# DESIGN & METHODS IN EDUCATION RESEARCH

**Topic: Personalized learning (PL) in Learning English as a Foreign Language (EFL)**

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## Introduction

The study to be undertaken in this document focuses on personalized learning and how it could be applied to learning English as the EFL learning contexts. The term PL has been used to specific settings earlier, but it barely has a unified definition as far as educational matters are concerned. This shred of the document provides an elaborated depiction of design and methods, particularly in education (academics) research. In this regard, the introduction and prodigious use of Personalized Learning (PL) deserves special mention. The methods of PL have been adapted to varying levels of education over the last few years (Wongwatkit et al., 2016). This attributes to the comprehension and learning English foreign language (EFL) in different academic institutions with the stern assistance of PL. The categorical idea of PL in language learning is to customize each learner's experiences as per their distinct and unique backgrounds, skills and abilities, potential, and above all grasping capacity. However, in the world of immense globalization, having a stern comprehension of English as a foreign language has eventually received a lot of significant attention (Tawafak et al., 2019). Those non-English speaking countries (most of the Asian countries in particular) have implemented the concept of PL in learning English to improve communication with the remaining world. PL progressively intends to enhance the outcomes for a plethora of learners. This is reflected in their engagement with learning, their achievements, and above all well-being. With a stern hold on English, many countries can not only improve communication with other nations but can also remain sustainably integrated into the convoluted yet dynamic society. In this regard, the learner must know the relevance of cultivating the background of PL that will provide a potent means of enacting upon specific pedagogy of the learners. Pioneers of PL have collectively expressed their views in multiple shreds of documents. They believe PL to be a learning method the educators of academic institutions have invariably envisioned, still, they have not got hold of any reliable tool that can make this method a realistic approach towards learning, EFL in this context. So many researchers and educators have coherently raised their questions regarding the novelty of PL in language learning. Also, experts have repeatedly observed that traditional teaching fails to impact in some instances because it pays no specific attention to any learner (Kacetl&Klímová, 2019). For a non-English speaker, learning a different language beyond his native vocabulary can never be comfortable if taught traditionally. Therein lie the importance and effectiveness of PL. Adjusting the learning pattern of each learner to their needs, abilities, interests, and above all strengths makes the

learning useful and comprehensive. PL also allows the learners the liberty of learning at the speed that suits them better; this makes learning foreign English a less challenging task and turns it into a more manageable routine. However, some experts believe that PL must carry out its functionalities in team/group environments where interaction happens. Interaction is the fundamental determinant for developing stern language fluency (Kuutila, 2016). This is the prime focus of the discussion that will not only provide them with individualized opportunities but also enables them to undertake risks to develop an effective and optimal path towards their academic and professional pathways.

The study will be categorized into distinct parts. This includes PL approaches and its implication on English vocabulary, its sheer merits and loopholes, classroom practices, the teachers' viewpoints, and the learners' progress. One of the most prodigious emphases of PL is that each learner gets the sheer opportunity every moment to understand the particular item that is most relevant to their individual learning development.

## Literature review

This section of the document will shed light on the importance, implications, and exact details of PL in foreign language training courses. It is based on the data and relevant shreds of information existing in different works of literature. This provides a more elaborative version of the vivid aspects of PL and its beneficial implementation in learning.

On today's date, there have been significant changes in the way English teaching and learning have been mediated. Nowadays, educators or experts make the prodigious use of numerous novel approaches like PL. These approaches are considered to be effective among many professionals in their particular career pathways (Kuo, 2020). Some people tend to associate PL with private lessons or individual learning, but it is significant to mention that PL exerts its best impact in group environments. When a non-English speaker intends to be fluent in English, active listening and also speaking activities are solicited. And it invariably requires interaction to develop fluency that also facilitates social inclusion. With interaction being such a vital element is professional dimensions, language learning becomes exceptionally useful. Also, it justifies the rationale behind focusing on individual learning patten to ensure the net learning is effective and could be impeccably associated with the learners' preferred choice of communication (Pokrivcakova, 2019). And perhaps this accounts for why foreigners indulge themselves in learning new languages. Also, in the training of core

corporate language, the expertise of the learner's target language is highly a matter of significance in work situations. Self-direction and personal choices are the two most critical determinants of personalized learning (Knight, 2017). Therefore, it makes it additionally relevant for the main content to be highlighted in EFL through PL that, in turn, will be distinctly tailored to each learner.

