

## REFLECTIVE PRACTICE-A CREATIVE MEANS OF TEACHING

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### ABSTRACT

One cannot say that a particular method is the only method of teaching a particular concept. The teacher, who is a researcher as well, used traditional method of teaching i.e. explaining the content from the textbook. However, students did not fail to respond to the method used but felt difficulty in learning and applying the concept. Then Teacher realized through oral and written feedback the difficulty faced by students and changed his mode of teaching.

First, he explained the concept of content from the textbook and discussed the same with the help of an example. He divided the students into groups and gave other examples along with a question related to the concept, which was useful for the subject of the course and asked the students to apply and give the answers (result) after thorough discussion. He moved round the classroom and interacted with groups clearing the doubts of students. In this way, he prepared the students for the class. He started teaching the content/concept from the textbook. Students understood the concept and felt very happy in learning and applying the concept. The teacher realized the happiness of students regarding the concept learning through oral and written feedback. Later he surveyed the literature and understood the use of diary writing. Now he started writing diary and noted down his experiences for guidance in the future. He has taken three tasks and guided students successfully. The answers in internal exam papers of students confirmed that it is the best way of teaching. Thus he found a new and effective method of teaching through reflective practice.

**Keywords:** Reflective practice, concept learning, diary writing, literature survey.

### INTRODUCTION

According to M.R. Kuren (2002), 'a significant section of students come to the college for mere fun and socialization or merely to get certificates. For them study is secondary. Some of the teachers nurture such students to escape from serious academic accountability.

At the college level, most teachers enter the profession without any training in teaching. After the entry, however, they may undergo in-service training of two kinds. They may attend Orientation Programmes and Refresher Courses offered by the Academic Staff Colleges (Ascs) established by the University Grants Commission (UGC). But, owing to two factors, namely, the inadequate number of Ascs, and college managements not being favourably disposed towards their teachers being away from their classrooms for over three weeks on a refresher course, very few college teachers can attend these courses. Again, the Refresher Courses organized by the Ascs do not have the potential to train teachers in language teaching because they are heavily slanted towards literature with inadequate, if not perfunctory, attention to language teaching in

which the emphasis is on theory rather than practice. “Moreover, in most of the ASC’s no systematic procedure of internal evaluation of the performance of participating teachers is followed.” (Chaudhary, 2002) S. K. Yadav (2007) in his paper titled ‘Professional teachers in higher education’ says, “ASC’s, and university departments are not organizing the orientation and refresher courses in a professional and specialized manner. The courses are organized in an adhoc manner just for promotional purposes ... not organized on the basis of their needs and requirements ... The competent resource persons are not employed”.

Another important reason for deterioration of quality in the degree colleges is the appointment of teachers on ‘contract’ basis, where the teacher strives hard to maintain the post but never cares for quality of teaching and prospects of his/her learners. Most of the lecturers teaching English at the degree level have come from Telugu medium background, wherein they fail to communicate in English properly.

Teachers of Chemistry may enhance their professional competence by participating in professional development programmes such as workshops, seminars, and conferences. However, these programmes are also inadequate for at least two reasons. First, such programmes are few and far between, and so not all teachers of English get opportunities to participate in them. Secondly, the approach of these programmes is based on the applied science model according to which findings of scientific knowledge and experimentation are conveyed to classroom teachers by experts, and it is up to the teachers to put this “received knowledge” into practice. This traditional teacher education model has failed to help because of the almost complete separation between theory and practice it creates.

In his preface to ‘The reflective practitioner he admits his observation that ‘Universities are not devoted to the production and distribution of fundamental knowledge in general. They are institutions committed, for the most part, to a particular epistemology, a view of knowledge that fosters selective inattention to practical competence and professional artistry’.

In a view to improve the standards of ESL learners, universities should re-orient their syllabus with a thorough focus on students’ cognitive capabilities. There is every need for the universities to look into the fast changing demands of the job market so as to make the learners employable. They should allow teachers to make active participation in setting the curriculum and be given a free hand to explore new means and ways to improve students’ learning capabilities.

