

The Deming PDSA theory and teacher preparedness- an evaluative study

¹Dr. Usha Sadasivan,

²Dr. S. Vijayalakshmi

¹Head, Department of English, Meenakshi College for Women, Chennai, India.

²Associate Professor, School of Social Sciences and Languages, VIT, Chennai.

Abstract

Teachers have to continually reinvent themselves. Situations especially like the pandemic scenario we recently witnessed, calls for a lot of inventing and re- inventing of teaching resources. This is the time for reflection. Can teaching be taught? Do teachers learn to teach or are they endowed with an innate gift for pedagogy? Planning the lesson is discussed in the background of Deming's Plan- Do-Study-Act (PDSA) theory. As part of the study, a survey was conducted among a select group of teachers regarding their level of planning for a class. The aim was to test the level of teacher preparedness and to check whether they had a Plan B always lined up.

Keywords: reinventing- PDSA theory- teacher preparedness.

Introduction

Teachers have to continually reinvent themselves. Situations especially like the pandemic scenario we recently witnessed, calls for a lot of inventing and re- inventing of teaching resources. This is the time for reflection. Can teaching be taught? Do teachers learn to teach or are they endowed with an innate gift for pedagogy? Can teaching be learnt from copying others or from reading books on teaching? One thing that cannot be contested is that teaching is a process of passing knowledge from teacher to student and that learning involves absorbing or memorizing information. In this process of information transfer, from teacher to learner, planning is of paramount importance.

Objectives of the study

The teacher must plan. No lesson can move forward in the right direction without a pre -thought out plan. In this study, the researcher has discussed using the PDSA approach by teachers in planning out a lesson. This is more significant in the present scenario where the teacher must constantly keep reinventing themselves, and keep changing plans and re-plan.

Teachers should have a plan for implementation. This implementation of the teaching plan can be discussed in three stages: -

1.Adopting

The first stage in any teaching plan is to adopt a teaching methodology. This could be either didactic or inductive or a mix of both. This comes from experience and in the early stages the teacher will be mostly sticking to one type of teaching.

2.Amending

Once the teacher has decided on a particular approach to teaching, the teacher will follow this method as long as the method works. Once a road block is reached, the teacher will have to do a repair job and see where amendments will be required to move the lesson forward. Again, with experience, this amending of teaching plan will not be difficult.

3.Replacing

The third and final stage in a teaching plan is to know when to give up. Once the repair job has not been successful and it looks like the plan is heading to nowhere, it is better to give up at this stage. Discarding Plan, A and opting for Plan B at this stage is the right decision. Once the teacher has planned to take up the second plan, the three stages will continue in a cyclical fashion. Sentimental attachment to an old method or adamancy that Plan A cannot possibly go wrong is not the right attitude. Teaching is after all a learning and re-learning process.

In this voyage of teaching, the teacher will learn to identify the type of learners. This comes with teacher and learner interface. It will be found that some learners are sequential, some are chronological, some thematic and some learners may be abstract. Teachers require tolerance and understanding of these differences in learners. Ideally, teachers should be open to differing types of learners. They should recognize that not all individuals learn in similar ways. Teachers should learn to customize their teaching to suit different and heterogeneously endowed learners.

Teacher education programmes should be enriched and the faculty training them should be better equipped. In *The Teacher Educator's Handbook* (1996), Barbara Senkowski Stengal and Alan Tom note that traditional teacher education programs are typically marked by the three components of foundations of schooling and learning, teaching methodology, and practice teaching. College teaching does not have much of practice teaching and most of the training comes from experience on the job.

In this context, the teacher has to learn to equip themselves by having their lessons planned well. A typical lesson plan should have the following stages: -

1. Curriculum outline: - at this stage the teacher should have a clearly formulated curriculum, having clearly defined teaching objectives and desired learning outcomes.
2. Second stage involves designing a detailed sketch of the of lesson having a clear workflow chart with feedback checks at every stage. This will ensure that targets are being achieved.
3. Third stage is the realization that the alignment of objectives and outcomes do not match and deciding on an alternate plan.

Planning the lesson can be discussed in the background of Deming's theory involving cycles of assessment planning which usually follow the cyclical process of Plan- Do-Study-Act steps. This can be explained, in the context of teaching as follows: -

Step 1: Plan

- Plan the lesson by stating the objective of the lesson.
- Make predictions about what will be outcome of the lesson.
- Develop a plan to test the lesson – who are the participants, what is their level of proficiency, what is the immediate skill being tested

Step 2: Do

- Try out the lesson on a small scale.
- Carry out the lesson as pre- scheduled.
- Document problems and unexpected observations.
- Conduct a mini test of the lesson taught.

