemes or broad social movements. On the other hand, we agree with most scientists on the need to 'combine technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future' (Union of Concerned Scientists, 2013). Our approach is further grounded in the truth that university programs dedicated to environmental training attract students with pre-established personal interests in resource health and sustainability (Arnocky and Stroink, 2011).

In other words, students in environmental management degree programs, especially at graduate levels, have already made a decision to intervene on behalf of the sustainability and resilience of linked social and ecological systems—to manage and thus to lead at macro and micro levels. Given that the success of management intervention depends in part on the attitude or internal state of the intervener (Goodenough, 1963:377; Scharmer, 2007), our teaching recognizes and advances the truth that leadership success in resource management is determined in part by personal commitments, collective visions, and abilities to mobilize toward those visions (Pinkerton, 1998; Welch et al., 2011a). More fundamentally, the powers of personal conviction, undeniable though often unmeasurable, provide a rationale for faculty initiatives to empower students' knowledge and application of this fifth element in their thinking, doing, and learning. The next section examines the academic context in which we are implementing these five recommendations.

V. SFU and REM

Simon Fraser University (SFU) is a public university with about 1,000 faculty offering more than 100 undergraduate, graduate and non-degree programs to approximately 32,000 students on campuses in Vancouver, Burnaby and Surrey, Canada. Founded by the province of British Columbia (BC) in 1965 to accommodate growing regional populations and interests in higher education, SFU soon emerged as a hub for progressive research, training and outreach (Johnston, 2005). In a recent consolidation of this reputation, SFU has adopted a motto of 'engaging the world' and a vision of becoming 'B.C.'s public square for enlightenment and dialogue on key public issues … the institution to which the community looks for education, discussion and solutions,' including environmental concerns (Petter and Taylor, 2012).

The School of Resource and Environmental Management (REM—pronounced word-like, as in deep REM sleep, rather than spelled out like R.E.M., the band) at SFU is one of Canada's top graduate schools in this growing and diversifying field. REM's 19 faculty members (12 full-and seven part-time in 2014) have expertise ranging from chemistry (environmental toxicology), ecology, and geosciences to economics, law, planning, community-based research, and tourism. This diversity embodies REM's founding philosophy: effective approaches to environmental problems require close attention to complex interactions among socioeconomic and biophysical factors. Detailed information on REM programs, students, and faculty is available at http://www.rem.sfu.ca/.

REM's four credential programs foster opportunities for students to learn and apply disciplinary and interdisciplinary training in the context of environmental challenges. Most of the students in the Graduate Diploma in Fisheries Management are resource management practitioners interested in boosting their expertise in computer modelling and related quantitative methods. Students in the other three programs—Ph.D., Masters of Resource Management (MRM) and MRM (Planning)—must complete substantive graduate coursework in three broad domains—environmental science, ecological economics, and environmental policy and social science—as well as an intensive research project. MRM students in the planning stream complete a policy- and planning-focused program of coursework. Unlike most other programs accredited by the Canadian Institute of Planners and counted as members by the Association of Collegiate Schools of Planning, which 'offer environmental planning as an area of specialization at the master's degree level' (White and Mayo, 2005:31), the REM planning program's entire emphasis is on multi-scale environmental planning and policy concerns.

The two masters-level programs, MRM and MRM (Planning), account for about ninety percent of REM's students, with more than 500 degrees awarded since REM was established at SFU in 1979. Our MRM program is an academic-professional hybrid. Students come to the program with varied cultural, educational and experiential backgrounds. Most have undergraduate degrees in biology, geography, environmental studies, political science, economics,

anthropology, or allied fields. All arrive to prepare for careers in governmental and non-governmental organizations and to boost research aptitudes. Table 1 lists the six required courses as well as the nine categories of elective courses available to graduate students. SFU undergraduate students increasingly have access to courses taught by REM faculty and faculty affiliates, including courses in fisheries and forest ecology, energy systems, risk assessment, and ecological economics. Many MRM students elect to participate in the optional Cooperative Education Program to complement research and classroom activities through short-term employment with a public, private or aboriginal organization concerned with resource management. Students close out their MRM and MRM (Planning) program requirements with the completion and juried defense of a thesis-like report on their capstone research project.

Table 1: Required and elective coursework for the SFU Masters of Resource Management degree

Six 'core,' classroom-based courses	Nine types of elective courses
1. Social Science of Natural Resources Management 2. Applied Population and Community Ecology 3. Ecological Economics 4. Earth Systems and Global Change in Environmental Management 5. Regional PlanningI or Public Policy Analysis and Administration 6. Principles of Research Methods and Design in Resource and Environmental Management	A. Community and regional planning B. Co-management and institutional design C. Ecological risk assessment D. Fisheries and water management E. Sustainable energy systems F. Population and conservation ecology G. Outdoor recreation and parks planning H. Tourism planning and development I. Environmental law, policy and regulation

The MRM program is cohort-based and features two years of requirements. First-year students are introduced to the program, to critical issues in resource management, and to one another and REM group work through an intensive, week-long field trip through southern British Columbia. Classes commence the following week, and most first-year students take at least two of the six required 'core' courses as well as at least one of their six electives in their first term. Students are typically resident for two fall terms and two spring terms of coursework—a total of four trimesters. Most students dedicate summer terms to fieldwork, internships relating to their capstone research projects, or other professional activities connected to career plans.

VI. Appreciative Instruction in Resource Management: Course Goals and Processes

Social Science of Natural Resources Management, listed as REM 601 in the SFU course calendar, is required for all MRM candidates. Subtitled 'Theories of Cooperation,' REM 601 is taught each fall as a 13-week course (four hours of class meetings per week). The course is designed and implemented to build MRM students' conceptual vocabularies and practical skills for understanding the social dimensions of resource management and the individual and group factors that often determine management success. The official description of the course states that the course is, 'An introduction to the relevance of social science perspectives, data and analytical tools in resource management, especially as these complement, supplement or critique perspectives from natural science or economics.' Because of its pivotal roles in extending the esprit du corps fostered during the end-of-summer field trip for the incoming student cohort and in counterbalancing biophysical and economic approaches to resource management that emerge as central in most student's research projects, REM 601 is the only required course for which MRM students are not generally granted waivers based on prior course work. In other words, in terms of both our MRM program and individual student preparation, our faculty sees REM 601 as a unique and essential course for our MRM and MRM (Planning) students.

We have each taught the course at least seven times since 1996. In the later 1990s, Pinkerton redirected REM 601's focus from a history of thinking on environmental issues to insights gained through research on fisheries and forest co-management in Western Canada (especially see Pinkerton, 1998, 2007, 2009; Pinkerton et al., 2008).Welch's experience provided a complementary basis for expanding the course emphases to include cultural resource issues and collaborations with indigenous communities (see Welch, 2000, Welch et al., 2009). Continuous coordinated teaching of REM 601 has allowed us to refine course process and learning objectives in response to student feedback and our own and others' evolving research and teaching experiences. A webpage maintained by the SFU library listspublications, websites, and other materials relating to REM 601 themes (Welch and Tripp, 2011).

a) Cooperation vs. conflict

Our application of appreciative inquiry has led to a course emphasis on conceptual and practical means for encouraging cooperation and creativity in pursuit of futures that are just, sustainable, resilient, adaptive and desired (Good enough 1963). All human interaction may be viewed on a continuum defined at the Poles by conflict and collaboration (see Colwell-

Chanthaphonh and Ferguson, 2008; Welch et al., 2011b). Although most forms of both conflict and collaboration entail cooperation and can foster solidarity, conflict is defined by differences—of opinions, preferences, values, etc.—while cooperation is defined by common ground. Behind every conflict is a contest over whether and how much to change. Conflict carries and often incubates seeds for fractionating social and political capital. In this sense, conflict sets high or neutral discount rates on amorphous and uncertain futures. In contrast, cooperation founded in shared interests and pursued through good faith, even if focused on small goals, tends to expand commonalities, reward virtuous behavior, multiply social learning and social capital, and assign low discount rates to mutually desired futures (Wals, 2007). The main point, however naïve it may seem, is that the proactive pursuit of consensus goals using constructive, context-sensitive inquiries and applications are more likely to be satisfying and successful than reactive and divisive quests. It is easier to build coalitions in campaigns 'for' than 'against.' Even in computer simulations of decision making in contentious arenas, 'yes' is more potent than 'no' (Axelrod, 1984).

Contrary to prevailing beliefs in Western culture that selfishness and aggression are innate and harsh conflict inevitable, there is evidence that altruism is at least as instinctual as egotism (Keltner 2009) and that human 'nature' and human values, behavior, culture and institutions are highly malleable (Flores et al., 2012). There are viable alternatives to violence and many options for conflict resolution (Burton 1998).Conflict types, levels and meanings vary by cultural and social setting, with some societies expressing few inclinations toward domination or violence. It is no coincidence that many less authoritarian institutional forms are land-linked and that many social groups defined by co-habitation with human and non-human neighbors have been extinguished or 'radicalized' through colonial encounters (Scott 1990, 1998, 2012). Such encounters—the coercive and commoditizing influences of capitalist expansionism and the creativity of Indigenous responses thereto—are among Welch's research foci (see, for example, Welch, 2008; Welch et al., 2010; Welch et al., 2011a, b). Pinkerton`s work centers on how cooperation offers a low-cost, egalitarian, and benefit-sharing way of solving common pool resource management problems, in contrast to the high-cost, privatized, individual rationality with few beneficiaries offered by neoliberallism (Pinkerton and Edwards, 2009; Pinkerton, 2013). (Last two sentences, or even entire Para., would probably not be missed)

The realities that personality, culture, land, technology, and social context shape how people perceive, evaluate and choose how to deal with conflict occupies center stage when people come together from different ethnic, religious, racial, economic, disciplinary or organizational backgrounds. All or most supra-household cooperation involving resource and environmental management involves more than one set of values, norms, and preferences. Studying how and under what conditions people cooperate in diverse interpersonal, cultural and institutional settings helps to relieve students of ego- and ethno-centric convictions, expand their repertoires of alternative responses to conflict, and guide them through collective learning and, perhaps, toward appreciation for cooperation.

b) Modelling cooperation through course process

The primary complement to the REM 601 keystone principle that cooperation is the single most indispensable ingredient in successful resource management is the oft-repeated dictum (attributed to Einstein) that 'Example isn't another way to teach, it is the only way to teach.' We embed this pedagogic precept in both course processes and assignments. As is true for many social science courses, students are called upon to learn a suite of subject matter concepts central to each of the three main REM 601 course modules (Table 2). We employ many of the course concepts in this paper to illustrate both the trans-disciplinary importance of the concepts and the merits of teaching by example.