**Technologies and their role in English language PL system**

The system that is available for learning foreign lingos offers a wide range of diverse learning resources. But it barely considers the utility of PL which leads to improper resource selection. Given such intricacies, including the loopholes in English learning, many academic institutions have based this learning system on specified technological tools. This implements PL, as a novel method, much easier (Natalia, 2017). Multiple shreds of studies focus on the conceptual characteristics of PL in EFL (Sabirova et al., 2018). Secondly, there is a wide variety of qualitative changes in non-native education owing to the emerging development of various foreign contacts in every sphere of life.

In this context, higher education is gradually emphasizing on the productivity of EFL. Sometimes such provisions and the most crucial formulation of PL become the most purposeful ideas of individual integrative learning and subjectivity (Sabirova et al., 2018). Studies like these undertook a detailed investigation of certain provisional conditions for the personalization of the learner. Besides, for the novice students, it is crucial to categorically dwell on the PL components to better comprehend its core principles, particularly in EFL. However, as mentioned before, many educators have successively investigated a range of modern technologies of PL in EFL, and it broadly showcases the potentiality of the implementation of such tools in any language learning. But the fact is in EFL the success factor of PL relies greatly on consistency and the exact contents which many academic institutes fail to employ. Also, it is of immense significance that teachers or trainers measure the learners' intellectual activity periodically.

To make learning more comprehensive, many educators employ digitalized tablets to aid their real-world and corresponding immersive English language lessons through PL. In many cases, the institutions document all the learning through online PL "playlists" that they have co-organized with the educators and parents of the learners (Zhang, Basham& Yang, 2020). A few institutes indulge the trainers in making good use of wall-mounted cameras so that a few relevant moments of learning could be captured. It progressively aids the learners to

focus on their academic development. Some institutes include an adaptive online program on the learners' devices to provide individual PL to each beginner. Sometimes the concept of PL touches three critical determinants: informatics, pedagogy, and above all psychology (Kostolanyova&Nedbalova, 2017).

PL defenders tend to anticipate that the learners' trends of directing their learning will consistently grow with PL and related approaches. It will be perceived more sternly in the field of English as a foreign lingo for its increasing demand. This will also alter the commonest perception that non-native learners bear towards acquiring a deeper hand of the language. Hence, this innovative PL approach will enable the learners to categorically combine their necessities and personalized interests with EFL in a way that consistently motivates them and keeps them highly receptive while learning the same. Hence, it can be viably stated that while traditional learning works well for beginners, millennials, on the other hand, prefer PL to boost their personal and professional upliftment with time and sheer diligence.

## The study rationale

The adoption of PL approaches has increased significantly in recent years. A classroom harbors multiple student with different and varied aptitudes and skillsets. Implementing personalized learning intends to customize the learning pattern of each student as per their expertise, interest, strengths, and areas of weaknesses (Tucker & Long 2018). Self-direction and personal choices are the two most critical determinants of personalized learning (Knight, 2017). This novel approach will immensely help an educator to assess the performance pattern of each student, thereby meeting their basic education needs at different levels. This design will keep the students well on track to improve the ability and skills of English learning. And inculcating such practices will also aid in bettering the attitudes of young English learners.

## Pre-requisition of the study

There are multiple tasks and official formalities to be taken care of before a study commences. Foreshadowing issues are a crucial task for any qualitative research work (Connelly, 2014). Firstly, it is essential to have research permission from the school Principal. Again to receive the consent, the principal or the designated authority should be well informed about the following aspects:

- Study purpose and brief method.
- Study duration.
- Study participants.

An official email (permission appeal) will be directly sent to the school principal with all the details as mentioned earlier. Secondly, since the participating class students are underage, directly interviewing them or including them for this study would require permission from their parents. However, this will be requested by the school authorities to conduct from their end while the research unit will ensure the informed consent before beginning the study. The anonymity of the students' was guaranteed by not including their full names anywhere in the whole research. Additionally, the anonymity of the teaching staff was guaranteed with the use of distinct pseudonyms.