#### **NEED FOR REFLECTIVE PRACTICE IN CHEMISTRY SUBJECT TEACHING**

Owing to all these factors, in particular, the applied-science approach to teacher education, the quality of the teacher’s work in the Chemistry classroom continues to leave much to be desired. There is, therefore, need to find a viable and more effective means by which teachers of Chemistry can enhance their professional competence.

Ashutosh Biswal(2007) says, “ ... we live in a time of rapid change where change itself is changing and becoming faster ... It has been observed that the development of any society depends upon the dynamic nature of its education systems ... teachers can be manipulated to make education system developed.”

Teachers need tremendous efforts to handle the present day curriculum and student community. They should broaden their horizon, to reach the level of their students, and to satisfy their queries.

They should face the challenges of the electronic media and try to use them for educational purpose or else they find themselves in a world where their present knowledge and teaching skills, would become obsolete.

“The whole notion of teacher as disseminator of knowledge is now turned on its head. While in the old scenario, the teacher was the boss, in the new scenario, the teacher becomes facilitator. The teachers, who employ knowledge in the class room, do not funnel information into their student’s heads. They guide them to information, to be accessed, and interacted with. The teacher is no longer the sage on the stage, but the guide on the side becoming less central to the learning process.” (Siddiqui, 2002) The teacher is considered as the researcher (Stenhouse,1975), reflective practitioner (Schon,1983), decision maker (Reagon,1993), and even as a strategist (Moore,2004).

In this fast changing global scenario, no other processes excepting reflective practice, which is highly exploratory is the best and could serve the ever growing needs of the English language learners and teachers by integrating both theory and practice (Barlett,1990).

Reflective practice aims at the development of alternative teaching strategies that improve the teaching skills of the novice teachers. It involves inquiry as a way of understanding;

- the conditions that support or inhibit change
- the nature of change
- the process of change and
- the results of change.

It may not be totally scientific but involves aspects such as;

- felt need
- quick feedback
- immediate result
- improvement in levels of knowledge & skills and
- immediate applicability.

Reflective teaching is extremely valuable as a stance, state of mind, a healthy, questioning attitude towards the practice of teaching profession. It is worthy doing because it creates a context which promotes professional development. It seems to be a basic mental process with either a purpose or an outcome or both, that is applied in situations where material is ill-structured or uncertain and where there is no obvious solution.

Reflective practice involves seeing learning as an iterative process. The importance of reflecting on that process has been termed ‘action science’. The process of learning is seen as a complex social activity that cannot be reduced to simplistic thinking. Reflection plays an integral role both in action and learning from the action. The reflection proposed involves an openness that requires teachers to challenge their own assumptions and continue to develop their skills. It involves articulating what is normally unsaid and facing up to the distinction that exists between espoused theories and theories in use, which requires explicit documenting of the shifting understanding of learning experience.

Critically reflective practice embraces subjective understanding of reality as a basis for thinking more critically about the impact of teachers’ assumptions, values and actions on others. It helps the teachers understand how they constitute their realities and identities in relational ways and how they could develop more collaborative and responsive ways of conducting language classes at under graduate level.

Reflective practice identifies relational behaviors that create an effective learning environment in the work place, and enhance the ability to learn and also gives an opportunity for the language teachers practicing reflection to examine the fundamental reasons why people do not learn to deal with uncertainty, ambiguity, and change and thus helps them to design their classes more effective, step-by-step process for understanding and facilitating desirable change.

Thus reflective practice helps the 'nearly qualified teachers' to embark on their professional lives and of practicing teachers, to explore discontinuities between actual and desired teacher identities and the transformations that take place over time. The present study emphasizes the importance of 'technologies of the self' in order to develop teachers' self awareness.

Reflection begins with the recognition of a dilemma and an affective response. This emotional awareness provides a bridge to critically analyze basic assumptions and beliefs about students, learning and one's practice of teaching. Developing a reflective process involves asking and answering the fundamental questions of:

- What do I do?
- How do I do it?
- What does this mean for both myself as a professional and those whom I serve?

