PROFESSION PERCEPTION AND TEACHING COMPETENCY OF SCIENCE TEACHERS WITH TEACHING EXPERIENCE BELOW FIVE YEARS COMPARED WITH VARIOUS YEARS OF EXPERIENCE (5-10, 10-15, 15-20, ABOVE 20) IN HIGH SCHOOLS.

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Introduction

Science is a cumulative and endless series of empirical observations, which result in the formation of concepts and theories, with both concepts and theories being subject to modification in the light of further empirical observation. Science is both a body of knowledge and the process of acquiring it.

Science teacher has a challenging job of actively involving her students, so that the nature of science pervades the instruction. Science pervades the instruction, science as a body of knowledge, a way of investigating, and as a way of thinking should be stressed in science teaching activities – projects, demonstrations, assignment and others. The teacher should stress the historical and developmental aspects of science as well as the cultural aspects from time to time.

Science teaching activities provide opportunities to involve students so that all the three aspects of science can be covered, useful and relevant information in the historical perspective can be presented by the teacher in the class. This can be followed by laboratory activities to develop in students a feel for the ‘method’ of science. Laboratory activities help students not only to collect data and test the validity of concepts learned but they also serve to develop scientific attitude. A science teacher can hence, promote scientific literacy among her students by helping them understand the nature of science through instructions.

Teaching as a profession: Very little literature on “teaching as a profession” has yet been created. In such a situation the question of its publication does not arise. The administration officers have also not regarded teaching as a profession, but have included in social services. Generally people regarded profession means working in as occupation for a long period.
“The real worth of any educational system largely depends upon the quality and integrity of the teachers”.

**Profession perception**

Perception like many other terms has a number of meanings and connotations. Some definitions are amazingly broad and general. This lack of restrictedness is to be found even in the usages given the term by those who study what they call perception. For many the shift in the understanding of what is to be labeled as perception has not as yet fully extricated itself mentalism.

Profession Involves activities essentially intellectual, Commands a body of specialized knowledge, Requires extended professional preparation, Demand continuous in service growth, Affords a life career and permanent membership, Set up its own standards, Exalts services above personal gain, Has a strong – closely knit professional organization. (National Education Association – 1948). The term perception actually means views and opinions. Perception is defined as an impression and its subsequent interpretation.

Perception is defined as the result of interaction between the sensory and the central nervous system processes. The faculty of an individual resulting in accurate detection of significant of desired aspects of external reality through the senses. A mental image or observation of external reality through the senses. An insight or intuition. Profession is less analytic than symbolic and represents the right and privileges which is an occupation desires for itself and the social service which it offers.

**Teaching competency** is an ability of teacher and it main manifests through his classroom teaching behavior. The behavior of the teacher in the classroom is the most direct evident that one can appeal to in a research for teaching competencies. The behavior of the teacher is capable of being observation by a trained observer.

**Significance of the study**

The study will reveal the factors that lead to teaching competency and the relationship that may exist between profession perception and teaching competency. At the high school level, the science teachers comprise of various subjects teachers viz, physics, Chemistry, Botany, Zoology and Mathematics. Their profession perception and their subject of study as well their teaching competence may also be learnt through this study. Hence, the study may reveal not only the characteristics or factors of competent teachers but also the perception of teachers towards their profession. The study may lead in to improve the competent of science teachers.

**Need for the study**

It is often said that the teaching performances, teaching competency and job satisfaction in teaching largely depend upon one’s profession perception. Teaching competency and profession perception in other words, is considered to be one of the significant correlates of teaching. The investigator, being teacher is interested in studying the profession perception and teaching competency of teacher and hence this study.

**Objectives**

1. To study the teaching competency and profession perception of high school science teachers with teaching experience below 5 years and various year of experience (5 – 10, 10 – 15, 15 – 20, above 20) in Salem districts.
2. To compare the teaching competency and profession perception of teachers according to their years of experience.
3. To find out the relation between teaching competency and profession perception of science teachers with teaching experience below 5 years and various year of experience (5 – 10, 10 – 15, 15 – 20, above 20) in Salem districts.

Hypothesis of the study

1. Science teachers with teaching experience below 5 years and various years of experience (5-10, 10-15, 15-20 and above 20) do not differ in their profession perception.
2. Science teachers with teaching experience below 5 years and various years of experience (5-10, 10-15, 15-20 and above 20) do not differ in their teaching competency.
3. There is a relationship between profession perception and teaching competency of Science teachers with teaching experience below 5 years and various year of experience (5-10, 10-15, 15-20 and above 20).

Variables Used

Independent Variables

1. Below 5 years
2. 5-10 years
3. 10-15 years
4. 15-20 years
5. Above 20 years

Dependent Variables

1. Profession perception.
2. Teaching Competency.

Sample selected
Totally 162 High school teachers comprise of the sample. The sample is selected by stratified random sampling.

Research Design

The study undertaken is a normative survey study. Normative survey method studies, describe and enterprise what exists at present. They are concerned with existing conditions or relations, prevailing practices, beliefs, attitudes etc., on-going processes and the emerging trends.