## Research method

## Research questions

As mentioned previously, the sole intent of the present study is to ascertain how the participating EFL students had learned from PL in their teaching sessions. Secondly, based on the educator's and learners' perspectives, immense interest has been shown to define the approach's advantages and shortcomings. However, the secondary attention of the researchers was about finding the rationale behind implementing PL among the learners. They also want to understand their viewpoints and attitudes towards it. In light of this, the main research questions have been defined below:

### Research Question 1

Does PL improve the speaking ability in EFL classes of primary school students in China? (Experimental Design, RCT)

**Nature of the RQ and design and concordance between the two**

This is mostly a causal research question. The primary objective of the present study is to understand the effectiveness of PL in the vocabulary and fluency of EFL among the students. Once the data is collected, it will be compared with the data collection from normal class courses. Hence, the researcher's present experimental design follows a randomized controlled trial (RCT) because of its efficiency in investigating a causal association between analysis

and its potential outcomes (Willits et al., 2010). Furthermore, multiple shreds of literature have stated that RCT is more reliable and authentic than other methods (Paez, 2017). Therefore, this will help to measure the potential of the new intervention model (PL in EFL) in the vocabulary and speaking abilities of the participating students.

With the sole intent of gaining a better understanding of the approach and its corresponding implementation in learning EFL, it is consensually decided to include the learners and their educators from a particular academic institute in Shanghai. An observation analysis will be conducted to accumulate the most relevant data for the study. Additionally, a few of the teachers will be requested to provide a narrative presentation of how they implemented the topic in the classrooms. After that, each of these data collection methods along with the background information will be critically evaluated. The following section outlines the sampling details and the individual design procedure for each of the research questions.

### The warrant of the conclusion

According to Torgerson et al. (2013), a pre-evaluation test is to be conducted before the allocation of the study participants randomly. This is done in case the allocation outcomes exert any negative impact on the behavioral pattern of the students. Also, the scores from both the pre-test and post-test will be documented and thereafter compared after the completion of the analysis. The scores will help to assess or analyze the effectiveness of PL in EFL in the classrooms. Finally, informed consent forms must be signed by each participating candidate to ensure that the sample is representative. At the end of the study, the scores and data results must be analyzed fairly and without any experimental biases to avoid data misinterpretation.

### The design notation

For this study, specific design notations will be used as follows:

**O1 R X O2**

**O1 R Y O2**

**O1** denotes the pre-test of the participating students of their English speaking ability.

**R** denotes the random selection of one or two classes in each school as the **experimental group** whereas another class as the **control group.**

**X** denotes the experimental approachused by the class (method of personalized learning).

**Y** is the control group that undergoes normal classroom teaching.

**O2** depicts the post-test at the end of the term to assess their learning effectiveness.

**The design features and components**

**Sampling**

The participating candidates for the present study will be the primary school students and a few teachers in Shanghai. Approximately 60 classrooms will be included; each class has 40 individual heads. Thus, the total sample size for the study will be around 2400 students. But for the convenience of the study, 2500 heads will be considered. The reason is that the study would require the educators' experiences on the topic as well because the PL approach towards EFL is not a one-way process. Since the number of students is so high, approximate ±100 heads will be additionally included which consists of some of the academic faculties as well. But this is only the initial hypothesis. The sample size will be further calculated to obtain the exact number of participating heads in this very research study.

From the class lectures, the formula for sample size calculation is as follows:

**Sample Size Formula**

$$n = N \times \frac{\frac{Z^2 \times p \times (1-p)}{e^2}}{\left[ N - 1 + \frac{Z^2 \times p \times (1-p)}{e^2} \right]}$$

| N | Population size |
|---|---|
| Z | Critical value |
| P | Sample proportion |
| E | The margin of error. |

Now, the population size of Shanghai is nearly 1, 20,000. The critical value is 1.96 and the confidence level will be kept at 95%. And according to the Z table, α is 0.05. Furthermore, a

50% sample proportion will be chosen. Finally, the margin of error is kept at ±2%. The error margin ascertains the reliability of any research analysis or its outcomes. In statistical language, it has been captured as the error margin. The higher the error margin, the less likely is the outcome of the study; which means chances of the results being true for the entire population is less (Gilliland&Melfi, 2010). The concept behind error margins and confidence level in any research study will always vary by a specified amount from the whole real population (Hunter, 2016). Hence, a standard 95% confidence level with a specific error margin of +/- 2 is always considered the safest combination. This means that the study results will be accurate within 2% points, almost 95% of the time. Therefore, the sample size is 2465 after calculation. So, **2465** students are required to be enrolled in this study.