A reflective approach thus allows practitioners to link milieu with individual experience while at the same time resolving the tensions between subjectivity and objectivity through a focus on commonsense knowledge. Reflective practice, as a concentrated form of activity, leads to a heightening of conscious awareness and becomes the 'tool' and 'result' in maintaining interaction in the zone of proximal development in learning.

Reflective practice has come to be recognized as a core element of professional expertise and has been particularly prominent in education. It refers to the ability to analyze one's own practice, the incorporation of problem solving into learning by doing, or application of critical theory to the examination of professional practice.

It encourages the dynamic interaction between the teacher and the learner, which in turn has a significant influence on the effective change in learning interaction. It has been invaluable as it keeps the development process alive and allows the expert teaching to add important perspectives and it also honors the assortment of experiences and expertise that is contained by a professional teaching community.

In the classic work of Dewey we read that the reflective thinking means 'turning a subject over in the mind and giving it serious and consecutive consideration. It enables us to act in deliberate and intentional fashion.' Applied to teaching, reflection on pedagogy is the critical examination of teaching practices from a personal perspective and from the perspective of others. Reflective teaching involves giving careful thought to the instructional choices made throughout the process of planning and teaching. It is anticipating and assessing the impact these choices have on student learning, and deciding how this information should be used to make sound instructional decisions in the future.

There are numerous ways for faculty to attempt to change their teaching through reflective practices. Some examples include case discussions where several faculty come together to discuss teaching vignettes and to explore various perspectives about teaching (Hutchings, 1993); teaching portfolios that provide a faculty development account of teaching activity over a period of time (Edgerton, Hutchings, & Quinlan, 1995), and peer mentoring where faculty work in pairs and support each other through the planning and teaching process. The common goal of all of these is to develop a heightened awareness of one's own pedagogy, to be aware of the instructional decisions one is making and to realize that the choices that are made impact on the learning in the classroom.

Each of these practices has advantages and limitations for any particular faculty member in any particular environment.

Before last year, first year intermediate (11<sup>th</sup> grade) syllabus was changed and modified on par with CBSE (CBSE=Central Board of Secondary Education) syllabus. Last year, 2nd year intermediate (12<sup>th</sup> grade) syllabus was changed and modified on par with CBSE syllabus. In our state, most of the students joining schools, opt for

state syllabus (SSC, SSC=Secondary school certificate) (syllabus designed to exclusively Andhra Pradesh students) and only few students opt for CBSE syllabus (syllabus designed to all states in India). Up to 2006-2007 there was no problem for the students who opted for state syllabus (SSC) up to X class because Board of Intermediate Education framed the syllabus which suits both state board (SSC) and CBSE students. The problem arose only in 2007-2008 academic year due to the influence of corporate colleges or officials or political people or many other factors. The problem is that the syllabus designed on par with CBSE and that is burdensome for SSC students. The argument from corporate side is that all students can attempt and compete all state based and central based examinations and can join in IITs (Indian Institute of Technology), NITs (National Institute of Technology), Central Universities and state universities. However, the disadvantage of SSC students is their syllabus, which is different from CBSE and their examination pattern (choice based) which is different from CBSE (no choice).

One more peculiar situation is that they are changing the syllabus from sixth to tenth and equalizing the syllabus with CBSE syllabus from 2008-2009 academic years. One more disadvantage is allotment of hours. Officially there are 3 periods (each period=50 minutes) per week for chemistry. Moreover, the syllabus was completed in 3 or 4 months and allotted rest of the schedule to EAMCET (Engineering and Medical Entrance Test), AIEEE (All India Engineering Entrance Examination) and IIT coaching. When the syllabus is completed in hurry, Can the students understand the concept of subject? It is a million dollars question. Even a merit student who does not have IIT foundation coaching in 8, 9 and 10th classes, does not follow the concept when it was taught in hurry. There is no time for reflective practice for a teacher because he will be in helpless situation and should obey the management ideas. Keeping the above situation in view, the teacher made some classroom research on reflective practice by taking three different tasks.

