

Learning Styles-based Curriculum in EFL Class for Senior High School Students

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Abstract

This study discusses the importance of applying a model of curriculum based on students' learning styles in teaching English at Senior High School. A wide range of studies on learning styles that show positive results stretching from elementary to higher education has been increasing from time to time. Educators start to understand the significance of identifying the learning style preferences of the students then applying them into practical teaching-learning process. In this study an investigation was made to diagnose the learning style preferences of 210 students and four EFL teachers in learning English through the use of Willing's questionnaire on "How do you learn best". The subjects included students of grades XI A to XI H and four EFL teachers. Results show that most students in each of the six classes preferred to be teacher-oriented (dependent learner) and most students in each of the other two classes preferred to be communicative learners. The fact is that the results seem to indicate a common phenomenon across the years. This may be a significant indicator for future direction in curriculum development in general and task design in particular for the EFL students in this study or in similar learning contexts as those in this study. Suggestions are given with regard to how the students' learning style preferences can help teachers to design instructional activities. Pedagogical implications are also discussed.

Key words: analytical learner, communicative learner, concrete learner, curriculum, learning style, teacher-oriented learner

1. Introduction

1.1. Definitions of curriculum.

In formal education, the school curriculum and the school teachers are very important facilitators of learning. Curriculum is a sub-discipline of educational processes like counseling, management, instruction and evaluation (Langgulung, 1998, cited in Hashim, 1999: 28). It is so important that scholars have been calling it the queen of educational sciences.

A number of educational researchers have been defining the term “curriculum” in various approaches. Some of them are presented as follows:

A curriculum is the content or objectives for which schools hold students responsible. It is the set of instructional strategies teachers plan to use (Posner, 1992: 4).

For Tanner & Tanner (1980: 16 as cited in Hashim, 1999: 29) curriculum means “all of the learning of students which is planned by and directed by the school to attain its educational goals”. He further states that the four fundamental questions should be answered in developing a curriculum:

1. What educational purposes should the school seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can we determine whether these purposes are being attained?

Smith, Stanley, & Shores (1957 as cited in Hashim, 1999: 29) curriculum is defined as the set of potential experiences which are set up in a school for the purpose of disciplining children and youth in a group’s ways of thinking and acting. Conversely, Stark offers a comprehensive definition of curriculum that includes:

1. The specification of the knowledge, skills, and attitudes to be learned;
2. The selection of subject matter or content within which the learning experiences are to be embedded;
3. A design or structure intended to lead to specific outcomes for learners of various types;
4. The process by which learning may be achieved;
5. The materials to be used in the learning process;
6. Evaluation strategies to determine if skills, behavior, attitudes, and knowledge change as a result of the process; and
7. A feedback loop that facilitates and fosters adjustments in the plan to increase learning (Hashim, 1999: 29).

In generic term, curriculum refers to a body of subjects or subject matters set out by teachers for students to learn. From this perspective, curriculum covers the whole process of instruction: educational objectives, contents, methods, and evaluation.

Despite of different definitions proposed by researchers they reached a consensus that curriculum can be defined in three approaches: curriculum as the expected *ends* of education, e.g., the intended learning outcomes, curriculum as the expected *means* of education, i.e., instructional plans; curriculum as *a plan* for or a report of actual educational events (Posner, 1992: 4).

Learners are the key participants in curriculum development process and it is important to gather as much information as possible about them prior to designing curriculum (Richards, 2002: 101). More precisely, curriculum development process involves the following stages: to set up philosophy of education, goals and aims of education, general instructional objectives, specific instructional objectives and outcomes, task analysis and content selection, learning activities (Madeus & Stufflebeam, 1989). One of relevant information for curriculum development is students' learning style preferences.

Similarly, Jim Keef wrote: "*Learning style diagnosis... gives the most powerful leverage yet available to educators to analyze, motivate, and assist students in school... it is the foundation of a truly modern approach to education.* (1979: 132 as cited in Dunn, 1984: 10). Like other factors such as age, sex, motivation, intelligence, anxiety, and learning strategies, learning style affects language learning success (Sharp, 2004 : 1).