**Sampling strategy and study intervention**

Before the study commences, experienced personnel, preferably a non-educator, will be appointed solely to conduct and coordinate the entire study with the researchers and participants. He will be in charge of the respective assessment and intervention of the study. The concerned individual needs to have certain experiences in a statistical organization.

For this randomized trial, the following will be the eligibility criteria:

o   Only the primary students from Class I to Class VI will be selected for the study.
o   Each class has ±40 students altogether. Each class will be paired with the immediate next. This means, **Group 1** will consist of **classes I and II, Group 2** will have **classes III and IV,** and finally **Group 3** will harbor **classes V and VI.** So, the study makes three pairs of class groups altogether. The reason behind this pairing is that in any RCT based research analysis, the matched pair approach is the best and the most commonly used design technique for any educational investigations. It not only saves time but also eases the extensive analysis of the researcher with such a humongous dataset from so many heads.

The person allocated will thereafter enroll the classes into the prospective intervention group. The person will be well informed about the main aim of the research that he is about to coordinate. Secondly, he must be given a brief training of how a randomized trial has been planned and how he will mediate the research scope with all the participating candidates.

Also, the other pair of the class becomes the control group. Courses of the intervention group need to go through a few guidelines before the course initiates. These guidelines are written in native language for them to comprehend what knowledge they are about to acquire. However, the study requires the students to learn to speak the English language; but the

gradation and emphasis will be in improving their vocabulary and fluency in speaking. The study duration will be approximately eight weeks.

Primarily, each student will be assigned a particular **study code** to avoid confusion, thereby maintaining the confidentiality of their identity.

**Determinants (Measures):**

- Personal learning curriculum and timeline.
- Vocabulary and fluency.

## Data collectionand analysis:

**Pre-test:** All students need to undergo a verbal pre-evaluation speaking test before the study begins. This will give a brief status of their current **speaking capabilities**, **vocabulary, and fluency**. Their scores will be assessed by the coordinator and shared with the research team.

**Post-test:** Following the PL implementation in each class, each paired classroom students will be given one final verbal evaluation test to see if there is any significant difference between the two observations. This assessment will be conducted after 7-8 weeks of the study. The scores from the post-test will be compared to the pre-test scores using customized algorithms like ANCOVA. The intent is to assess their speaking ability and any significant improvement after adapting the PL approach. This will be assessed using a separate score sheet for each student.

| Areas | Scoring parameters | Significant improvement | Moderate improvement | No improvement |
|---|---|---|---|---|
| Fluency and coherence | • Does the student hesitate while speaking?<br>• Does he connect different words with his ideas? | | | |
| Grammatical knowledge and accuracy | • Does he use complex sentences while speaking? | | | |

| | | | | |
|---|---|---|---|---|
| | • Does he commit grammatical errors? | | | |
| Pronunciation | Does he pronounce correctly? Does his intonation vary? | | | |
| Lexical resource | Does he use good vocabulary in his statements? | | | |

This verbal test will help the teachers to understand if the intervention group is benefitting the learners or how far they have obtained or derived knowledge from the study. Using ANCOVA is crucial as it delivers better power and improved abilities to categorize and detect the variables being investigated. It also lays attention to examine the measurement inaccuracies in the covariates.

**Internal and external validity**

**Internal validity:** This research is based on random selection and allocation which eliminates the possibilities of experimental biases. The secretion of the research allocation is obtained during allocating schools to different groups of students and teachers. Also, this entire process is conducted by an individual who has been appointed separately. He is independent of the intervention of the research and therefore has no special interest in the study. His performance will not be biased. Also, the participating group has the same PL approach and the educators share similar teaching materials. This helps to reduce the potential interferences of the study. The allocated individual assigned for gradation has no prior knowledge about any student. Hence subjective views will not cause any partiality of the scores. And finally, each participant must be taken good care of to avoid resentful demoralization; and they should also implement reward from the study's inceptionto limit the possibility of attrition or dropoutrates.

**Ethical considerations**

- Voluntary participation is necessary for the study.
- The participants must be briefed about the research objective thoroughly.
- Informed consent must be documented from each participating candidate and well preserved.
- The participant candidates must not be subjected to any harm.
- Since most of the participants belong to primary classes, the sole decision of their participation will be of their parents or caregivers.