In lieu of examinations or standard research papers, we ask students to demonstrate mastery of course concepts through creative written explorations of situations in which suites of concepts are embedded and unleashed. Student papers use diverse literary forms (e.g., creative fiction and non-fiction, poetry, screenplays, etc.) and narrative contexts (e.g., travelogues, monologues, dialogues, parodies of popular songs, meeting transcripts, etc.) to bring the concepts to life in compelling situations. Many successful papers build upon specific characteristics of a common pool resource (e.g., a particular fishery, game species, forest, variety of native plant) and explore challenges stemming from the (over)use, degradation, and industrial management of these resources in distinctive contexts. Papers are graded on the basis of both breadth in the number of concepts engaged and depth in concept interplay and integration, as reflected in the details of the narrative scenarios. Some successful papers have used doggerel and parodies of popular song lyrics to describe actual solutions to real-world resource management problems. Others have devised emphatically fictional worlds in which unique forms of resource conflicts give rise to novel forms of cooperation and management.

Table 2 : Central course concepts for the three REM 601modules

PAPER 1	PAPER 2	PAPER 3
Common pool resources (CPRs) are subtractable	TEK/ LK vs. science	Characteristics of effective management leadership
CPRs are rivalrous and difficult to exclude (ab)users	Pattern thought	Communal vs. private tenure
Tragedy of Commons	Individual vs. group welfare	Elements of human–land connectivity
Game theory	Realism vs. constructivism	Harmonized resource and management scales
Prisoner's Dilemma	Process vs. outcomes	Cadastralization
Tit-for-tat strategy	Dialogue	Bureaucratic vs. ecosystem rationalities
Repeat/continued interaction (fosters cooperation)	How children learn	Science vs. 'non-science' emphasis in management culture
Egotists	Solidarity	Multi-disciplinary vs. interdisciplinary
Cultural factors influence economic behaviour	Ideologically driven rule making or enforcement	Organizational legitimacy
Limits of rational choice theory	Middle-range theory vs. grand theory vs. case studies	Top-down vs. bottom-up management
Institution vs. Organization	Property rights → more property rights→ better CPR management	Countervailing and triadic power
Transaction costs	Tiered management rights	Captured agency
Social capital	Individual vs. group rights	Characteristics of effective organizations
Human capital	Trust→social capital→civil society	Single- vs. double-loop learning
Physical capital	Nested enterprises	Structural, human resource, political, and symbolic management frames
Values driving market vs. state vs. community institutions	Ideology influences economy	Behavioural biases of bureaucracies
De jure vs. de facto rules	80/20 Rule	Micro-level leadership
Free-riding	Neo-classical CPR management	Citizen science
Efficient vs. effective	Institutional CPR management	Community-based management
Discount rate	Cultural ecology CPR management	Adaptive management
Perverse incentive	Features of successful community management	Servant leadership
Constitutional, operational, and collective choice rules	Features of sustainably managed, community-based fisheries	Managing in. up, out, through
Path dependence	Accountability mechanisms	Reframing: structural, political, human resources, symbolic
Scale-appropriate adaptive governance		

In much the same way that the three paper assignments oblige students to find or fabricate examples of course concepts, the persistent work groups engage students in the real-time, real-people collaborations (and conflicts) in pursuit of course objectives (Table 3). As our colleague David Schaepe quipped, 'Resource management is social science; we do it in groups.' Course assignments oblige students to work together to manage course processes and products as well as interpersonal dynamics. The longstanding design principles for these cooperative learning groups closely resemble the 'keys to successful group processes' identified on the basis of recent empirical studies designed to optimize the effectiveness of cooperative learning (Shimazoe and Aldrich, 2010:53). The REM 601 principles include unimpeded access to information, transparent rule systems, practical training in process skills, compositional balance within and among peer groups, use of peer feedback, and instructor responsiveness to individual and group needs and interests.

Implementation of these principles begins on the first day of class and continues through the term. We divide student participants into four–five work groups, each with five–seven students. If random assignment of students to work groups fails to balance representation of genders and Keirsey Temperament Sorter (Keirsey, 1998) characteristics less common among REM students—i.e., preferences for introversion (over extroversion), sensing (over conceptualizing), and feeling (over thinking) in information processing—then group membership is rearranged. MRM cohorts are generally dominated by three of the four clusters of Keirsey types: Guardians, Idealists, and Rationals (only a few Artisans through the years). Thus balanced, the groups are promptly assigned five sets of tasks designed to be more effectively completed in cooperation with other group members (Table 3).

Table 3 : Small group assignments, suggested steps to completion, and task-level learning objectives

Group Tasks	Recommended Process Elements	Intended Learning
Questions on assigned readings (18 sets of questions)	• Pre-class reading by all students • In-class group deliberating • In-class responding • After-class posting of written response to course Dropbox ™	• Reading focused on specific questions and group interests • Listening to group peers • Speaking to class peers • Negotiating workloads
Cooperative learning exercises (4–6 training opportunities in the initial two-thirds of course)	• Direct experience of selected course concepts • Visual-auditory-kinesthetic involvement in teaching and learning • Participation in and observation of group process • Discussion and feedback on exercise design and implementation	• Knowing personal temperaments and preferences for dealing with conflicts • Communicating across social boundaries • Listening actively • Discovering and harnessing group preferences, identity
Group Report (35 minute presentation in week 10)	• Identifying and analyzing operation of course concepts in real world • Producing and delivering multi-media presentation	Peer and instructor feedback criteria: • Course concept presentation • Concept linking, integrating, assimilating, extending • Deployment of member attributes • Presentation originality, creativity, effectiveness • Audience engagement
Group Process Report (20-minute presentation in week 12)	• Considering individual temperaments and conflict management styles • Reviewing passive and active management of group process • Analyzing effects of key modes and episodes in group process	• Identify group challenges and opportunities • Portray dynamics affecting collective and individual learning and team building
Peer Feedback (ongoing, then formalized in week 11 for inclusion in course mark)	• Assessing role(s) played by each team member in relation to others • Specifying links among role(s) played and group effectiveness • Assuring justice and parity in provision of quantitative and qualitative feedback • Balancing compassionate thoughtfulness and critical rigor	Peer feedback criteria: • Logistics– attendance, punctuality, participation • Substance– preparedness, contributions to course material synthesis, analysis, and group report form, content, and presentation • Process– enthusiasm, facilitation, feedback, promotion of learning

When coupled with peer feedback, intensive group work obliges members to determine how small groups can deploy member knowledge and temperaments to their collective advantage. Each group is self-regulating and each is encouraged, through various course structures and exercises, to develop and deploy capacities for collective learning and acting in pursuit of shared goals. As is true for all interpersonal process, good communication is essential. To this end, the second week of the course features a 'blind construction game' in which two students are given identical sets of wooden building blocks and asked to take turns playing roles of dictator-engineer and listener-builder. Screened from one another, with the listener-builder unable to ask questions or take visual clues, the first round of the game tends to instruct participants and observers in the importance of precise and empathetic communication. With the roles reversed, the second round tends to feature lessons in how team members quickly learn from situations and one another to perform at higher levels. This experience creates capacities to recognize that the prisoner's dilemma and tragedy of the commons (in which actors cannot or do not communicate with each other and therefore act only in their individual self-interest)—although all too common in resource management situations and literature—can be overcome by appropriate communication.

The following week includes an exercise intended to help students identify deeply personal values and preferences, some of which correlate strongly with Keirsey Temperaments. Inspired by Mary Douglas' (1986) book HowInstitutions Think, the cannibal-cave dilemma workshop empanels 601 students as an appeals court jury to decide the fate of a group of spelunkers Who, cut off from the outside world, decided by throwing dice which one would surrender his flesh so the others would live. In addition to the profound existential questions relating to individual and collective welfare, the jury deliberations tend to differentiate students from one another depending on whether their judgment of the surviving cannibals centers on (a) formal law; (b) contract they forged prior

to throwing dice, or (c) collective welfare, including those above the ground. The workshop highlights the roles of these respective valuejudgments as origins and drivers in forming and reforming State, Market, and Communal institutional formations. The exercise obliges students to situate themselves as sources of and actors in the inherently social process of making and enforcing rules, including environmental regulations on various scales.

We discuss two more course exercises to illustrate our commitments to building collective capacities for cooperative learning and acting, explicitly including substantive and consequential feedback. In weeks four or five, we ask the groups to devise, within basic parameters of active listening principles (i.e., physical orientation to hearing, paraphrasing, reflecting, clarifying, encouraging), processes and topics for an experiment in deepening their knowledge of group members and how to listen to one another. We encourage group members to take turns sharing, listening, observing the qualities of attention paid, and in the first of many feedback exercises, offering constructive suggestions on what would enhance and expand communications for both speakers and listeners. By week six we expect that the exercises, the group responses to questions on the readings, or some combination will have fostered interests and capacities for group management. At this point, as the middle of the term nears, we ask the groups to describe formal and informal rules that are emerging for conducting group discussions, assuring all group member views are heard and considered, reaching decisions, and providing feedback to optimize group participation and effectiveness. This assignment is delivered via an invitation to create a name, flag, credo, and system of rules—constitutional, collective choice, and operational—for a new 'nation' made up of the group members. We further suggest that the rules be tailored to support group members in managing ministerial portfolios to assure excellence in national self-sufficiency, self-governance, and reciprocal external relations. The results typically feature a combination of creative, comic, and customized arrangements that reveal developing insight into the complexities of self-directed team-building. As the groups accumulate direct experience with many course concepts, they emerge as microcosms for many common situations in actual resource and environmental management processes and organizations.