## RESULTS AND DISCUSSION

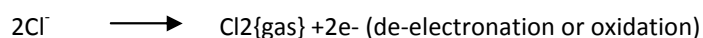
### TASK 1: Phenomenon of Electrolysis

#### Before reflection

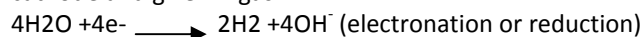
The following matter has been taken from various text books published for intermediate and undergraduate students (Brahmaji Rao, S et al)

#### Electrolysis of KCl Solution

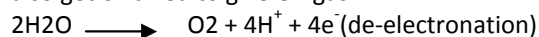
The electrolysis of aq. KCl solution differs to some extent from that of molten KCl. In aqueous solution of KCl too, there will be  $K^+$  ions and  $Cl^-$  ions due to ionization of KCl.  $K^+$  ions travel to the cathode but cannot undergo reduction to metallic K at platinum electrode in aqueous solutions under the normal conditions (The reasons you learn in higher classes) But  $Cl^-$  ions travel to the anode and undergo oxidation (de-electronation) to  $Cl_2$  gas.



$H_2O$  is also present in the solution, and therefore, the water ( $H_2O$ ) molecules undergo reduction at the cathode and give  $H_2$  gas.



Therefore, in the electrolysis of aqueous KCl solution,  $H_2$  gas was obtained at the cathode and  $Cl_2$  gas was obtained at the anode. However,  $K^+$  and  $OH^-$  (formed in the cathode reaction) ions remain in the solution. But on-prolonged electrolysis, and when most of the  $Cl^-$  ions are oxidized,  $OH^-$  and water molecules in the solution also get oxidized to give  $O_2$  gas.



Thus, in the electrolysis of aqueous KCl solution,  $H_2$  gas and  $Cl_2$  gas are obtained mainly at the cathode and the anode respectively. However, in the later stages of the electrolysis,  $O_2$  gas is also obtained at the anode.

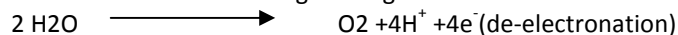
Cl<sup>-</sup> ions are more easily oxidized than H<sub>2</sub>O molecules and therefore Cl<sub>2</sub> (gas) is liberated first at the anode. O<sub>2</sub> is also liberated at the anode later due to OH<sup>-</sup> and H<sub>2</sub>O molecules.

From the above facts, it is understood that in aqueous solutions, H<sub>2</sub>O molecules are also capable of undergoing reduction and oxidation as per the equations.

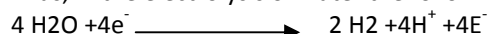
#### Reactions at the cathode to give H<sub>2</sub> gas



Oxidation at the anode to give O<sub>2</sub> gas



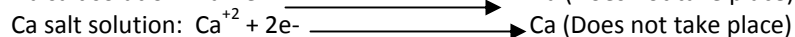
Thus, in the electrolysis of water the following reactions occur



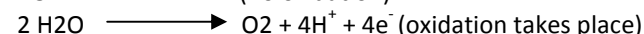
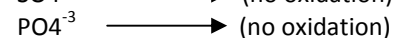
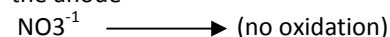
Net reaction  $2 \text{H}_2\text{O} \longrightarrow 2 \text{H}_2 + \text{O}_2$  (H<sub>2</sub>O molecules are cancelled on either side). Thus two water molecules require 4 e<sup>-</sup> for complete electrolysis or two moles of H<sub>2</sub>O require '4e-xN' moles of electrons. This is referred to as 4 Faradays. Thus, 2 moles of water require 4 faradays for complete electrolysis or one mole of water requires 2 Faradays. Some generalization regarding electrolysis of aqueous solutions between platinum electrodes:

In the case of salts of alkali metals (Na, K, Cs salts) and alkaline earth metals (Ca, Ba, Sr salts) in aqueous solutions, metal ions do not undergo reduction normally and so do not give the corresponding metals at the cathode. Instead, H<sub>2</sub>O molecules undergo reduction and give H<sub>2</sub> gas