Coffield et al. (2004: 70) stated that Betts developed Betts Inventory in 1909 to measure imagery type of leaning style. Furthermore, it was probably Witkin and his colleagues in the 1940s who started all this off (Witkin 1950; Witkin et al. 1954 as cited in Smith & Dalton 2005: 7). They developed a theory of perception called field dependence/independence. Field dependent people were not easily able to see a figure that was embedded in a background display, while field independent people found easily to see it because they were not confused by what surrounded it. In the earlier days the term "cognitive style" was used rather than learning style (Swanson, 1995 as cited in Tuan, 2012: 2). Witkin and his colleagues later extended the idea to learning styles, saying that some people are able to analyze and learn things in isolation from other surrounding issues, while others needed to learn on a more holistic basis which included the surrounding matters as well. Specifically, according to Kirby (1979 as cited in Tuan, 2012: 2) the term "learning style" came into use when researchers began looking for ways to combine course presentation and materials to match the needs of each learner.

Since then the term learning style has been defined in different ways by many researchers depending on their perspective. Generally speaking, they agreed to a certain degree upon the approaches to the study of learning style: psychological, cognitive and social/interactive (Lang et al., 1999 as cited in Uzun, 2012: 123). Similarly, Conner (2004 as cited in Putinseva, 2006: 1) stated that the study on learning style models falls into general categories for example information processing, personality pattern, and social interaction. Furthermore, Mitchell (1994 as cited in Coffield et al.2004: 56) claimed that there were over 100 learning style models.

1. 2. Definitions of learning style.

Researchers have defined the term "learning style" differently that can be found in literature. Dunn & Dunn(year of Publication) stated that learning style is the way in which each person absorbs and retains information and/ or skills; regardless of how that process is described, it is different for every one (1984: 12). Claxton& Ralston (1978) defined the term as a learner's "consistent way of responding and using stimuli in the context of learning" (p. 7). Later, Scarpaci & Fradd (1985) defined learning styles as "ways in which individuals perceive, organize, and recall information in their environment (p.184). For Keefe (1979 as cited in Reid, 1987: 87), learning styles are "cognitive, affective, and physiological traits that are relatively stable indicators of how learners perceive, interact with, and respond to the learning

environment". Dun et al. (1989 as cited in Clenton, 2002) assert that learning styles include variables such as "individual responses to sound, light, temperature, design, perception, intake, chromo-biological highs and lows, mobility needs, and persistence,...motivation, responsibility (conformity) and need for structure..." (p. 56). Ehrman & Oxford (1990, p. 311) define that learning styles are preferred or habitual patterns of mental functioning, and dealing with new information. Gregorc (1979, cited in Ehrman & Oxford, 1993) states that learning styles are distinctive behaviors which serve as indicators of how a person learns from and adapts to his environments.

Reid (1995, p. xiii) asserts that learning styles have some fundamental characteristics on which they are based. The first is that *every person, student and teacher alike, has a learning style*, learning strengths and weaknesses. Learning styles exist on wide continuums although they are described as opposites- weaknesses. Furthermore, learning styles are *value-neutral*; that is, no one style is better than others. Therefore, students must be encouraged to stretch their learning styles so that they will be *more empowered in a variety of learning situations*. Often students' strategies are linked to their learning styles. Thus, teachers should allow their *students to become aware of* their learning strengths and weaknesses. (cited in Tuan, 2012: 2). According to James and Gardner (1995 as cited in Uzun, 2012: 2) learning style is the ways how individual learners react to the overall learning environment. Sadler-Smith (1996 as cited by Azun, 2012: 2) suggested that learning style may be defined as a "distinctive and habitual manner of acquiring knowledge, skills or attitudes through study or experience". Leaver, Ehrman & Shekhtman (2005: 66 as cited in Songsiri, 2007: 16) defined learning styles as the preferred patterns of learning used by a learner. Learning style reflects individuals' differences in regard to what type of instruction is most effective for them. (Pashler, et al., 2008 as cited in Tulbure 2012: 65). And finally, to quote Pritchard (2009: 42) as saying that learning style is a preferred way of learning and studying; for example using pictures instead of text; working in groups as opposed to working alone; or learning in a structured rather than an unstructured manner.

The definitions discussed earlier reveal that learning style is an individual learner's characteristic way of learning. It is relatively stable. And is value neutral. Meaning there is no better style than others. An instructional activities might be effective for some but not for some others.