In-class workshops and group exercises notwithstanding, the demands and benefits of the group work are often elusive to students prior to their engagement with the Group Report. The intense collaboration required to plan and implement a research-based, teaching-focused analysis of an important topic in real-world resource and environmental management can be both exhilarating and vexing. Latent conflicts—even minor differences in preferences concerning the timing, location, and formality of meetings and task assignments—often bubble to the surface in the creative crucible of report preparation. These conflicts, many of which seem trivial yet have implications for group effectiveness are ideal proving grounds for group engagement with peer feedback.

The Group Process Reports, presented at least one full week after the completion of the Group Reports, provide members with an incentive to reflect in some detail on how their group formed, functioned, identified and addressed conflict, and performed under pressures defined by end-of-term workloads and audience anticipation. The purpose of the Group Process Reports is not to evaluate the 'hand' that each group was dealt in the REM 601 game, but how the hand was played—how the group applied course concepts and deployed its diverse members and other 'resources' to maximum advantage. The class at large and the instructors evaluate Group Process Reports based on the quality and candidness of the group's self-analyses. The provision in REM 601 for each member of each group to anonymously offer constructive written feedback as well as quantitative assessments of their peers helps to ensure students' careful attention to course process in general and group work in particular.

The cohort structure of the MRM program makes it inevitable that students will be future classmates, and often members of the same small work or task groups. This means REM students tend to assign low discount rates to future peer interactions and to take seriously their obligations to one another. We have found that REM 601 in general, and the 601 work groups in particular, provide exceptional contexts for bonding at group and cohort levels. Most students enter 601 with knowledge of one another based only on REM 698, the week-long, field-based introduction to resource and environmental management delivered immediately before the start of the fall teaching term. Upon exiting 601, most students commence closer associations with their respective, faculty-led research groups and their thesis-like research projects. The personal relationships fostered and professional capacities cultivated in REM 601 cut across and, importantly, precede barriers that naturally take shape as students' MRM programs and post-REM careers unfold. Anecdotes abound regarding the power and persistence of the bonding experience that is one of 601's most important, yet difficult-to-specify learning outcomes. One 2011 small group comes together to share a meal at least once a year. A 2009 team persists as a Face book™ group. As one former student said, '601 catalyzed our awareness of how lucky we were to be working together.' (Here and elsewhere, need to extract evidence from course feedback forms and other sources).

VII. Discussion: Appreciative, Experiential, and Collaborative-Transformational Learning

It would be useful to learn whether a similar emphasis on cooperation was effective in a non-cohort graduate program, but it has been useful in the REM MRM. Students routinely rate the course in the 'A' range and reports regularly reach us concerning the beneficial effects on student comprehension of resource and environmental management as an emphatically sociocultural process, albeit one that addresses issues and elements in the biophysical world.

We have designed and delivered REM 601 to help dismantle outmoded divisions between teaching and research, teaching and learning, and classroom and experiential education (Hutchings et al., 2011). REM 601 is, in part, an experiment in on-campus emulation of experiential education and student-centered learning (Rogers et al., 2013; Till et al., 2011). If experiential education is defined as the co-creation, with students, of opportunities to learn through exposure to, engagement with and reflection on activities designed to require applications of theories and concepts to practical matters, REM 601 qualifies. This definition allows for the inclusion of classroom-based learning as long as activities are systematically embedded in learning opportunities. More specifically, REM 601 qualifies as experiential because students are obliged to reflect on and integrate course content into their lived experiences. This integration occurs though role playing, group work, small group and plenary dialogues, the three creative papers, the Group Process Report, the peer and course feedback, and, after the term, in their varied careers. These processes situate individual students and student groups within course contexts and contents, thereby prompting student questions about relationships among these elements.

REM 601 encourages students to develop analytic skills and other social science tools for application to diverse issues in resource management. REM 601 students know when and how to apply the course concepts, when to ask additional questions, and where to find additional tools. Our course provides participants with opportunities to engage ideas and practices for harmonizing diverse and divergent interests in resource and environmental management contexts. In REM 601, students learn to recognize key differences in market, state, and community institutional frameworks for resource management and to assess situations in which each framework may be useful and other circumstances in which hybrids may lead to reciprocally beneficial outcomes. They are able to see and describe how cultural factors influence behavior, including economic behavior, and the limits of rational choice theory. They can apply elements of effective organizational leadership and model the characteristics of organizations capable of learning and changing what it does in response to what it has learned. Finally, REM 601 students are able to apply institutional design and decision-making principles that take social, cultural, economic, and political factors into account, and promote sustainable outcomes. They understand, on the basis of first-hand experience, how cooperation can develop, thrive and be harnessed in creative and satisfying initiatives that improve the conservation of common pool resources—including time—in the context of a 13-week course.

VIII. Conclusions

Environmental problems, including the institutional failure of resource management, are not likely to be solved by the replication of disciplinary focus and independent individual learning and acting (Moslemi et al. 2009; Wagner et al. 2012; Zurayk et al. 2010).The escalating values of 'stakes' in environmental decision making are boosting potentials for both conflict and its generally more constructive flip side, cooperation. Contrary to prevailing beliefs in Western culture—i.e., that aggressively asserted self-interest is innate and conflict inevitable—there are viable alternatives to violence and many routes to altruism. Research into factors and theories of cooperation and into managing relations between human communities and ecosystems has blossomed in recent decades, yet few published works delve into the important topic of how these research advances may be conveyed to students and resource management practitioners. Graduate students in particular need and deserve exposure to resource management crucibles involving the disparate ingredients of multiple participants, the pressure of short time frames, and the heat of divergent interests. We seek to prepare participants to enter such crucibles equipped not only with scholarly, second-hand familiarity with the factors that enable cooperation in resource management, but with at least a modicum of conscious first-hand experience in the effective management of conflict to achieve collectively desired futures. 601 students have the opportunity to examine both specific contextualized cases to understand their workings, and also develop a general grasp of how to judge whether any particular situation offers favourable conditions for the development of cooperative management.As future managers, they acquire tools to know the difference between a good bet and a poor prospect.

Finally, we think the privileges that accompany professorship—especially freedom of association, learning and expression—come with responsibilities to think and act beyond self-interest (Moore, 2005:326). As environmental educators, this responsibility translates into ethical mandates to do what we can to mitigate the

losses to ecosystems services through multi-scale research and action to identify biophysical and cultural heritage to be carried forward and how best to do so.

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A Model for Upgrading Teachers' Competenceon Operating Computer as Assistant of Instruction

By Dr. Muhammad Kristiawan

State University of Padang, Indonesia

Abstract- This research based on a preliminary study that the quality of teachers in Indonesia nowadays not much different from 2007. The teachers did not apply ideal teaching strategy, they did not realize the change of school based curriculum into curriculum 2013. The result of preliminary observation revealed that the teachers could not operate computer as well, the national result of teachers' competency test on August and October in 2012 was lowand also UNESCO (2011) stated that ICT in education policies have to tackle teacher competencies, learning materials, ICT equipment, student and teacher's motivation.

This study was aimed at implementing A Model for Upgrading Teacher's Competence on Operating Computer as Assistant of Instruction. This study related to recent research at Saudi Arabia, Turkey, India, United State of America, Iran, Kenya and Tanzania that the computer assisted instruction as a supplementary instructional strategy in effective teaching, it includes providing teachers with professional development, and in order to successfully implement ICT in educational practice.

A Research and Development (R&D) approach was conducted in this study. Ninety four (94) secondary school teachers were selected as sample by using purposive technique from five hundred fifty (550) populations that were used as pilot test to determine the effect of this model toward the teachers' competence on operating computer.

Keywords: model, teacher's competence, operating computer, instruction.

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The findings revealed that a model was considered valid, practical and effective. This conclusion is relevance to both teachers and the educational policy in Indonesia. This research implies needs to be consideration not just of how to bolt and weld computer science into the curriculum, but also how to ensure that teachers remain equipped to teach pupils fundamental ICT skills.

Keywords: model, teacher's competence, operating computer, instruction.

I. Introduction

This research started from a preliminary study that the quality of teachers in Indonesia nowadays not much different from 2007 before there was a teachers' certification (Media Indonesia, November17th, 2012). According to World Bank (2013: 73) teacher's certification"…shows no significant impact on learning outcomes". While the budgetary costs for this program was not less (Media Indonesia, November21st, 2012).

Table 1: Budget for Teachers' Certification

Year	Budget
2010	Rp. 14,95 trillion
2011	Rp. 23 trillion
2012	Rp. 33,7 trillion
2013	Rp. 48,2 trillion

The World Bank's conclusion was obtained after researching since 2009 in 240 public primary schools and120 secondary school in Indonesia, involving 39.531 students. Test resulted between students were taught teachers certified and not certified for Mathematics, Indonesian, English, and Natural Science were compared. As a result, there is no influence of the teachers' certification program toward students' learning outcomes, both in primary and secondary schools (World Bank, 2013: 71-72). Jalal (2012) at the World Innovation Summit for Education (WISE) in Doha, Qatar, on November 15th, 2012 also described "the certification did not change the quality of learning in the classroom. Teachers' mastery of subject and the pedagogy was weak".