**Strengths and Limitation of Design 1**

In this study, the sample size is big enough a number to derive a convincing outcome from the study. Secondly, the study is a randomized trial altogether. Hence, it limits the likelihood of allocation biases. Thirdly, this design does not include many classes but a fixed range from Class I to Class VI. It limits the inclusion of countless heads, making the study design almost impossible. And also, a set range of the class group selection will enhance the validity of the analysis. Finally, the study will provide a great tool to assess the cause-effect association between the intervention and the potential outcome.

However, there are several **limitations** to this design. Firstly, RCT involves a humongous expense and time. The research has its limited resource and has been expected to incur the cost within the study budget. Secondly, an RCT based research approach does not always produce results that imitate real-life situations. Additionally, for an RCT, power calculation to determine the sample size is crucial and cannot go wrong. Therefore, extra care needs to be given to evaluate the estimates before commencing the study. The study will happen within the Shanghai district and not beyond its territory. The validity of the outcomes will require more than one study site which, although challenging to manage but produces better results to authenticate a study analysis. Hence, taking a specific academic institute in the Shanghai district as the only research venue limits the effectiveness of the research is proving it with confidence that a PL approach is the best technique when it comes to learning English as a foreign dialect.

## Research Question 2

What are the advantages of PL approaches based on Chinese high school students'experience and viewpoints?

**The nature of the RQ and the design and how the two match**

The research question in the second part is a descriptive one. The main intent of this question is to figure out the perception and attitude of the teachers regarding the application and advantages of PL among high school students. According to Bryman (2016) and Cohen et al. (2017), any piece of information as attitudes or personal viewpoints are meaningful and relevant unless the entire dataset is accumulated at a single time point. Hence, in the second part, a predefined questionnaire will be circulated among the participating students. After they complete it, it will be collected from them synchronously. This meets the aspects of a **cross-sectional study** and it is purposely introduced to assemble the dataset and the results as its design are mainly applied to examine the existing features of the research at a specific time point.

**The warrant of the conclusion**

For this research, the sample size is quite large and representative since all the primary schools are selected from different big cities of China at the same ratio at the same time. This makes it easier for the research team to compare them from all the data they collect. To serve the intended purpose, this study will apply a 5-point Likert scale questionnaire to study and measure the attitude of the participating candidates towards PL. And, qualitative research with the questionnaire is collectively known to be one of the most effective approaches to measuring the same as per Bryman (2016).

**Design notation**

T1

Obs1; Obs2; Obs3 ... Obsn

(T=at the same time; O=observation)

### The design features and components

### Sample:

The primary schools are selected from several big cities all across China. This includes Beijing, Guangzhou, Shanghai, Chongqing, and Wuhan, which represents the northern, southern, eastern, western, and central part of China respectively.

Nearly 400 high schools are present all over these five cities and as per this count, this study team will invite 50% of schools to participate in this study. Hence, the total number of schools will be 200. Each of the five cities has the same population sizes and hence around 40 high schools from each city will be selected. From each school, the research team will select on classroom randomly as the representative participant. Since the average student per class of Guangzhou is approximately 50, the total number of students to be allocated for this study is 10,000.

### Measures:

**Motivation:** Students are instructed to complete a motivation inventory. Their responses will be measured as per the 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The types of questions will be as follows:

- I feel I am utilizing my abilities to learn whatever I wanted to.
- I felt like it was my personal choice to pursue this task (Hanus& Fox, 2015).
- I felt my abilities have been put to their best use through these tasks.

**Vocabulary and fluency:** The students already have given a vocabulary test in the previous assessment. However, in this section, they will be provided with a set of questions where they will assess their improvement. The responses will follow a similar pattern as before. This includes questions such as:

- I feel I am more confident with my words and phrases than I was before.
- I do not think much before a sentence; hence I am more comfortable with my fluency.

**Class satisfaction:** The questions set here will focus on participating students' feelings and emotional thoughts. Satisfaction level will be categorically measured on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The questions to be included in this are as follows:

- My learning patterns in the classroom gave me a lot of mental happiness and satisfaction (Hanus& Fox, 2015).

- I was content with the learning approach which helped me get rid of my incompetence.

**Student empowerment:** Theoretically, an 18-item scale of learner empowerment is one of the most applicable methods. It determines how much power have the students acquired from their personalized learning (Weber, Martin, &Cayanus, 2005). The determinant will be measured on the same basis. The questions will be as follows:

- This approach helped me to identify my unique learning pattern which will help me to work more on my strengths in the upcoming future.
- With the assistance of this learning course, I shall be able to accomplish my future objectives.