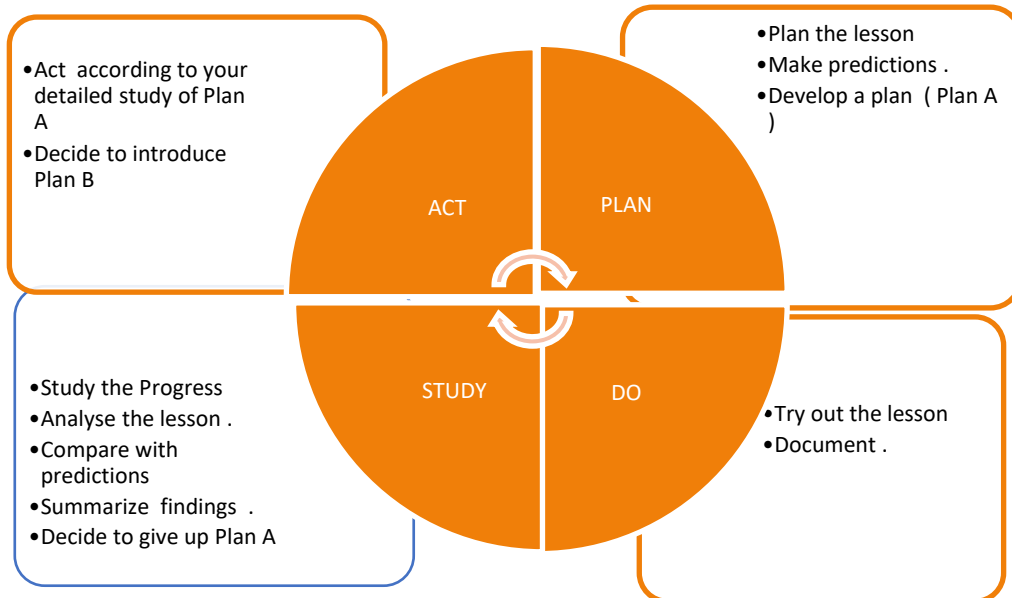
Step 3: Study

- Study the progress of the plan
- Analyse the lesson against the original plan outcome.
- Compare the results against set predictions
- Check how close or how far the lesson is going towards the desired learning outcome
- Summarize your findings objectively.
- Reflect on where the plan was progressing and where it is failing.
- Decide to give up Plan A at this stage and plan to implement Plan B

Step 4: Act

- Act according to your detailed study of Plan A
- Decide to introduce Plan B to replace Plan A in a seamless manner

For Plan B also the same four stage process of Plan-Do-Study-act has to be followed. These four steps can be repeated again and again. It is a never-ending cycle of continual learning and improvement.



Planning and preparing for teaching

Planning is the best antidote for the nerves that many people feel when teaching a subject for the first time or meeting a new group of students. It is also the only way to ensure that your educational objectives are achieved. Planning begins with thinking about how you would like your students to approach their learning in your subject, and what you would like them to understand, know or be able to do by the end of the session. Teaching is not an easy process, and it takes much thinking and preparation to create great lessons for students. While many different interpretations are perceived regarding teacher effectiveness, one thing that is an essential requirement for effective teaching is undoubtedly good planning. Planning for a lesson makes the teaching-learning encounter valuable. Conversely, no planning leads to a wasteful and unproductive lesson.

If a lesson is to be effective, the teacher needs to make decision in these areas before the lesson. The teacher needs to identify the objectives and to select and organize students learning

experience that will develop the objective. Decision has to be made about activities to be used, materials to be gathered, amount of time to be spent, and also what method or instrument to use to achieve best results. Good planning will give direction to teaching and result in worthwhile efficient learning. No doubt careful, detailed planning concerning purposes, implementation and outcomes would translate into successful teacher behaviour in the classroom.

Methodology

The present research was to test the level of preparedness of teachers. It was studied against the backdrop of the Plan Do Study act system of planning. During the pandemic, lessons taught in the traditional way with a very high success rate, had to be planned again, from a different view point. Tried and tested methods of lesson planning needed to be tweaked quite a bit.

A survey was conducted among a select group of teachers regarding their level of planning for a class. The aim was to test the level of teacher preparedness and to check whether they had a Plan B lined up.

The survey was an attempt to answer the following research questions: -

Do teachers go planned to every class?

Do teachers have a Plan B as a backup?

Do teachers need to unlearn and relearn continuously?