Professor of Education of New Zealand, John Hattie did a meta-analysis of more than 800 factors that affect the quality of education, the results were related to the teacher. "The quality of teachers had value doubled impact than the curriculum" (Media Indonesia, April 8th, 2013).There had been many studies which stated that the quality of teachers is low and needs to be improved, but the classical learning approach his still well-liked by teachers as efficient in the use of time, in addition, it is also economical and practical in delivering learning content. Teachers argued that the classical learning approach will easily control the speed of teaching so it is easy to determine when the completion of the delivery of the entire contents of the lesson. However, admittedly not always learning with classical learning approach can take place properly. According to Wena, (2009: 202) negative symptoms often complained by the teacher that"…the students became quickly bored and dis not pay attention to the material".

Istiqomah & Sulton (2013: 2) stated that "…the low quality of teachers was seen from the results of the implementation of the Teachers' Competency Test (UKG) obtained results were quite alarming. Average grades UKG nationally was 44".

Author: State University of Padang.
e-mail: muhammad.kristiawan@yahoo. co.id

Table 2 : Score of Teachers' Competency Test

http//:ukg.kemendikbud.go.id/

Score of Teachers' Competency Test			
Level	Highest Score	Lowest Score	Average
Kindergarten	80	1.0	44
Elementary School	83	1.0	40
High School	78	1.0	36
Secondary School (Subject: Mathematics)	88	1.0	51
Secondary School (Subject: English)	92.86	7.14	45
Secondary School (Subject: Sport)	86.67	13.33	6
Secondary School (Subject: BAM)	88	2.0	51

According to Istiqomah & Sulton (2013:2) "the low grade UKG teachers was influenced by many factors. Among these factors was the lack of teachers in pedagogy and less familiar for teachers to operate a computer". It was also indicated that "the training of teachers that had been done showed some weaknesses still occurred" as expressed by Kompas, December 29th, 2012.

Based on several empirical studies, the drawbacks of computer use as assistant of instruction is considered one for the appropriate solution. Utilization of computers in instruction brings change tradition. Utilization of computers in the instructional system can be self-regulated learning (instructor independent) or also combined with the directly instructional process (face-to-face in the classroom) that rely on the presence of the teacher.

According to Wena (2009: 202) "instructional model/instructional resources related to ICT and now becomes the attention of the world is a computer assisted instructional model and learning through electronic media (e-learning) based web-based learning (WBL)". This is in line with the changes in the School Based Curriculum (KTSP) to Curriculum 2013. Where elements of the curriculum changes for secondary school is directed to "ICT becomes a learning tool (integrated) in all subjects, or do not stand alone" (Public Test Materials Curriculum 2013 Kemendikbud, November29th, 2012).

From the preliminary observations made by researcher at the Secondary School teachers which consisted of 24 teachers for Mathematics, English, Sportand Budaya Alam Minang kabau at Public Secondary School 1, 8, 31, 34, 17 and 33 indicated that the Padang teachers of Secondary School still use classical approach of learning.

Table 3 : The Result of Preliminary Observation At Secondary Schools' Teachers of Padang in Utilizing Computer as Assistant of Instruction

School	Score	Criteria
Secondary School 1	70,00	Good
Secondary School 8	56,25	Fair
Secondary School 31	49,38	Fair
Secondary School 34	49,38	Fair
Secondary School 17	36,25	Poor
Secondary School 33	32,19	Poor

From the observation that the average ability of teachers of Public Secondary School 1 Padang in using the computer as assistant of instruction was poor. The result is explained on the table below.

Table 4 : Level of Achievement 24 Teachers

No.	Teachers' Competence	Achievement	Criteria
1	Utilize computer as assistant of instruction	43.33	Fair
2	RunsoftwarePowerPoint	45.83	Fair
3	Use LCD in instruction	42.50	Fair
4	RunMicrosoftExcelto calculate students' score	59.17	Fair
5	UseEmailto collect students' assignment	31,67	Poor
6	Make animation to produce an instruction fun	44.17	Fair
7	Publish materials on line	34.17	Poor

A Model for Ugrading Teachers' Competence on Operating Computer as Assistant of Instruction presented significant based on the continuing professional development through Information and Communication Technology (ICT). This model is in line with the latest research in Saudi Arabia which was released by Al-Madani & Allaafiajiy (2014) that" teachers' continuous training and the use of modern technology devices do not only help boost country's manpower but also invigorate the country's economy to compete well in this challenging world of the globalization". Then, this research is related to the finding in Turkey which was produced by Basoz & Cubukcu (2014) that recently the computer assisted instruction"…has come to the forefront of language learning and teaching". Next, this research is related to the lately finding in India which was released by Chaudari (2013) that the computer assisted instruction"…a supplementary instructional strategy in effective teaching".

This research is also related to the late finding in Iran which was written by Karami, Karami & Attaran (2013) concluded that"…trainee teachers who integrate problem based learning with ICT in solving a problem may develop more professional content knowledge and teaching skill". This research is related to the finding in Tanzania which was released by Ndibalema (2014) concluded that "…low familiarity with ICT use as a pedagogical tool among teachers was found to be a problem. The use of ICT as a pedagogical tool in Tanzania seems to be a critical situation among teachers". Next, this research is also related to the research in Kenya which was produced by Nyambane & Nzuki (2014) that"…integrating technology into classroom practices is one of the challenges the 21st century teachers face. Professional development, accessibility of ICT resources influence teachers' adoption and integration of technologies into their classrooms".

This research is presented because the computer will give new power in improving teachers' competence and students' motivation. This reason asks the education to utilize computer as assistant of instruction. Today's development issue about computer was written by Bennet (2012) that computer assisted instruction "…includes providing teachers with professional development, encouraging interaction, providing students with suitable technology, and selecting students with skills to work indepently". Next, Voogt, Knezek, Cox, Knezek & Brummelhuis (2013) also stated on their finding that seventy international policy makers, reseachers and practitioners of education "…developed a Call to Action, where policy, research, and leadership need to join forces in order to successfully implement ICT in educational practice".

Beechler & Williams (2012) supports this research where he found computer in United State of America"…assist ESL students learn basic sight words is effective and enhances motivation". Siddiqui & Khatoon (2013) also supports this research where he found computer assisted instruction India "…was more effective in enhancing the students' achievement in Physical Science than traditional instruction". Next, Premalatha (2012) stated on his finding that computer assisted instruction "…providing learners with conducive environment at school and home by motivating them to involve in studies and making learning interesting". Then, this research is related to the recent ICT policy on education based on UNESCO (2011: 1) ICT on education is to upgrade"…teacher competencies, learning materials, ICT equipment, student and teacher motivation". UNESCO (2011: 3) concluded that the framework of continuing teachers development in using ICT for"1) enabling students to use ICT; 2) enabling students to apply their knowledge to real-world problems; and 3) enabling students create the new knowledge required for more harmonious".

The model on this research consists of Microsoft Word 2007; Microsoft Excel 2007; Microsoft PowerPoint 2007; Email: Face book; Blogging; Quiz Creator; Adobe Photoshop; Adobe Flash; dan You tube. The materials are presented based on curriculum 2013 (Kemdikbud, 2013: 164) which has "observing; questioning; exploring; assosiating; and communicating". Each phases which is related to ICT, the teacher should show the video or picture where is obtained through You tube; Adobe Photoshop and Macromedia Flash. Then, the teacher should ask the students to submit an assignment through Email and they calculate the scores by using Microsoft Excel. The model on this research is related to the finding in Ghana which was written by Amenyedzi, Lartey & Dzomeku (2012), he found that internet and computer "…helped students to achieve new things such as finishing assignments, solving problems, learning history of other countries, improving typing skills, and chatting with friends". According to Amenyedzi, Lartey & Dzomeku (2012) "teachers used the internet as an innovative way of improving teaching and learning, used the Internet for e-mail and browsing and computer and Internet usage as supplementary educational material to enhance quality education".

This research is supported by the research of Microsoft Word in Iran which was released by Kazem, Bafghi & Allami (2011) that Computer Assisted Instruction based Microsoft Word "…caused a statistically significant scores of the experimental and improved their language proficiency, this new method is much more effective compared to the traditional lecturing method". Then, this research is related to the finding of Microsoft Word in United State of America which was released by Stock meyer (2009) that the programs of Microsoft Word"…have made it almost as easy to assess the readability of a document as it is to

check its spelling". Next, this research is related to the finding of Microsoft Word in Irak which was produced by Sarsoh, Hashem & Hendi (2012) concluded that"…to hide the secret message in original text, and retrieve the original text after the determination of hidden data obtained results between the original text and the text contains the hidden data shows that the two texts are virtually identical".

The next finding related to this research was Microsoft Excel in Dallas which was written by Elliot, Hynan, Reisch & Smith (2006) stated that Microsoft Excel "…will save researchers' time and money and result in a data set better suited to answer research questions". The next relevant research was Microsoft Power Point in United State of America which was released by Bartsch & Cobern (2003) stated that slide Power point "…can be beneficial, but material that is not pertinent to the presentation can be harmful to students' learning". The next research related to this research is Adobe Photo shop which was produced by Wexler (2012) that Adobe Photoshop "…extended adds the highest quality imaging toolset and broadest range of digital imaging cap abilities". Next, this research is related to the finding of Macromedia Flash which was produced by Sutopo (2011) that Macromedia Flash "…with Action Script, which classify into design factor, multimedia factor, and programming factor, succeeds in generating algorithm visualization".

The next finding related to this study was Quiz Creator released by Rochmah (2013)"there is a system of evaluation of the effectiveness ratio test electronic form using Wonder share quiz creator and paper test in terms of student achievement test on the material word processing application". Then, this research is related to the finding of Email in United State of America which was written by Meho (2006) stated that email"…can be in many cases a viable alternative to face-to-face and telephone interviewing". The next relevant finding was email in India which was produced by Ban day (2011) there needs"…a major educational campaign to aware e-mail users about e-mail security issues and train them in use of security protocols and procedures".