On the other hand, (Peterson, et al., 2009 as cited in Tulbure 2012: 65) learning style represents an individual's preferred ways of responding (cognitively or behaviorally) to learning tasks which change depending on the environment or context.

Majority of researchers concluded that learning style is relatively stable manner. Conversely, (Peterson et al., 2009 as cited in Tulbure 2012: 65) claimed that learning style changes in accordance with the environment or context. It is supported by Pritchard (2009: 43) who stated that learning styles are not fixed traits which an individual will always exhibit. Learners are able to adopt different styles and adapt them in different contexts and situation. Nevertheless, most of us prefer one or two styles above the others.

Despite of various definitions of learning style proposed by a number of scholars, educational

researches have drawn conclusion that not all children learn in the same way (Guild, 2001 as cited in Subban, 2006: 939, Jacobs, 1990; Young, 1986; Frainer, 1986; Zippert, 1985; Jeskey, 1985; Avery, 1985; MacNeil, 1980; Gregorc, 1979; Witkin, 1973; Jensen, 1969 as cited in Cano et al. 1992: 46, Jacobs, 1990; Gregorc, 1979; Witkin, 1973 as cited in Raven et al. 1993: 40). They differ greatly in the way they learn (Sternberg, 1997; McCarthy, 1990; Herrmann, 1988; Kolb, 1984 as cited in Hsiao-Ching She, 2005: 609). Because each student varies in terms of preferred way of learning it therefore becomes imperative that teachers recognize the learning style differences and teach in a manner in which all learning styles are accommodated. Student's learning styles are a very important subject in today's learner-centered educational environment.

1. 3. Definition of learning styles-based curriculum

On the basis of the foregoing discussion learning styles-based curriculum can be defined as a set of instructional strategies, activities planned, designed by teachers to facilitate various types of learners during learning process to attain their goals.

1. 4. The importance of understanding learning styles.

Moreover, studies have shown that understanding students' learning styles is beneficial for both learners and teachers. It is helpful for learners when they are aware of their dominant learning style. In that sense, they might understand their strength and weakness and barriers to learning. Consequently, they can adopt and adapt learning strategies that suit learning which is being undertaken so that they can reach their goal. Furthermore, they have opportunities to improve their potential for learning and creativity when faced with situation that contradicts their preference (Songsiri, 2007: 17; Pritchard, 2009: 43; Coffield et al., 2004: 41). In contrast, unable or reluctant to adopt any particular style has the potential to hamper student's ability to learn effectively. In this context, Honey & Mumford (1986 as cited in Pritchard, 2009: 43) suggest that students need to be able to adopt any other styles in order to complete any given learning tasks satisfactorily. For that purpose, they need training on learning styles.

Being able to identify students' learning styles and then teach them accordingly can help them achieve better academic performance, and improve their attitudes toward learning (Green, 1999; Fine, 2003 as cited in Subban, 2006: 939).

Claxon & Murrell (1987, as cited in Ho, 1999: 53), states that understanding students' learning style and then teaching them through their learning preferences contribute to more effective learning and significant academic progress. Optimal learning occurs when students' and teachers' expectation of each other are mutually respected through establishment of agreement between them on what should be done and why. (Kasaian & Ayatollahi, 2010: 131). Parallel with this is what Zhenhui (2001) stated that teachers' knowledge and understanding about his/her students' preferred ways of learning help them create effective teaching. Studies have shown that students can learn more effectively if teachers try to cater to their learning-style preferences (Willing, 1985, 1988, Nunan, 1988, 1996, Richards & Lockhart, 1994). Similarly, Rod Ellis stated that students' learning will be more successful when the instruction is matched to students' particular aptitude for learning and if they are motivated (2008).

Extensive studies verify both student achievement and motivation improve significantly when learning and teaching styles are matched (Dunn & Dunn, 1979: 242).