#### Example



Oxo anions (NO<sub>3</sub><sup>-</sup>, SO<sub>4</sub><sup>-2</sup>, PO<sub>4</sub><sup>-3</sup>) of salts in aqueous solution do not undergo oxidation at platinum electrodes under the normal electrolysis conditions. Instead, H<sub>2</sub>O molecules in solution undergo oxidation and give O<sub>2</sub> at the anode



#### Some tips of Electrolysis

- Fused NaOH (Extraction of sodium-Castners process) When fused NaOH is electrolyzed between iron and nickel electrodes Sodium is formed at cathode and O<sub>2</sub> is evolved at anode.
- When fused NaCl is electrolyzed between carbon anode and iron cathode sodium is formed at cathode and Cl<sub>2</sub> is evolved at anode.
- When brine solution is electrolyzed between iron cathode and graphite anode, H<sub>2</sub> is evolved at cathode and Cl<sub>2</sub> is evolved at anode.
- When fused MgCl<sub>2</sub> is electrolyzed between graphite anode and iron cathode Mg is formed at cathode and Cl<sub>2</sub> is evolved at anode.

S.No	Electrolyte	Cathode	Anode	Products at cathode	products at anode
1	Fused NaCl	Pt	Pt	Na	Cl <sub>2</sub>
2	Aq.NaCl	Pt	Pt	H <sub>2</sub>	Cl <sub>2</sub>
3	Fused KCl	Pt	Pt	K	Cl <sub>2</sub>
4	Aq. KCl	Pt	Pt	H <sub>2</sub>	Cl <sub>2</sub>
5	Fused NaOH	Pt	Pt	Na	O <sub>2</sub>
6	Aq.NaOH	Pt	Pt	H <sub>2</sub>	O <sub>2</sub>
7	Aq.K <sub>2</sub> SO <sub>4</sub>	Pt	Pt	H <sub>2</sub>	Cl <sub>2</sub>
8	Fused CuCl <sub>2</sub>	Pt	Pt	Cu	Cl <sub>2</sub>
9	Aq. CuCl <sub>2</sub>	Pt	Pt	Cu	Cl <sub>2</sub>
10	Aq. CuCl <sub>2</sub>	Cu	Cu	Cu	O <sub>2</sub>
11	Aq.CuSO <sub>4</sub>	Pt	Pt	Cu	O <sub>2</sub>
12	Aq.CuSO <sub>4</sub>	Cu	Cu	Cu	O <sub>2</sub>

No attempt was made in any textbook to educate the students regarding the easy way of identification of products when electrolytes are electrolyzed. When the teacher was a student, he remembered that he was confused regarding the same. When the teacher was a postgraduate student only, he has come to know by discussion. When the researcher started teaching undergraduate students, he followed the textbook and he got the feedback, which was not quite impressive.

Teacher passed on the information to students about the electro chemistry given above. However, students got many doubts about the products formed. For example in the table, example 1 and 2 indicate that water is

reduced whereas in examples 5 and 6 water is not reduced but copper ion is reduced when aqueous solutions are taken in both the cases. However, students did not reveal the same doubt and felt that they have to memorize. After getting oral and written feedback of the students, the teacher realized and planned to change his method of teaching.

#### After Reflection

The teacher first explained the emf series, which gives the idea of reduction and oxidation of materials. He has given an exercise on identification of the products at cathode and at anode from electrolytes. The exercise is in the form of table containing many examples in addition to the examples given in the textbook. Again, the teacher took feedback from the students and this time it was very positive. Then the teacher started explaining the content given in the textbook. Then the teacher recorded the method of teaching in his diary for this particular topic for future.

#### TASK 2: Lipids

##### Before reflection

##### *Classification and Structure of lipids (From biomolecules chapter)*

The following content is taken from a textbook of chemistry for senior intermediate students. The teacher passed on the following information to students as it is. The students got much confusion.