The next relevant study is Blogin Germany which was produced by Schmidt, Wilbers & Paetzolt (2006) a software Blog is "…would not only reach a refined understanding of this relatively new phenomenon, but also contribute to a better understanding of computer-mediated communication and interaction in general". Then, this study is related to the finding Blogin Australia which was written by Hook way (2008) that Blog since 1999 "…have become a significant feature of online culture and a new addition to the qualitative researcher's toolkit and some of the practical, theoretical and methodological". The next relevant study was You tube in Florida which was released by Chenail (2008) that You tube offers"…video clips introducing basic qualitative research concepts, sharing qualitative data from interviews and field observations, and presenting completed research studies". The next relevant finding was Face book in Malaysia which was written by Esteves (2012) stated that Face book"…proved to be an effective tool in enhancing the delivery of a distance education course. It was effective for teaching and enriching practical skills courses delivered online".

The use of computers in education and learning can be used to help learning more effective. Computer plays a major role in learning, because the Computer enable to assist educators in facilitating learning, even to motivate and accelerate students' learning. However there was a research related to computer assisted instruction in Nigeria produced by Imhanlahimi & Imhanlahimi (2008) stated that "…expository method of instruction was superior to computer assisted learning strategy in teaching biology". Through learning and training by using A Model for Ugrading Teacher's Competence on Operating Computer as Assistant of Instruction by accessing www.kristiawan-edu.comexpected instructional materials presented by the teacher in the future become more interesting and motivating the students and enable to solve the problems that researcher described above.

II. Research Design

This study was Research and Development. According to Gay, Mills and Airasian (2009: 18) and Gay, Mills & Airasian (2011: 17-18)R & D on education is "the process of researching consumer needs and then developing products to fulfill those needs. It is not to formulate or test theory but to develop effective products for use in schools". According to Borg & Gall (1989: 782) and Plomp (2013: 13) R & D is "a process used to develop and validate educational products (development studies and validation studies)". Plomp (2013: 13) explained "development studies aimed at design principles, and validation studies aimed at theory development and validation". The product was meant by Borg & Gall (1989: 782)and Gay, Mills & Airasian (2011: 18) is "…not only textbooks, instructional films, and computer software, but also method of teaching, and programs, the products are field tested and revised until a prespecified level of effectiveness is achieved". According to Trian to (2010: 206) R & D is "the steps to develop new product".

According to Plomp (2013: 11) Educational Design Research means "a research design appropriate to develop research-based solutions to complex problems in educational practice or to develop or validate theories about learning processes, learning environments and the like". Plomp (2013: 13) argued that the function to design and develop is "what are the characteristics of an effective teaching and learning strategy aimed at acquiring certain learning outcomes?".

This definition concluded that Educational Design Research is a process to design and develop new product such program; instructional strategy and materials which needs validation.

The steps paradigm on this research related to Borg & Gall (1989: 782)that consists of"…studying research findings pertinent to the product to be developed, developing the products, field testing it where it will be used, and revising it, this cycle is repeated until the fiel-test data indicate that the product meets its behaviorally defined objectives".

Research and development in this research was aimed to answer the World Bank's survey as well as the implementation of Curriculum 2013 in accordance with National Law of Indonesia Number 20 of 2003, National Law of Indonesia Number 14 of 2005 and Governmental Rule Number 19 of 2005 revised to Governmental Rule 32 of 2013 and the Rule of National Minister of Education Number 16 of 2005.

Model of research and development in this study followed the ADDIE model (Analysis, Design, Development, Implementation and Evaluation) (Dick & Carey, 2001: 4). The ADDIE model is to describe a systematic approach. All elements of the model are interrelated each other starting from analysis, design, development, implementation and evaluation.

1. Analyze, in this phase, researcher conducted Need Analysis; Contextual Analysis; and Theory Analysis.
2. Design, in this phase the researcher made a frame building concept of A Model for Ugrading Teacher's Competence on Operating Computer as Assistant of Instruction in the form of web-based learning. The design was made in accordance with the results of need analysis conducted on the sample.
3. Development, in this phase the researcher developed A Model for Ugrading Teacher's Competence on Operating Computer as Assistant of Instruction based on a design that has been developed and the focus is on the presentation of the material. Then, the model was given to the validator for validation. The model that has been validated by a validator then tested and refined at the Focus Group Discussion.
4. Implementation, in this phase A Model for Ugrading Teacher's Competence on Operating Computer as Assistant of Instruction that had been validated and tested at the Focus Group Discussion then applied in the learning process on operating computers to improve the teachers' competence at Public Secondary School 1, 8, 31, 34, 17 and 33 Padang in order to determine the practicalities and effectiveness of its implementation. According Sugiyono (2012: 417-418) effectiveness testing is done "to see the state based on before-after study". Before carrying out this activity, researcher prepared teachers (students in the sample), computer's experts, Instructional media and set up a study room. Implementation of this model used quasi-experimental design that used pretest and test the ability of the end (posttest) to determine the mean score performance (gain score) of learning outcomes by using A Model for Ugrading Teacher's Competence on Operating Computer as Assistant of Instruction.
5. Evaluation, in this phase the researcher conducted an evaluation of the model. Evaluation was done in each phases to see the relation between the design and analysis, design and development and the development and the application. Evaluation was done to tell what was happening and what had happened. Evaluation was done twice, there were formative evaluation and summative evaluation. According to Laws, Harper and Marcus (2011: 205)"a formative evaluation helps you to form the project by giving ongoing feedback as the process unfold", and summative evaluation was posttest to see the effect of A Model for Ugrading Teacher's Competence on Operating Computer as Assistant of Instruction toward teachers' competence on operating computer.

The population in this study consisted of 550teachers from Mathematics, English, Budaya Alam Minangkabau (BAM) and Sport. The population was taken from the teachers who teach the subject related to National Examination (UN) and did not teach in the National Examination (UN). The samples used in this study as a source of data were drawn from the best criteria (Accreditation A); medium criteria (Accreditation B); and ordinary criteria(Accreditation C) . The samples in this study were teachers of Mathematics, English, BAM and Sport Secondary School 1, 08, 31, 34, 17 and 33 in Padang which consists of 94 teachers.

The research instruments used for data collection were interview, observation, questionnaires, tests, and documentation. Test instrument in this study was achievement test. The test was used to see before and after applying a model. Before the tests used by researcher, firstly it was tested on Public Secondary School 2, 7, 13, 25, 15 and 26 in order to analyze the level of difficulty; distinguishing; validity and reliability.

III. Findings

a) Secondary School Teachers of Padang in Utilizing Computer as Asisstant of Instruction

From all the data either observation and interview can be concluded that Secondary School Teachers of Padang did not utilize the computer as assistant of instruction. The score from observation was 40. 53, it indicated that the competence of teachers to utilize the computer as assistant of instruction was poor. It showed that a product was needed to be presented to overcome the weaknesses of teachers in the use of computer as assistant of instruction related to the demand of curriculum 2013.

b) Developing A Model for Ugrading Teacher's Competence on Operating Computer as Assistant of Instruction

Empirical data were found through the questionnaire in Need Analysis suggested that the answer to the needs of Secondary School Teachers of Padang 1, 8, 31, 34, 17 and 33 on purpose, material, technique and follow-up assessment in a model, average respondents chose very need. Need Analysis of Secondary School Teachers of Padang and each teachers per subject were as follows

Table 1 : Summary of Teachers' Responses Per Secondary School toward Model

No.	Secondary School	Percentage Needs	Criteria
1	1	85.36%	Very Need
2	8	83.93%	Very Need
3	31	94.17%	Very Need
4	34	96.76%	Very Need
5	17	94.61%	Very Need
6	33	91.55%	Very Need

Tabel 2 : Summary of Teachers' Responses Per Subjects toward Model

No.	Teachers' Subject	Percentage Needs	Criteria
1	Mathematics	90.02%	Very Need
2	English	92.75%	Very Need
3	BAM	91.42%	Very Need
4	Sport	90.02%	Very Need

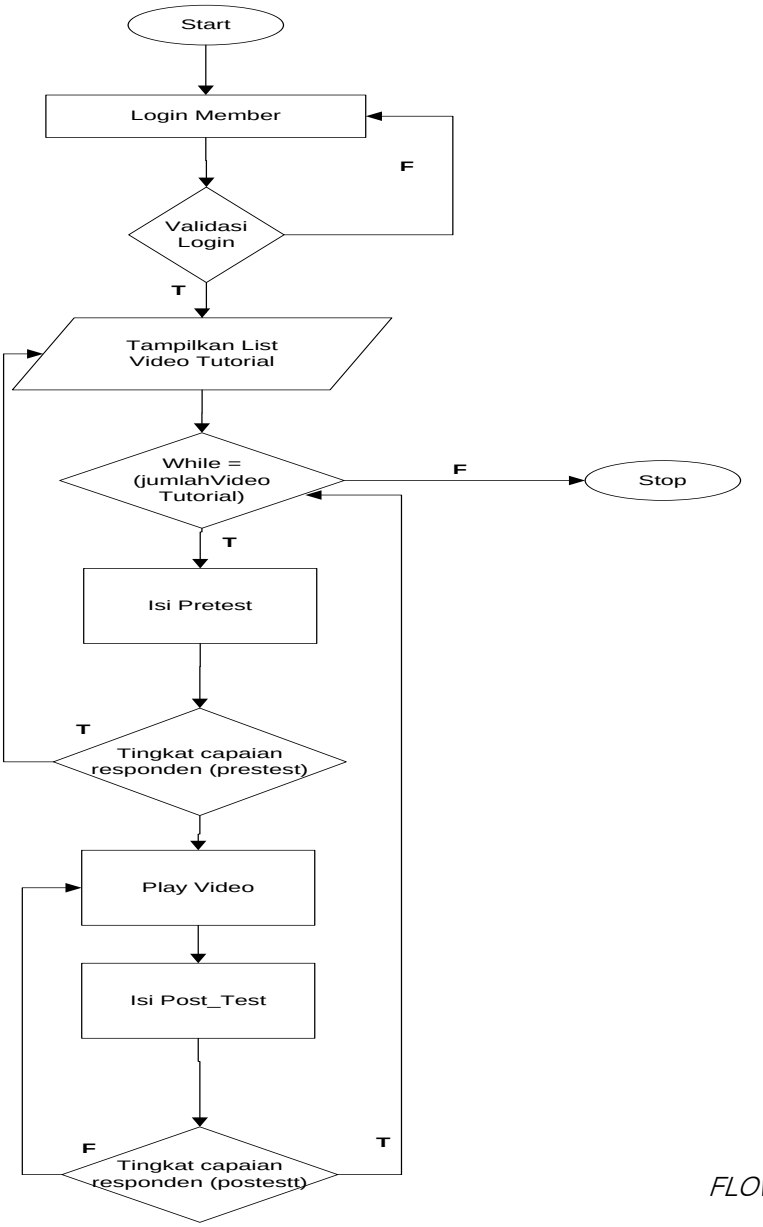
Furthermore, researcher conducted a Contextual Analysis where the model was applied. The model applied in Public Secondary School 1, 8, 31, 34, 17 and 33 of which were already using the Wireless Local Area Network (WLAN) or Wi-Fi (Wireless Fidelity). Furthermore, the schools already had a Computer Laboratory; and teachers also had a laptop. This was consistent when applying a model in the form of web-based learning.