Brown (1994) as cited in Zhenhui (2001: 4) advocates matching approaches in teaching to students' learning styles increase students' motivation to learn and enhance their achievement as well class performance. Researchers like (Griggs & Dunn, 1984; Smith & Renzulli, 1984; Charkins et.al., 1985) asserts that teaching and learning styles be matched especially in foreign language instruction (e.g. Oxford et.al, 1991; Wallace & Oxford, 1992) cited in Zhenhui (2001: 1). Kumaravadivelu (1991: 98) cited in Zhenhui (2001: 1) confirms that when there is a less gap between teacher intention and learner interpretation enhances learners' achievement. Other researchers have further reported that students whose learning styles are matched with the teacher's approach to teaching will have greater ease of learning (Packer & Bain, 1978) and higher satisfaction (Renninger & Snyder, 1983) than those whose styles are mismatched (She: 2003: 609).

The previous discussions reflects that understanding students' learning styles provide opportunities for teachers to think of designing a wide range of teaching approaches in terms of techniques, activities, materials, content and classroom atmosphere (Songsiri, 2007: 17). It trains teachers to be creative in conducting learning process.

Considering the significance of understanding students' learning styles and the findings of an interview with four teachers in the research site on 12 November 2012 that they neglected students' learning styles as one of determinant factors for learning to succeed it is high time to conduct the research on "Learning Styles-based Curriculum in EFL Class for Senior High School Students in Learning English".

2. Research Objectives

In light of all the above, the present study has sought to achieve two main objectives.

1. To identify the learning style preferences for all the students involved in the study.
2. To help the teachers design learning activities that can facilitate learning styles diversity
- 3.

3. Research Questions

More precisely, the present study was designed to answer the following questions:

1. What learning styles do the students exhibit in the EFL classroom?
2. Which learning activities fit students' learning style diversity in curriculum development?

4. Research Method

4.1. Subjects

The subjects of this study are 210 students of grade XI of SMAN 1 Kabupaten Cirebon (Government Senior High School 1 in the District of Cirebon). The selection of the subjects was

based on willingness to take part in the study and they are accessible socially and culturally as well as geographically.

4.2. Instrument

In this study, an adapted version of Willing's (1988: 106) questionnaire on "How do you learn best" (See Appendix) was administered to identify students' learning style preferences and to illustrate how the findings can help teachers design learning tasks.

The questionnaire was modified slightly and translated into Indonesian language to help the subjects understand the matter. It consisted of 30 questions originally then it was modified purposely by the researcher to 24 items. Willing's (1988: 106) questionnaire was selected because it is more comprehensive to identify learner types and the learning methods described in the questionnaire are applicable and relevant to language learning context. It is, therefore, of great practical usefulness to language teachers in particular. Another reason was that it is reliable and valid since it used by two other researchers such as Belinda Ho (1999) and Adam Rekrut (2001).

Some other instruments (Coffield et al., 2004: 70-71) created by researchers for example Allison & Hayes (Cognitive Style Index (CSI): 1996); Apter (Motivation Style Profile (MSP): 1998); Dunn & Dunn (Learning Style Questionnaire (LSQ): 1979, Learning Styles Inventory: 1975, Productivity Environmental Preference Survey (PEPS): 1979, Building Excellence Survey (BES): 2003); Felder and Silverman (Index of Learning Styles (ILS): 1996); Grasha-Riechman (Student Learning Style Scales (SLSS): 1974); Gregorc (Gregorc Mind Styles Delinator (MSD): 1977); Hermann (Brain Dominance Instrument (HBDI): 1995); Honey and Mumford (Learning Styles Questionnaire (LSQ): 1982); Kolb (Learning Style Inventory (LSI): 1976, Revised Learning Style Inventory (R-LSI): 1985, LSI Version 3: 1999); Myers-Briggs (Myers-Briggs Type Indicator (MBTI): 1962; and Reid (Perceptual Learning Style Preference Survey (PLSPS): 1987 are more general and educationally oriented.

There are four types of learners identified by Willing (1988) through this questionnaire namely analytical learners, communicative learners, concrete learners and teacher-oriented learners. Nunan (1999: 57) explicitly defined the four learner types with reference to their preference over learning tasks:

Type 1: Analytical learners

These learners like studying grammar, studying English books and reading newspapers, studying alone, finding their own mistakes and working on problems set by the teacher.

Type 2: Communicative learners

These students like to learn by watching, listening to native speakers, talking to friends in English and watching television in English, using English out of class in shops, trains, etc., learning new words by hearing them, and learning by conversations.