Lipids are classified into three groups. These are (1) simple lipids (2) Compound lipids (3) Derived lipids. Simple lipids are classified into two types. These are (1) Fats and oils (2) Waxes. Compound lipids are classified into two types. These are (1) Phospholipids and (2) Glyco lipids. Derived lipids are classified into three types. These are (1) Steroids (2) Terpenes and (3) Carotenoids.

In simple lipids, examples like tripalmitin, tristearin, triolein and tri linolenin are given. (No clarity is given whether they are oils or fats).

In waxes Bee's wax (palmitic acid ester of mircyl alcohol), Lanoline wool (palmitic acid or stearic acid or oleic acid ester of cholesterol and Spermaceti (palmitic acid ester of cetyl alcohol) are given.

In Phospholipids (Fatty acid+glycerol or other alcohol+nitrogeneous base and phosphoric acid), Glycerophosphatides (Glycerol+Fatty acid+Phosphoric acid and a base), Phosphoinositides (Inositol replaces the base) and Phosphosphingosides (Glycerol is replaced by sphingol) are given. Structures of some phospholipids (Cephalin and lecithin) are given.

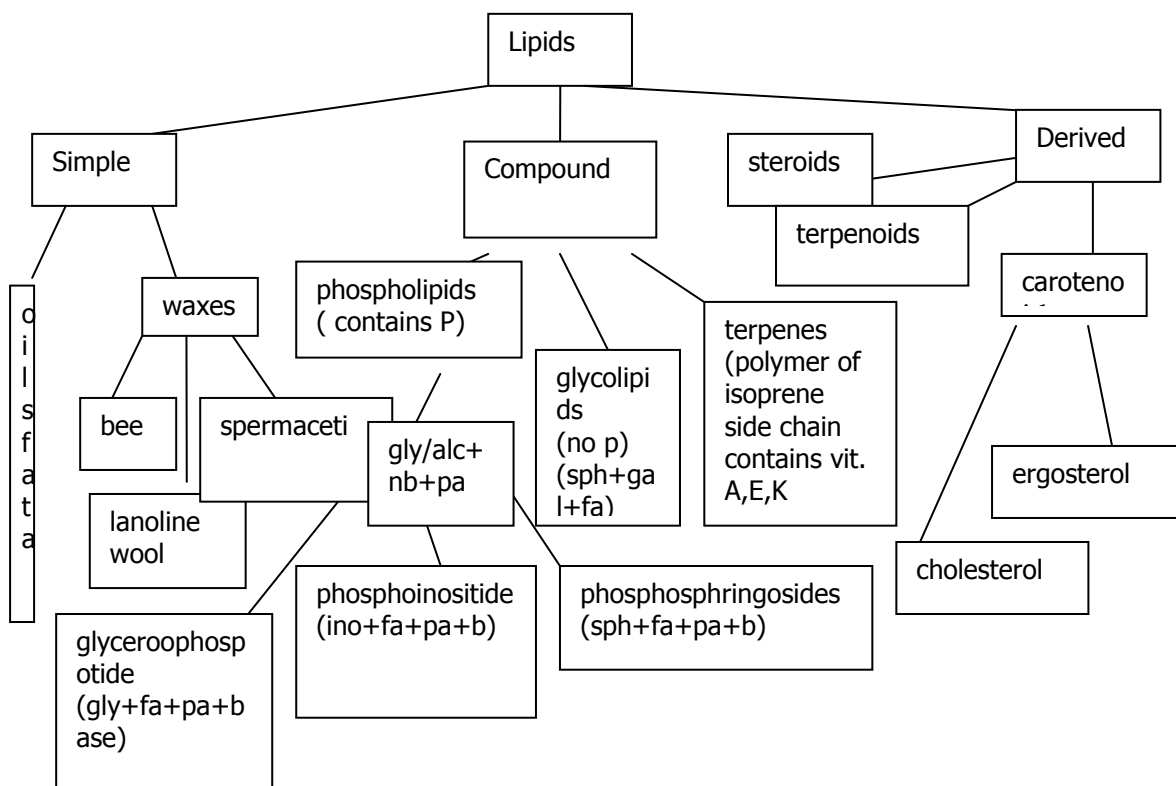
Sphingo myelins are given separately. In derived fats Cholesterol and ergosterol are given.