The last, researcher conducted Theory Analysis associated with CAI (Computer Assisted Instruction). CAI is the use of a computer directly to the students about the content of the lesson, provides training and testing the students' progress. CAI is the use of computer as a tool in education and teaching. CAI helps students understand the material and can repeat the material over and over until the students master the materials. According to Bright (1983: 144-152), when compared to traditional teaching approaches, CAI is very effective and efficient. The students will learn faster, master the subject matter more and remember more of what they have learned.

In a meta an alysisKulik and Kulik (1991: 75-94) the results of research on the effectiveness of CAI for 25 years, concluded that: 1) students learn more materials from the computer; 2) students remember what they have learned through CAI longer; 3) students need a little time; 4) students feel more comfortable in the classroom; and 5) students have a positive attitude toward computer. Criswell (1989) defines CAI (Computer Assisted Instruction) means deliver instructional materials to actively engage learners and to allow feedback.

In the design phase, the researcher made a frame building concept a model in the form of web-based learning. The design was made in accordance with the results of the need analysis conducted on the sample. The design here described an overview of the work flow system. The picture was stratified, the upper level was log in and the lowest level there was the level of achievement of the respondents.

This model is also called the layered models. In this model system consists of a set of layers, each of which Provide specific services. Each layer is an abstract machine whose services are used in the abstract machine at the next level. Training teachers in a model occurs at the level of Play Video



FLOWCHART

Flowchart Explanation

1. Member does login based on username and password;
2. Then the application will read the database to determine if the username and password that is entered is valid or not. If invalid, then the member will be asked again to enter the username and password correctly;
3. If valid, then the member will go to the member page which displays a list of video tutorials that can be done;
4. Then the member chooses to carry out the first video tutorials, and filling pretest questions are provided;
5. If the level of achievement of the respondent in accordance with the standards set value, then the passed member can continue to work on the next video;
6. If it does not pass, then the member will be required to watch the video tutorials to further advance work on the posttest;
7. If the results of posttest achievement level does not meet the standards set value, then the member is asked to watch back the video tutorial; and
8. If the level of achievement of the respondents are in accordance with the standards set value, means the member is passed and can work on the next tutorial.

In the development phase, researcher developed a model based design had been prepared and the focus was on the presentation of the materials. Then the model was given to the validator to be validated and tested in a focus group discussion. A model developed in accordance with the design principles of competence expected in the materials were designed such Microsoft Word 2007; Microsoft Excel

2007; Microsoft Power point 2007; Adobe Photoshop CS 3; Macromedia Flash 8; Quiz Creator; Email; Blogging; Face book; and You tube Downloading.

1	Microsoft Word 2007	1. Teachers are able to access Microsoft Word 2007; 2. Teachers are able to use the toolbar on Microsoft Word 2007; and 3. Teachers are able to use Microsoft Word 2007 for making a letter at school and understand the format.
2	Microsoft Excel 2007	1. Teachers are able to access Microsoft Excel 2007; 2. Teachers are able to use the toolbar on Microsoft Excel 2007; and 3. Teachers are able to calculate the students' score related to the example given.
3	Microsoft Powerpoint 2007	1. Teachers are able to access Microsoft Powerpoint 2007; 2. Teachers are able to usethe toolbar on Microsoft Powerpoint 2007; and 3. Teachers are able to create slide for presentation related to the example given.
4	Adobe Photoshop CS 3	1. Teachers are able to access Adobe Photoshop; 2. Teachers are able to create picture and wallpaper on the new blank; and 3. Teachers are able to give the effect on the picture.
5	Macromedia Flash 8	1. Teachers are able to access Macromedia Flash 8; 2. Teachers are able to use the toolbar on Macromedia Flash 8; and 3. Teachers are able to create a simple animation.
6	Quiz Creator	1. Teachers are able to access Wondershare Quiz Creator. 2. Teachers are able to use the toolbar onWondershare Quiz Creator. 3. Teachers are able to create a simple quiz by usingWondershare Quiz Creator.
7	Email	1. Teachers are able to access email; 2. Teachers are able to register on email; and 3. Teachers are able to use email, such send and receive an email to the collage and pupils by enclosing file, and understand inbox and outbox.
8	Blogging	1. Teachers are able to access Blogger; 2. Teachers are able to enroll for making personal blog; and 3. Teachers are able to post materials on blog.
9	Facebook	1. Teachers are able to access Facebook; 2. Teachers are able to enroll and create an account on Facebook; and 3. Teachers are able to create group for instruction.
10	Youtube Downloading	1. Teachers are able to accessYoutube; 2. Teachers are able to use the navigation on youtube; and 3. Teachers are able to searchinstructional video and download it.

The final conclusion of the validation revealed that model can be used with the revision, it got 83.20 (very good). Validation results were then tested and refined on focus group discussions which were held on 29 November 2013. Results of the focus group discussion stated that a model was very good.

In the implementation phase, researcher with schools prepared teachers in the study sample, computer experts, instructional media (computer / laptop and LCD) and set up a study room. Furthermore, researcher tested the effectiveness and practicalities of the model.

The results of t-test analysis from per secondary school and per subject teachers explained that $t\text{-}_{coun}t$ on a model was greater than $t\text{-}_{table}$ (39,310> 2,000) and the value of the P_{value} was very small with acquisition values Sig. (,000) $<\alpha$ (0,05). It was concluded that the model was effective for Secondary Schools of Padang. Furthermore, in the implementation phase, the researcher also distributed questionnaires about the practicality of a model and the result revealed that the model was practical. It was seen from 80,9% respondents stated that the model ease them and motivate the to operate computer as assistant of instruction.

In the evaluation phase, researcher conducted an evaluation of the learning process, which was carried out to look at the harmony of the implementation of the model with the design created. Then the results of the evaluation conducted by the posttest to see the level of achievement of the respondents from the pretest and after the training by using model was given.

The results of the evaluation process of the entire secondary schools concluded that the model was implemented in accordance with the design. The results of the evaluation on the overall results indicated that a model influential and meaningful, because there was an increase in the value of the respondents before and after the training was done both persecondary schools and per subjects. The interesting thing was it turned out the teachers' evaluation of BAM better results compared with the Mathematics. This happened because the level of willingness BAM to learn more than in the Mathematics teacher.

The evaluation answered the research which were done by Sujianto, Mukhadis & Isnandar (2012). The finding concluded that continuing professional development on teacher's certified of vocational school Malang Raya "…still poor because the score was 61,

99% (the teachers could not operate computer as assistant of instruction)".

IV. Discussion

The findings revealed that a model was valid, practical and effective. The findings of the research related to the continuing professional development. The findings were supported by the research in United State of America which was written by Wallace (2004), he developed a frame work for teachers on teaching by using internet, He stated that "teachers are not well prepared to teach with the Internet, and its use is limited in scope and substance, the result of framework was effective". However the research in Greece which was produced by Vernadakis, Zetou, Antoniou & Kioumourtzoglou (2002) concluded that "there were no significant difference between Traditional Instruction and Computer Assisted Instruction, using Multimedia Technology as a teaching aid is as effective at teaching skills as the traditional method".

The findings of this research were supported by the research in Texas which was written by Galvis, Ishee & Schultz (2011), they concluded that "there were significant difference between instruction by using Computer Assisted Instruction and Traditional Classroom Lecture. CAI spent time 46% faster than TCL". The findings were also supported by the research which was done by Tsai (2001), he concluded" both constructivist-oriented learning theory and Internet-based instruction are relatively new approaches in teaching science. The integration of these two approaches is expected to produce better learning outcomes for students". The findings on this research were related to the finding in Tennessee which was released by Thompson & McNutt (2009) that Microsoft PowerPoint "…showed effective presentation and make effective use of visuals". The next relevant study related to this research was the finding in Canada which was produced by Schein, Wilson & Keelan (2010), they found"…an abundance of both informal health conversations related to public health issues and organized health-related activities on leading social media platforms such as YouTube, Twitter, and Face book".

The next relevant study related to this research was the finding in Indonesia which was done by Surjono (1999) that "there were researches showed the use of computer on instruction did not maximum". The next relevant study related to this research was written by Davidson & Santorelli (2010), they found "the effect technology toward education had become research subject for years". The findings on this research were also supported by the research which was produced by Mbarika, Payton, Kvasny & Amadi (2007), they concluded that" women in Sub-Saharan Africa historically as a farmer. Nowadays, it goes to change as well as the growth of ICT on education".