Type 3: Concrete learners

These learners tend to like games, pictures, films, video, using cassettes, talking in pairs and practicing English outside class.

Type 4: Teacher-oriented learners

These learners prefer the teacher to explain everything, like to have their own

textbook, to write everything in a notebook, to study grammar, learn by reading, and learn new words by seeing them.

In order to model four learner types the questionnaire consists of 24 questions was set up asking the students how they preferred to learn English. Students were asked to show their preferences on a 4-point scale.

4.3. Data analysis

The questions on the questionnaire were categorized into four groups according to the learning style preferences of the four learner types identified by Willing (1988). The data was analyzed by adding up the scores of the subjects obtained under each category of questions. Thus, each subject had four scores. The highest score among the four scores obtained indicated what type of learner a subject belonged to. In cases where the subjects obtained two or more tied scores, they were not categorized into any learner type. They were called the "mixed type" or "combined type".

5. Results

The results of the study with regard to learner types as identified by the questionnaire are presented in the table below:

Table 1. Overall Types of Learners in each class.

Types of Learners	Grades							
	XI A	XI B	XI C	XI D	XI E	XI F	XI G	XI H
Analytical Learner	1 (3.44%)	0 (0%)	1 (3.70%)	0 (0%)	1 (4.34%)	0 (0%)	0 (0%)	0 (0%)
Communicative Learner	4 (13.79%)	6 (24%)	2 (7.40%)	9 (32.14%)	2 (8.69%)	7 (35%)	7 (23.33%)	8 (28.57%)
Concrete Learner	3 (10.34%)	3 (12%)	7 (25.92%)	6 (21.42%)	4 (17.39%)	5 (25%)	4 (13.33%)	5 (17.85%)
Teacher-Oriented Learner	15 (51.72%)	11 (44%)	9 (33.33%)	9 (32.14%)	7 (30.43%)	3 (15%)	15 (50%)	9 (32.14%)
Mixed type	6 (20.68%)	5 (20%)	8 (29.62%)	4 (14.28%)	9 (39.13%)	5 (25%)	4 (13.33%)	6 (21.42%)
Total Number	29	25	27	28	23	20	30	28

Table 3. *Teachers' Learning Style Preference*

Types of Learning Style	Sex	Age
Analytical Learning Style	0	-
Communicative Learning Style	1/F	<40s
Concrete Learning Style	1/F	<40s
Teacher-Oriented Learning Style	1/M	>40s
Mixed Type (Analytic, Communicative, Concrete, Teacher-Oriented)	1/F	<40s
Total Number	4	

It can be seen from the above table that in each class, most students are teacher-oriented learner. The highest number of teacher-oriented learner exists in class XI 1 (**51.72%**) followed respectively by XI 7 (**50%**); XI 2 (**44%**); XI 3 (**33.33%**); XI 8 (**32.14%**); and XI 5 (**30.43%**). Interestingly, grade XI 6 is dominated by communicative learner-type (**35%**), whereas grade XI 4 occupied by equivocal number of both **32.14%** is communicative learner and **32.14%** is teacher-oriented learner.

6. Discussion

The reason for students' preferences may be related to their past experiences in learning English at least starting from Junior School. Education system in Indonesia is characterized by examination-oriented in which most students, especially those who in the final year are trained through intensive drills on past or sample examination papers. Another reason was as it was believed that teachers' teaching style can be categorized as expert type who preferred teaching methods such as didactic lectures, technology-based presentation, teacher-centered questioning and discussion. A teacher who is categorized as expert type possesses knowledge and expertise that students need. The expert type strives to maintain a status as an expert among students by demonstrating detailed knowledge and by challenging them to enhance their competence. He/she is concerned with transformation information to students and insuring them that they are well-prepared (Grasha, 1996: 154). Moreover, as research supports the concept that teachers teach the way they learned (Stitt-Gohdes 2001: 136 as cited in Brown 2003: 1). Similarly, according to Dunn & Dunn (1979: 241), and (Witkin: 1973; Gregorc: 1979 as cited in Raven et. al, 1993: 40) that "teachers teach the way they learned". The way most of Indonesian teachers teach was greatly influenced by their way of learning. Even the way they teach is the way they learn.