Have teachers heard of the PDSA model?

Does planning lead to better success in teaching and learning?

Samples- A select group of teachers were administered a questionnaire. They were drawn from colleges and schools in a select region. The questionnaire was administered via Google forms and administered entirely online. Questions were of the Likert scale. The questions were designed to test their level of preparedness in three cluster of questions.

Cluster one tested their Planning during the pre-implementation stage

The teachers were asked how many hours they spent planning for a lesson, and also if they allotted particular slot for Question-and-Answer session.

The second cluster of questions dealt with Planning during implementation stage.

The respondents were asked if during the implementation of the lesson, especially during online teaching sessions, how they filled up any extra time.

The third cluster of questions was how they reviewed their teaching Plan.

They were quizzed on how they viewed change, and whether they were prepared to relearn.

Data Analysis

The response to the question on how many hours they taught per week, 33.3% percent taught for 10-12 hours per week 33.3 % for 13-15 hours, 26.7% taught for 16-18 hours per week.

60 % of the respondents required 1 hour to prepare for a class, 20 % required more than 2 hours while 33.3 % of the respondents required less than an hour to prepare for a class.

80 % said that they allotted time for Question-and-Answer session and 20 % said they sometimes allotted time for Q &A Session. To the question on completing their class ahead of the scheduled time, 73.3 % said sometimes they did, while 20 % said they never finished ahead of schedule. The respondents were allowed to choose more than one option, to the question on how they filled this extra time. While 53 % said they filled this gap by organizing an activity that was preplanned, 73.3 percent said that they used this time to clear doubts, 26.7% used the time to give instructions for the next days' class. 20% of the respondents closed the class a little ahead of time.

To the question of whether they thought planning a class like a mini experiment would be more successful, 86.7% said yes while 13.3 5 said they were not sure.

To the question, if they were game for meticulous planning which could involve adapting or abandoning of ideas, 33.3 % said yes, 46.7 % said maybe, while 20 % said sometimes, not a single respondent said no.

86.7 % felt that teachers need to unlearn and relearn continuously to a great extent, 13.3 % said to some extent. No respondent answered no.

To the question whether they had heard of the Plan-Do-Study-Act theory (PDSA) 26.7 % said Yes, 60% said No while only 13,3% said maybe they had heard of it.

Findings

In response to the question if they were game for meticulous planning which could involve adapting or abandoning of ideas, 33.3 % said yes, 46.7 % said maybe, while 20 % said sometimes, not a single respondent said no. Again 86.7 % of the respondents felt that teachers need to unlearn and relearn continuously to a great extent, 13.3 % said to some extent. No respondent answered no. This again is clearly a pointer that teachers were willing to re- learn.

To the question on whether they had heard of the Plan Do Study Act theory of planning, only 26.7 % said that they had heard of it, 60% said they had never heard of it, and 13.3% said maybe they had heard of it. Most of the respondents were eager to know more about the PDSA quality system of planning.

Conclusion

The survey is especially significant as planning is very important in the outcome of any teaching endeavour. The survey has thrown light on the importance of having an open mind to change, of having a backup plan at all times, and also of knowing exactly when to go for Plan B when Plan A was not going as planned.

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About Authors



Dr. Usha Sadasivan is the Head, Department of English, Meenakshi College for Women, Chennai. She has Masters degrees in both English Literature and Mass Communication. She completed her doctorate in English Language Teaching. Dr. Usha Sadasivan has over 25 years of teaching experience and has published articles in Scopus indexed journals and in reputed peer reviewed journals. She has authored several text books for students.

Dr. Usha Sadasivan has received the following awards:

1. Milestone Chevron Award from the Lions Club International in 2017
2. Best Senior Faculty Award for year 2020-2021 by the Novel Research Academy,
3. International Excellence Award – 2022 for Excellence in Education, awarded by the International Council for Education, Research and Training, School of Education, Central University of Haryana, India.



Dr. S. Vijayalakshmi M.A. M.Phil. B.Ed. Ph D is an Associate Professor (Senior Grade) of English from the School of Social Sciences and Languages, VIT, Chennai. Dr. S. Vijayalakshmi has done her Ph D in CASLA (Computer Assisted Second Language Acquisition). She has over two decades of teaching experience. She has handled diverse subjects like Technical English, General English, Communication Skills, Soft Skills, Professional Ethics and Business Communication at the tertiary level. She is into material production and has contributed to textbooks and work-books for school and college students. Her forte is Vocabulary Enhancement Techniques and Stress Patterns in the English language. She has been a resource person for several FDPs and has a number of publications to her credit.