The next relevant study related to this research was the finding in London, South Africa and Asia which was released by Carmichael & Honour (2002), concluded that "open source must become an alternative for commercial organization and the product in education". The findings in this paper were also supported by a study in Turkey which was written by Basturk (2005)that the "participants' learning capacity of the introductory statistics could be improved successfully when CAI used as a supplement to regular lecture in teaching introductory statistics course". The findings of the research in this paper were also supported by research in Caroline which was conducted by Jeffs, Evmenova, Warren & Rider (2005), the study revealed that computer assisted instruction is "effective complement to other activities associated with the first grade curriculum (spelling and decoding) and has potential to enhance students' reading and writing skills".

The findings of the research in this paper were further supported by the research in Malaysia and Iran which was produced by Yunus&Salehi (2012) that the group on Face book "…improved the teaching writing, it needs to carry out this study as it provides a platform to discover pedagogical implications that would benefit the Y-generation in terms of improving their writing skills". The findings in this paper were also related to the research in Turkey which was released by Acikalin (2010), he concluded that computer is "a powerful research tool which facilitates students' work and makes the work faster and easier for the students. Microsoft Power Point, Word, and Excel were the most common use of computer-supported instruction in the classrooms". The Joint Information System Committee (JISC) (2004) in London also concluded that "e-Learning improved the learning experience. It has the potential to transform the way we teach and learn across the board. It can raise standards, and widen participation in lifelong learning".

The findings in this paper then supported by the finding in Malaysia which was written by Noordin, Ahmad & Hooi (2011) that "a multimedia courseware using 3-Dimensional (3D) model for teaching a mathematical topic on Lines and Planes in 3-Dimensions showed significant improvement in attention, response and recall of the content". The findings in this paper were also supported by a study in Canbera, Australia and Cambridge which was released by Craswell, Hawking & Robertson (2001), they concluded Website "…opens a rich new area for effectiveness improvement, where traditional methods fail". The findings in this paper were also related to the finding in United State of America which was produced by Dunmire (2010) that the educators"…must factor into the adoption analysis, the ease of use of the technology. The desired effect of increased learning can only be achieved if teachers understand the technology and understand how to manipulate it".

The findings of this research were then supported by the research in Pakistan which was released by Kausar, Choudhry&Gujjar (2008),they found that Computer-Assisted Instruction"…as an effective teaching method should be applied to improve teaching quality and by using CAI it will be possible to eliminate lingual, regional and ethical biases between teacher and student". The findings of the research were also related to the research in Lincoln which was produced by Scheckelhoff, Swarlis & Murakami (2010) that the teenagers must be prepared to love tekhnologywhen"1) they have regular and predictable access to technology, 2) there is social connectedness with technology, 3) spatial ability is developed beginning in their early years of education, and 4) they have skill".

The next relevant study was in South Africa which was written by Alant & Dada (2005), they found that "students felt they gained greatly from the course and that the web-based teaching methodology facilitated their learning in various ways". Next, the findings were related to the research in South Africa which was produced by Fresen & Boyd (2005), they found that web based learning"…used in conjunction with measurements to inform the cycle of continuous improvement and to provide management information". The last, the findings were relevant with the research in New York which was launched by The Association of Business Information & Media Companies (2013) that "while digital marketing tools abound, email remains one of the most prominent, effective and personal marketing platforms we have for reaching our customers".

V. Conclusion

This study concluded that (1) Secondary School teachers of Padang were not utilizing the computer as assistant of instruction. The score from observation was 40.53, it indicated that the competence of teachers to utilize the computer as assistant of instruction was poor; (2) the results of the development concluded that a model was valid, practical and effective. The validation score was 83.20 (very good). The model was practical, it was seen from 80, 9% respondents stated that the model ease them and motivate the to operate computer as assistant of instruction. The was also effective, it was seen from the results of t-test analysis from per secondary school and per subject teachers explained that $t\text{-}_{count}$ on a model was greater than $t\text{-}_{table}$(39,310> 2,000)and the value of the P_{value} was very small with acquisition values Sig. (,000) $<\alpha$ (0,05).

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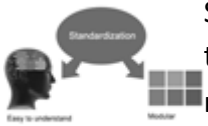
We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The FARSHS can go through standards of OARS. You can also play vital role if you have any suggestions so that proper amendment can take place to improve the same for the benefit of entire research community.

As FARSHS, you will be given a renowned, secure and free professional email address with 100 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.



The FARSHS will be eligible for a free application of standardization of their researches. Standardization of research will be subject to acceptability within stipulated norms as the next step after publishing in a journal. We shall depute a team of specialized research professionals who will render their services for elevating your researches to next higher level, which is worldwide open standardization.

The FARSHS member can apply for grading and certification of standards of the educational and Institutional Degrees to Open Association of Research, Society U.S.A. Once you are designated as FARSHS, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria. After certification of all your credentials by OARS, they will be published on your Fellow Profile link on website https://associationofresearch.org which will be helpful to upgrade the dignity.

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MEMBER OF ASSOCIATION OF RESEARCH SOCIETY IN HUMAN SCIENCE (MARSHS)

The ' MARSHS ' title is accorded to a selected professional after the approval of the Editor-in-Chief / Editorial Board Members/Dean.

The "MARSHS" is a dignified ornament which is accorded to a person's name viz. Dr John E. Hall, Ph.D., MARSHS or William Walldroff, M.S., MARSHS.

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We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The MARSHS member can apply for approval, grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A.

Once you are designated as MARSHS, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria.

It is mandatory to read all terms and conditions carefully.

AUXILIARY MEMBERSHIPS

Institutional Fellow of Open Association of Research Society (USA) - OARS (USA)

Global Journals Incorporation (USA) is accredited by Open Association of Research Society, U.S.A (OARS) and in turn, affiliates research institutions as "Institutional Fellow of Open Association of Research Society" (IFOARS).

The "FARSC" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FARSC or William Walldroff, M.S., FARSC.

The IFOARS institution is entitled to form a Board comprised of one Chairperson and three to five board members preferably from different streams. The Board will be recognized as "Institutional Board of Open Association of Research Society"-(IBOARS).

The Institute will be entitled to following benefits:

The IBOARS can initially review research papers of their institute and recommend them to publish with respective journal of Global Journals. It can also review the papers of other institutions after obtaining our consent. The second review will be done by peer reviewer of Global Journals Incorporation (USA) The Board is at liberty to appoint a peer reviewer with the approval of chairperson after consulting us.

The author fees of such paper may be waived off up to 40%.

The Global Journals Incorporation (USA) at its discretion can also refer double blind peer reviewed paper at their end to the board for the verification and to get recommendation for final stage of acceptance of publication.

The IBOARS can organize symposium/seminar/conference in their country on behalf of Global Journals Incorporation (USA)-OARS (USA). The terms and conditions can be discussed separately.

The Board can also play vital role by exploring and giving valuable suggestions regarding the Standards of "Open Association of Research Society, U.S.A (OARS)" so that proper amendment can take place for the benefit of entire research community. We shall provide details of particular standard only on receipt of request from the Board.

The board members can also join us as Individual Fellow with 40% discount on total fees applicable to Individual Fellow. They will be entitled to avail all the benefits as declared. Please visit Individual Fellow-sub menu of GlobalJournals.org to have more relevant details.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time. This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

After nomination of your institution as "Institutional Fellow" and constantly functioning successfully for one year, we can consider giving recognition to your institute to function as Regional/Zonal office on our behalf.
The board can also take up the additional allied activities for betterment after our consultation.

The following entitlements are applicable to individual Fellows:

Open Association of Research Society, U.S.A (OARS) By-laws states that an individual Fellow may use the designations as applicable, or the corresponding initials. The Credentials of individual Fellow and Associate designations signify that the individual has gained knowledge of the fundamental concepts. One is magnanimous and proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice.

Open Association of Research Society (US)/ Global Journals Incorporation (USA), as described in Corporate Statements, are educational, research publishing and professional membership organizations. Achieving our individual Fellow or Associate status is based mainly on meeting stated educational research requirements.

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We shall provide print version of 12 issues of any three journals [as per your requirement] out of our 38 journals worth $ 2376 USD.

Other:

The individual Fellow and Associate designations accredited by Open Association of Research Society (US) credentials signify guarantees following achievements:

- The professional accredited with Fellow honor, is entitled to various benefits viz. name, fame, honor, regular flow of income, secured bright future, social status etc.

- In addition to above, if one is single author, then entitled to 40% discount on publishing research paper and can get 10%discount if one is co-author or main author among group of authors.
- The Fellow can organize symposium/seminar/conference on behalf of Global Journals Incorporation (USA) and he/she can also attend the same organized by other institutes on behalf of Global Journals.
- The Fellow can become member of Editorial Board Member after completing 3yrs.
- The Fellow can earn 60% of sales proceeds from the sale of reference/review books/literature/publishing of research paper.
- Fellow can also join as paid peer reviewer and earn 15% remuneration of author charges and can also get an opportunity to join as member of the Editorial Board of Global Journals Incorporation (USA)
- • This individual has learned the basic methods of applying those concepts and techniques to common challenging situations. This individual has further demonstrated an in–depth understanding of the application of suitable techniques to a particular area of research practice.

Note :

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- In future, if the board feels the necessity to change any board member, the same can be done with the consent of the chairperson along with anyone board member without our approval.
- In case, the chairperson needs to be replaced then consent of 2/3rd board members are required and they are also required to jointly pass the resolution copy of which should be sent to us. In such case, it will be compulsory to obtain our approval before replacement.
- In case of "Difference of Opinion [if any]" among the Board members, our decision will be final and binding to everyone.