Since a number of teachers have experienced academic success in learning environments that were teacher-centered and relied heavily on lecture and textbook, therefore, their preferred teaching style would be to repeat what worked with them. Those teachers are categorized as field-independent type, that is who are more content-oriented and prefer to use more formal teaching methods, favoring less student participation in learning to take place and more structured class activities (Hayes & Allison 1997; Pithers 2001). This style of teaching especially

suits field-dependent students who prefer to be told what they should learn and given the resources to acquire the specified body of knowledge or skills (Brown, 2003: 1). In this study, field-dependent learner is called teacher-oriented learner.

Learning styles is value neutral (Reid 1995, p. xiii). Therefore, a learning style might be effective for a certain instructional activities but less effective for others. Moreover, learners should develop knowledge of styles, in order to be aware of their own preferences and abilities, and use them in different instructional activities (Coffield, Moseley, Hall, & Ecclestone, 2004 as cited in Uzuntiryaki, 2007: 25).

Implications for Task Design

As the learning style preferences identified by a majority of the students of all grades, it seems reasonable to use the results as general directions to take in designing learning activities. Many research findings (Subban, 2006: 939; Ho, 1999: 53; Kasaian and Ayatollahi, 2010: 131; Dunn & Dunn, 1979: 242; Zhenhui, 2001: 1 and 4; She, 2005: 609; Bernard, 1972; Lang & Evans, 2006: 63; Fisser et al., 2006: 99 and Brown, 2003: 1) confirm that understanding students' learning styles and then teaching them through their preferred ways of learning enhanced academic achievement, improved attitude and motivation to learning, and created effective learning. Therefore, more teacher-oriented tasks for grades XI A, XI B, XI C, XI E, XI G, and XI H, whereas more communicative tasks for grades XI D and XI F need to be taken into consideration for inclusion in the course as most students prefer to learn in those atmospheres. The followings are an example of how teacher-oriented tasks and communicative tasks can be designed.

The learning methods preferred by teacher-oriented learners as listed in Willing's (1988) questionnaire are as follows:

- to learn through teacher's detail explanation
- to be told what they should learn
- to be given the resources to acquire the specified body of knowledge or skills
- to learn more from reading comprehension
- to do grammatical exercise

Thus when designing teacher-oriented tasks for the classroom, the course designers may base on the principles described above methods such as providing detail explanation to students, teacher's modeling, helping students understand the course intensively, guiding students to do classwork. It is teacher-centered classroom.

The learning methods preferred by communicative learners as listed in Willing's (1988) questionnaire are as follows:

- to learn by watching and listening to foreigners
- to learn by speaking in English with foreigners when there is a chance
- to learn by talking to friends in English
- to learn by conversations
- to learn by watching TV in English
- to learn English by hearing these words.

When designing communicative tasks for the classroom, the course designers may also base on the principles described above methods such as learning through interactions and media aids) listed in Willing's (1988) questionnaire and take into consideration inclusion of group discussions and teacher student conferences as students prefer to talk with classmates and their teachers. English films and video programs are also effective means to help students listen to foreigners speak English. It is teacher-student centered classroom.

It is, however, important to note that by focusing on teacher-oriented and communicative tasks, it does not mean that tasks in which other learner types prefer should be excluded from the course. Tasks that suit other learner types also need to be included in the course to meet their needs. Research suggests that it is better to include learning tasks that suit all types of learners in a course. Kinsella (1996:30 as cited in Ho, 1999: 62) asserts that curricula should be designed with an equitable range of activities so that all learners feel comfortable and be trained to become confident to perform new tasks and be in new groupings. Similarly, it is desirable to expose learners for short periods of time to instructions, approaches, environments and teaching methods which do not match with the learners' learning style preferences. This helps learners to develop their adaptability to environments beyond their control and may also foster their creativity in learning and problem solving (Smith 1985:71 as cited in Ho, 199: 63).