In all the examples lot of confusion is there regarding composition.

##### After Reflection

The teacher from the faces of his students, oral feedback and written feedback, realized the unhappiness of the students. The teacher spent two sleepless nights and changed the method of teaching. The teacher could prepare a tree diagram, which includes details of titles drawn on black board and explained slowly. He asked the students to read and he explained it twice. Students are Very happy and started respecting teacher. The tree diagram is given below.



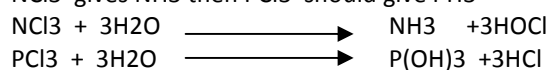


Gly=Glycerol, Alc=alcohol, fa=fatty acid b=base, pa=palmitic acid, sph=sphingol, vit=vitamins, nb=nitrogenous base

### TASK 3: Tri halides of nitrogen and phosphorus

#### Before reflection

The teacher explained the content from the textbook in traditional method. However, student felt unhappy about the hydrolysis reaction of  $\text{NCl}_3$  and  $\text{PCl}_3$  because both give same products but students felt that when  $\text{NCl}_3$  gives  $\text{NH}_3$  then  $\text{PCl}_3$  should give  $\text{PH}_3$



#### After Reflection

He again spent lot of time and has given mechanism in the following way: Nitrogen and chlorine have same electronegative values.

As nitrogen is smaller than chlorine nitrogen gets negative charge and chlorine gets positive charge. When nitrogen tri chloride reacts with water, then nitrogen combines with positively charged species of water i.e.  $\text{H}^+$  and forms ammonia.

In case of phosphorus tri chloride phosphorus has less electronegative than chlorine and carries positive charge. When phosphorus trichloride reacts with water, then phosphorus reacts with negatively charged species of water i.e.  $\text{OH}^-$  to form  $\text{P(OH)}_3$ . Students expressed their satisfaction about the lesson.

## CONCLUSION

Reflective practice created a new means of teaching each task calls for a new method to satisfy the students. No general method can be evolved for teaching the concept in the subject. Only through reflective practice, teacher uses hit and try method initially and arrives at a suitable method finally for effective teaching.

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## REFERENCES

Akhtar Siddiqui, M.2002. *Faculty development for excellence in higher education*, University News, March 25-31, 40(12), P: 13.

Ashutosh Biswal, 2007. *Quality process Norms for Frontline Teacher Education: Need of the changing world*, university news, Feb 12-18, 45(07), P: 1.

Bartlett, Leo. 1990. Teacher development through reflective teaching. In *Second Language Teacher Education*. Edited by Jack, C. Richards and David Nunan. Cambridge: CUP.

Brahmaji Rao,S et al. (2008). *Intermediate Second Year Chemistry*. Hyderabad: Telugu Akademi.

Chaudhary,U.S.2002. *Teacher Education and challenges of change*, *University News*, May20-26, 40(20), p:4.

Edgerton,R., Hutchings, P., & Quinlan, K. 1995. *The Teaching Portfolio*. The American Association of Higher Education: Washington, D.C.

Hutchings, P. 1993. *Using Cases to Improve College Teaching*. The American Association of Higher Education: Washington, D.C

Kuren, M.R General Highewr Education:Time for a rethinking. *University news*,Feb 11-17, 40(6):2002

Moore,A. 2004. *The Good Teacher: Dominant Discourses in Teaching and Teacher Education*. London: Routledge Falmer.

Reagon,T. 1993. Educating the reflective practitioner: The contribution of philosophy of education. *Journal of Research and Development in Education*. 26: 189-196

Schon,D. A.1987. *Educating the reflective practitioner*. San Francisco:Jossey-Bass.

Schon,D.A.1996. *The reflective practitioner: How professionals think in action*. New York: Basic Books.

Yadav, S.K. 2007. *Professional teachers in higher education*, *University News*, 45(09), Feb 26-March4, P: 1-3.