"

Process of submission of Research Paper

The Area or field of specialization may or may not be of any category as mentioned in 'Scope of Journal' menu of the GlobalJournals.org website. There are 37 Research Journal categorized with Six parental Journals GJCST, GJMR, GJRE, GJMBR, GJSFR, GJHSS. For Authors should prefer the mentioned categories. There are three widely used systems UDC, DDC and LCC. The details are available as 'Knowledge Abstract' at Home page. The major advantage of this coding is that, the research work will be exposed to and shared with all over the world as we are being abstracted and indexed worldwide.

The paper should be in proper format. The format can be downloaded from first page of 'Author Guideline' Menu. The Author is expected to follow the general rules as mentioned in this menu. The paper should be written in MS-Word Format (*.DOC,*.DOCX).

The Author can submit the paper either online or offline. The authors should prefer online submission.Online Submission: There are three ways to submit your paper:

(A) (I) First, register yourself using top right corner of Home page then Login. If you are already registered, then login using your username and password.

(II) Choose corresponding Journal.

(III) Click 'Submit Manuscript'. Fill required information and Upload the paper.

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(C) If these two are not conveninet , and then email the paper directly to dean@globaljournals.org.

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- Font type of all text should be Swis 721 Lt BT.
- Paper Title should be of Font Size 24 with one Column section.
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- Two Column with Equal Column with of 3.38 and Gaping of .2
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- Paragraph before Spacing of 1 pt and After of 0 pt.
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- Numbering of First Main Headings (Heading 1) must be in Roman Letters, Capital Letter, and Font Size of 10.
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You can use your own standard format also.
Author Guidelines:

1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

1. GENERAL

Before submitting your research paper, one is advised to go through the details as mentioned in following heads. It will be beneficial, while peer reviewer justify your paper for publication.

Scope

The Global Journals Inc. (US) welcome the submission of original paper, review paper, survey article relevant to the all the streams of Philosophy and knowledge. The Global Journals Inc. (US) is parental platform for Global Journal of Computer Science and Technology, Researches in Engineering, Medical Research, Science Frontier Research, Human Social Science, Management, and Business organization. The choice of specific field can be done otherwise as following in Abstracting and Indexing Page on this Website. As the all Global

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The Global Journals Inc. (US) follows the definition of authorship set up by the Global Academy of Research and Development. According to the Global Academy of R&D authorship, criteria must be based on:

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2) Drafting the paper and revising it critically regarding important academic content.

3) Final approval of the version of the paper to be published.

All authors should have been credited according to their appropriate contribution in research activity and preparing paper. Contributors who do not match the criteria as authors may be mentioned under Acknowledgement.

Acknowledgements: Contributors to the research other than authors credited should be mentioned under acknowledgement. The specifications of the source of funding for the research if appropriate can be included. Suppliers of resources may be mentioned along with address.

Appeal of Decision: The Editorial Board's decision on publication of the paper is final and cannot be appealed elsewhere.

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Manuscript submission is a systematic procedure and little preparation is required beyond having all parts of your manuscript in a given format and a computer with an Internet connection and a Web browser. Full help and instructions are provided on-screen. As an author, you will be prompted for login and manuscript details as Field of Paper and then to upload your manuscript file(s) according to the instructions.

To avoid postal delays, all transaction is preferred by e-mail. A finished manuscript submission is confirmed by e-mail immediately and your paper enters the editorial process with no postal delays. When a conclusion is made about the publication of your paper by our Editorial Board, revisions can be submitted online with the same procedure, with an occasion to view and respond to all comments.

Complete support for both authors and co-author is provided.

4. MANUSCRIPT'S CATEGORY

Based on potential and nature, the manuscript can be categorized under the following heads:

Original research paper: Such papers are reports of high-level significant original research work.

Review papers: These are concise, significant but helpful and decisive topics for young researchers.

Research articles: These are handled with small investigation and applications

Research letters: The letters are small and concise comments on previously published matters.

5.STRUCTURE AND FORMAT OF MANUSCRIPT

The recommended size of original research paper is less than seven thousand words, review papers fewer than seven thousands words also.Preparation of research paper or how to write research paper, are major hurdle, while writing manuscript. The research articles and research letters should be fewer than three thousand words, the structure original research paper; sometime review paper should be as follows:

Papers: These are reports of significant research (typically less than 7000 words equivalent, including tables, figures, references), and comprise:

(a)Title should be relevant and commensurate with the theme of the paper.

(b) A brief Summary, "Abstract" (less than 150 words) containing the major results and conclusions.

(c) Up to ten keywords, that precisely identifies the paper's subject, purpose, and focus.

(d) An Introduction, giving necessary background excluding subheadings; objectives must be clearly declared.

(e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition; sources of information must be given and numerical methods must be specified by reference, unless non-standard.

(f) Results should be presented concisely, by well-designed tables and/or figures; the same data may not be used in both; suitable statistical data should be given. All data must be obtained with attention to numerical detail in the planning stage. As reproduced design has been recognized to be important to experiments for a considerable time, the Editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned un-refereed;

(g) Discussion should cover the implications and consequences, not just recapitulating the results; conclusions should be summarizing.

(h) Brief Acknowledgements.

(i) References in the proper form.

Authors should very cautiously consider the preparation of papers to ensure that they communicate efficiently. Papers are much more likely to be accepted, if they are cautiously designed and laid out, contain few or no errors, are summarizing, and be conventional to the approach and instructions. They will in addition, be published with much less delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and to make suggestions to improve briefness.

It is vital, that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

Format

Language: The language of publication is UK English. Authors, for whom English is a second language, must have their manuscript efficiently edited by an English-speaking person before submission to make sure that, the English is of high excellence. It is preferable, that manuscripts should be professionally edited.

Standard Usage, Abbreviations, and Units: Spelling and hyphenation should be conventional to The Concise Oxford English Dictionary. Statistics and measurements should at all times be given in figures, e.g. 16 min, except for when the number begins a sentence. When the number does not refer to a unit of measurement it should be spelt in full unless, it is 160 or greater.

Abbreviations supposed to be used carefully. The abbreviated name or expression is supposed to be cited in full at first usage, followed by the conventional abbreviation in parentheses.

Metric SI units are supposed to generally be used excluding where they conflict with current practice or are confusing. For illustration, 1.4 l rather than 1.4 × 10-3 m3, or 4 mm somewhat than 4 × 10-3 m. Chemical formula and solutions must identify the form used, e.g. anhydrous or hydrated, and the concentration must be in clearly defined units. Common species names should be followed by underlines at the first mention. For following use the generic name should be constricted to a single letter, if it is clear.

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All manuscripts submitted to Global Journals Inc. (US), ought to include:

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Optimizing Abstract for Search Engines

Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art.A few tips for deciding as strategically as possible about keyword search:

- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

The Editorial Board and Global Journals Inc. (US) recommend that, citation of online-published papers and other material should be done via a DOI (digital object identifier). If an author cites anything, which does not have a DOI, they run the risk of the cited material not being noticeable.

The Editorial Board and Global Journals Inc. (US) recommend the use of a tool such as Reference Manager for reference management and formatting.

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Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.

Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

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Even though low quality images are sufficient for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit (or e-mail) EPS (line art) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings) in relation to the imitation size. Please give the data for figures in black and white or submit a Color Work Agreement Form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

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6. AFTER ACCEPTANCE

Upon approval of a paper for publication, the manuscript will be forwarded to the dean, who is responsible for the publication of the Global Journals Inc. (US).

6.1 Proof Corrections

The corresponding author will receive an e-mail alert containing a link to a website or will be attached. A working e-mail address must therefore be provided for the related author.

Acrobat Reader will be required in order to read this file. This software can be downloaded

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www.adobe.com/products/acrobat/readstep2.html. This will facilitate the file to be opened, read on screen, and printed out in order for any corrections to be added. Further instructions will be sent with the proof.

Proofs must be returned to the dean at dean@globaljournals.org within three days of receipt.

As changes to proofs are costly, we inquire that you only correct typesetting errors. All illustrations are retained by the publisher. Please note that the authors are responsible for all statements made in their work, including changes made by the copy editor.

6.2 Early View of Global Journals Inc. (US) (Publication Prior to Print)

The Global Journals Inc. (US) are enclosed by our publishing's Early View service. Early View articles are complete full-text articles sent in advance of their publication. Early View articles are absolute and final. They have been completely reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after sending them. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so Early View articles cannot be cited in the conventional way.

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Please note that if not specifically requested, publisher will dispose off hardcopy & electronic information submitted, after the two months of publication. If you require the return of any information submitted, please inform the Editorial Board or dean as soon as possible.

6.5 Offprint and Extra Copies

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Before start writing a good quality Computer Science Research Paper, let us first understand what is Computer Science Research Paper? So, Computer Science Research Paper is the paper which is written by professionals or scientists who are associated to Computer Science and Information Technology, or doing research study in these areas. If you are novel to this field then you can consult about this field from your supervisor or guide.

TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

6. Use of computer is recommended: As you are doing research in the field of Computer Science, then this point is quite obvious.

7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

8. Use the Internet for help: An excellent start for your paper can be by using the Google. It is an excellent search engine, where you can have your doubts resolved. You may also read some answers for the frequent question how to write my research paper or find model research paper. From the internet library you can download books. If you have all required books make important reading selecting and analyzing the specified information. Then put together research paper sketch out.

9. Use and get big pictures: Always use encyclopedias, Wikipedia to get pictures so that you can go into the depth.

10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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- The **major constraint** is that you must independently make all content, tables, graphs, and facts that are offered in the paper. You must write each part of the paper wholly on your own. The Peer-reviewers need to identify your own perceptive of the concepts in your own terms. NEVER extract straight from any foundation, and never rephrase someone else's analysis.

- Do not give permission to anyone else to "PROOFREAD" your manuscript.

- Methods to avoid Plagiarism is applied by us on every paper, if found guilty, you will be blacklisted by all of our collaborated research groups, your institution will be informed for this and strict legal actions will be taken immediately.)
- To guard yourself and others from possible illegal use please do not permit anyone right to use to your paper and files.

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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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