Researchers, like Vaughan and Baker (2001as cited in Brown, 2003: 1) pointed out that matching may lead to learners' becoming bored. Moreover, Zhang (2006) opposes that the literature on teacher/student style match/mismatch contains somewhat ambiguous findings, some arguing the benefits of a match; whilst others challenges that the effect of matching is insignificant. On the other hand, some studies had shown that learning in mismatched conditions helps learners to overcome weaknesses in their cognitive styles, to develop a more integrated approach to their learning (Rush & Moore: 1991). Parallel with this is Hayes & Allison's (1997) finding saying that "exposing learners to learning activities that mismatched with their preferred learning style will help them develop the learning competencies necessary to cope with situations involving a range of different learning requirements (Brown, 2003: 1). Kowoser & Berman (1996) advocate that providing mismatches in teaching and learning styles can also stimulate learning and flexibility in learning. (Fisser et al, 2006: 99).

Claxton & Murrell (1987:73 as cited in Ho, 1999: 63) think that "experiences that are inconsistent with students' styles can 'stretch' students' and help them develop new learning skills and aspects of the self-necessary for healthy adult functioning. Interestingly, Smith, Sekar & Towsend (2002 as cited in Coffield et al. 2004: 39) stated that the number of researches that support "matching hypothesis" is equivocal with that of contend it. They found nine studies which showed that learning is more effective where there is a match and nine showing it to be more effective where there is a mismatch. Similarly, Reynolds (1997 as cited in Coffield et al. 2004: 39) found five empirical studies in favor of "matching hypothesis" and three against them.

What is most important is to keep the proportion of the tasks that fit different learner types from the beginning of course. The proportion of the tasks can be adjusted according to the learning style preferences of the students as identified through the questionnaire.

It is probably beyond the abilities of most teachers both in terms of time allocation as well as teaching facilities and to a certain extent due to pedagogical knowledge to design instructional activities that accommodate learning styles' diversities. However, they can cater to variation in the nature of their students' learning styles by adopting a flexible teaching approach involving a variety of learning activities.

7. Conclusion

This study concludes that in formal education, the school curriculum and the school teachers are very important facilitators of learning. Curriculum is a sub-discipline of educational processes like counseling, management, instruction and evaluation. It is so important that scholars have been calling it the queen of educational sciences. On the other side, learners are the key participants in curriculum development process and it is important to gather as much information as possible about them such as their learning styles preferences prior to designing curriculum. The following stages need to be taken into account in developing curriculum: to set up philosophy of education, goals and aims of education, general instructional objectives, specific instructional objectives and outcomes, task analysis and content selection, learning activities.

Identifying learning style preferences at the beginning of course helps teachers develop curriculum and make adjustments in the proportion of task types to facilitate the learning of the students. Moreover, it helps students be aware of their strength and weakness so that they can maximize their potential and improve their weakness.

8. Suggestion for further research

In order to facilitate task design further, it is better to collect more information from the students through interviews or focus group discussions to identify the reasons for their preferences and the kinds of tasks that they preferred. Though it is beyond the scope of this study to carry out this research procedure, it is hoped that by doing so in future studies, more information can be documented on why most students preferred to be teacher-oriented and to be communicative learners and what kind of tasks they would like to perform in the course. It may also be interesting to conduct further research studies to investigate the effectiveness of implementation of the task-proportion adjustment method as suggested in this study on student's learning.

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Appendix A Table 2 Mixed Types of Learners

Grades	Mixed Types of Learners	Total
XI A	Communicative, Concrete and Teacher-Oriented	1 (3.44%)
	Concrete and Teacher-Oriented	2 (6.84%)
	Communicative and Concrete	3 (10.34%)
XI B	Analytic and Concrete	1 (4%)
	Communicative and Concrete	3 (12%)
	Communicative and Concrete	1 (4%)
XI C	Analytic and Teacher-Oriented	1 (3.70%)

	Communicative and Teacher-Oriented	1 (3.70%)
	Concrete and Teacher-Oriented	2 (7.40%)
	Communicative, Concrete and Teacher-Oriented	2 (7.40%)
	Communicative and Concrete	2 (7.40%)