## Data collection and analysis

For RQ2, a questionnaire having some specific closed-ended questions will be circulated among the participating candidates in the form of a written paper. Before the study, a few ethics must be adhered to. Firstly, the questionnaire is anonymous wherefrom the participants' original identity cannot be revealed. This will automatically reduce any experimental or intervention biases. Unlike the previous design, this dataset will be analyzed using SPSS statistical tool. The scores of each student will be put into a specific custom algorithm (SPSS) to determine the extent to which the students express their agreement/disagreement for a particular question.

### Internal and external validity

There had been numerous arguments on the internal validity of observational research. But Carlson and Morrison (2009) argued that itmajorly corresponds to the strength of the potential inferences arising from the research. This highlights the fact if the intervention has the potential to make any significant change/difference in the overall study outcome. However, it was challenging for the research team to develop causality for the second design and focus more on the aspects of the association. This automatically makes the internal validity a bit weaker as it is obtained solely from data collection. Although the research includes five distinct geographical locations, the questionnaire will be circulated among the students at the same time which accounts for its validity to a great extent. Secondly, after the responses are collected, the data will be coherently analyzed and verified for their authenticity. Any invalid piece of question

will be readily removed to guarantee the experiment's internal validity.Carlson and Morrison (2009) further state that external validity corresponds to the sheer ability to generalizethe outcomes of potential research to a more universal population.Particularly for this study, its external validity is fairly strong, unlike its internal validity. The main reason is that the participating sample is selected from five different Chinese geographical locations.Secondly, the chosen schools are all randomly employed. This provides a strong ground for this study to be generalized to most of all Chinese primary or high academic intuitions.

**Ethical considerations for Design 2**

- Informed consent from all the 15 teachers must be well documented before the study.
- It will be an anonymous interview and the teachers' confidentiality must be maintained.
- Only the interviewer and the research coordinator will have access to the interview responses and transcriptions.
- When the interview results will be reported, pseudonyms will be used for each participant.
- None of the respondents must be given the questions before the scheduled date as it might affect the responses unwontedly.

**Strengthsand limitationsof Design 2**

Since it will be an interview, it will provide the interviewers with the flexibility to get the best possible responses from the participants. Also, such conversations will have a more robust response rate than questionnaires because the interviewer can directly judge the respondent from his non-verbal behavior as well. The researchers have control over the question order that helps to evaluate the spontaneity of the responses.The design includes the participation of a few of the educators. Hence, at the end of the study, it will generate a combined response of the two. This will immensely help the researchers to establish the effectiveness of PL. Since it includes the teachers it will strengthen the scope of the study outcomes because they will give a deeper insight into the PL implementation and their personal experience with each participating student. Moreover, the teachers will be providing a brief narration of how the learners' parents generally responding to such learning. Since the second part highlights the methods' merits and limitations, it will influence future researchers to design their experiment accordingly.

Since this section deals with the interview, it needs to deal with refusal as well. Hence, it is the researcher's job to overcome this limitation and persuade as many heads as possible.Considering the budgetary restrictions of the study, the interviews might demand huge costs which could be a challenge for the present research. Also, not everyone will be available all the time together. So, the interviewer is responsible for planning things accordingly to avoid last-minute dropouts.The respondents may have issues with the anonymity of an interview session.

## Conclusion

To sum up the entire discussion, the concluding section will brief about each layer that has been elaborated so far. It begins with the relevance and growing prominence of PL in EFL courses. It carries out an extensive literature mining and narrates the existing knowledge on PL and its implications of English vocabulary. It poses two questions and designs individual methods to conduct the study effectively. Both the research questions cast light on the effectiveness of PL and the learners' attitude towards such learning in EFL courses. This will help many future researchers in planning their most preferred research design. The first purpose is to investigate how this technique has been aiding the learners. The secondary aim of this work is not to highlight a readily applicable PL model; rather the purpose is to look at how the students perceive this learning approach and what is their current attitude towards the same. Their experiences will be mirrored with previous studies. These will readily prove the reason for which they began their experiment. Unlike the first design, the second one primarily focuses on students' experience and attitude towards personalized learning patterns in high school. And, it categorically used a written questionnaire as the tool. With the hope that this study will successfully respond to all these questions, it also includes the strengths and limitations of each design method. Hence, in conclusion, it can be said that this will help other investigators as a manual guide to frame and structure their further research.

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