Table 2 continued

XI D	Communicative and Concrete	1 (3.57%)
	Communicative, Concrete and Teacher-Oriented	1 (3.57%)
	Communicative and Teacher-Oriented	2 (7.14%)
XI E	Analytic, Communicative, Concrete and Teacher-Oriented	1 (4.34%)
	Analytic, Communicative and Teacher-Oriented	1 (4.34%)
	Communicative, Concrete and Teacher-Oriented	1 (4.34%)
	Communicative and Concrete	3 (13.04%)
	Analytic and Teacher-Oriented	1 (4.34%)
	Communicative and Teacher-Oriented	1 (4.34%)
	Concrete and Teacher-Oriented	1 (4.34%)

Table 2 continued

XI F	Analytic and Teacher-Oriented	1 (5%)
	Communicative and Teacher-Oriented	1 (5%)
	Concrete and Teacher-Oriented	1 (5%)
	Communicative, Concrete and Teacher-Oriented	1 (5%)

	Communicative and Concrete	1 (5%)
XI G	Communicative, Concrete and Teacher-Oriented	1 (3.33%)
	Communicative and Teacher-Oriented	1 (3.33%)
	Concrete and Teacher-Oriented	2 (6.66%)
XI H	Concrete and Teacher-Oriented	3 (10.71%)
	Communicative, Concrete and Teacher-Oriented	1 (3.57%)
	Communicative and Teacher-Oriented	1 (3.57%)
	Analytic, Concrete and Teacher-Oriented	1 (3.57%)

Appendix B Learning Style Inventory

Dear students and teachers.

You are kindly invited to complete the questionnaire to identify your learning style. This research instrument is to be utilized as one of primary data for my research on “Learning Styles-based Curriculum in EFL Class for Senior High School Students”.

You are not required to write your name. However, please add up the score and write on the total column provided.

If you have any inquiry on your learning style preference you may ask the researcher soon after completion of the questionnaire or write an email to kamilvirgo@gmail.com or send SMS to 08156177655.

Thank you very much for your cooperation.

Researcher,

Udin Kamiluddin

The following questionnaire was adapted from Willing K's (1988) *How You Learn Best? Learning Styles in Adult Migrant Education*, Adelaide, Australia: National Curriculum Resource Centre Cited in Rekrut (2001) with a slight modification in terms of format and key score to identify 210 EFL XI graders at SMAN 1 Kabupaten Cirebon (Government Senior High School 1 in the District of Cirebon).

I. How do you like to learn?

Circle the number on the right column that best shows your opinion on each statement below. Each statement reveals a different opinion.

1 = I do not like it. 2 = I like it a little. 3 = I like it. 4 = I like it very much.

Type I	Statement	Score			
1	I like to study grammar.	1	2	3	4
2	I like to learn by studying English books at home.	1	2	3	4
3	I like to study English alone.	1	2	3	4
4	I like a teacher who allows me find my mistakes.	1	2	3	4

5	I like a teacher who employs problem-based approach.	1	2	3	4
6	I like to learn by reading newspapers at home.	1	2	3	4
	Total				
Type II	Statement	Score			
1	I like to learn by watching and listening to foreigners	1	2	3	4
2	I like to learn by having conversations with my peers.	1	2	3	4
3	At home, if I have a choice I like to learn by watching TV and/or videotapes in English.	1	2	3	4
4	Out of the class, I like to learn by using English.	1	2	3	4
5	I like to learn unfamiliar English words by hearing them.	1	2	3	4
6	I like to learn by having conversations.	1	2	3	4
	Total				
Type III	Statement	Score			
1	I like to learn using games in class.	1	2	3	4
2	In class, I like to learn by looking at pictures, films, and videotapes.	1	2	3	4
3	I like to learn English by talking in pairs with friends.	1	2	3	4
4	At home, I like to learn by using cassettes.	1	2	3	4
5	In class, I like to listen to and use cassettes.	1	2	3	4
6	I like to practice English with classmates out of the class.	1	2	3	4
	Total				
Type IV	Statement	Score			
1	I like a teacher who explains everything in detail to students.	1	2	3	4
2	I like to write every subject in my notebook.	1	2	3	4
3	I like to have my own textbook when I study.	1	2	3	4
4	I like to learn by reading in class.	1	2	3	4
5	I like to study grammar.	1	2	3	4
6	I like to learn new English words by seeing them.	1	2	3	4
	Total				

II. 1. Look at the items in section one which you have scored with 0. Explain why you do not like doing those activities.

2. What do you do in place of these activities which you have scored with 0?