Tools Used

A. Questionnaire
B. Stanford Teacher Competency Appraisal Guide.
C. Teaching profession Perception Scale.

A. The questionnaire was prepared by the investigator herself, to get the personal details of the sample.
B. Stanford Teacher Competency appraisal scale consists of 17 statements covering five major areas viz, aim, planning, performance, evaluation and community and professional. These five areas are scored on eight points scale.
C. Teaching profession perception scale consist of eighteen statements among which nine are positive while the other nine are negative. These statements are scored on five points scale.
Standardizations of the Tools

a. The first tool namely the questionnaire was standardized by means of exports opinion. The questionnaire was standardized by means of exports to give their opinion on their face validity. As per their opinion; the tool was modified and administered.

b. Stanford Teacher Competency appraisal scale and teaching profession perception scale are standard tools. Stanford Teacher competency Appraisal Guide (STCAG) has a reliability of .87 and the validity of the tool has been established to be .76 (face and predictive).

c. The Profession perception scale is also a standardized tool whose validity and reliability would have been established.

Administration of the tools

The investigator herself went to all the 21 school in person and administered the tools in person. At first the personal Bio-data of the willing teachers were collected. Then after informing them, their classes were observed by the investigation and their teaching competency was found over using the stanfor teacher competency appraisal guide. Every teacher was observed for forty five minutes. The teachers were given the profession perception scale and were asked to fill in the same as per their perception. The details of teaching competency and profession perception were received on the same day.

Scoring procedure

The Stanford teacher competency scale was scored on eight point scale starting from 0 to 7. There were seventeen statements. The highest possible score is one hundred and nineteen while the lowest score is zero.

For the profession perception scale; which consisted of eighteen statements; among which nine statements were positive, while the other nine were negative. This scale was rated on five – points scale. The maximum score for each statement if four and minimum score for each statement is zero. The positive statement were scored on 4, 3, 2, 1, 0 basis while the negative statements were scored on 0, 1, 2, 3, 4, basis. The statements 1, 4, 7, 8, 10, 13, 14, 16, 17, were positive while the statements 2, 3, 5, 6, 9, 11, 12, 15, 18, were negative. The maximum possible score is 72 while the minimum possible score is zero.

The statistics used are

i) students ‘t’ test – differential test

ii) Karl pearson’s co-efficient of correlation – ‘r’ – non-parametric test
Analysis and interpretation

Hypothesis – 1
Science teachers with different years of experience do not differ in their profession perception.

Profession perception of science teachers with teaching experience below 5 years compared with teachers with various year of experience.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>C.R</th>
<th>Table value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5</td>
<td>28</td>
<td>52.85</td>
<td>8.73</td>
<td>3.80</td>
<td>2.65</td>
</tr>
<tr>
<td>5 - 10</td>
<td>40</td>
<td>44.75</td>
<td>8.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 5</td>
<td>28</td>
<td>52.85</td>
<td>8.73</td>
<td>1.25</td>
<td>2.66</td>
</tr>
<tr>
<td>10 - 15</td>
<td>30</td>
<td>55</td>
<td>7.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 5</td>
<td>28</td>
<td>52.85</td>
<td>8.73</td>
<td>5.92</td>
<td>2.66</td>
</tr>
<tr>
<td>15 – 20</td>
<td>31</td>
<td>46.93</td>
<td>8.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 5</td>
<td>28</td>
<td>52.85</td>
<td>8.73</td>
<td>2.716</td>
<td>2.66</td>
</tr>
<tr>
<td>Above 20</td>
<td>33</td>
<td>58.63</td>
<td>7.71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated value is greater than the table value in all the tree cases but for the second case. Since there is significant difference in these cases; the hypothesis is rejected at 0.01 level but for below 5 and 10 – 15 years experienced teachers.

Hypothesis – 2
Teachers with different years of experience do not differ in their teaching competency.

Teaching competency of science teachers teaching experience compared with that of below 5 years and other groups.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>C.R</th>
<th>Table value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5</td>
<td>28</td>
<td>66.10</td>
<td>7.72</td>
<td>0.86</td>
<td>2.61</td>
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<tr>
<td>5 – 10</td>
<td>40</td>
<td>64.25</td>
<td>9.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 5</td>
<td>28</td>
<td>66.10</td>
<td>7.72</td>
<td>0.49</td>
<td>2.61</td>
</tr>
<tr>
<td>10 – 15</td>
<td>30</td>
<td>65.00</td>
<td>9.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 5</td>
<td>28</td>
<td>66.10</td>
<td>7.72</td>
<td>0.060</td>
<td>2.61</td>
</tr>
<tr>
<td>15 – 20</td>
<td>31</td>
<td>65.96</td>
<td>9.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 5</td>
<td>28</td>
<td>66.10</td>
<td>7.72</td>
<td>1.28</td>
<td>2.61</td>
</tr>
<tr>
<td>Above 20</td>
<td>33</td>
<td>63.50</td>
<td>8.21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated value is less than the table value in all the case. Since there is no significant difference; the hypothesis is accepted at 0.01 level for teachers.

Hypothesis - 3
There is relationship between profession perception and teaching competency for teachers with various years of experience.

Table showing the values of the variables.

<table>
<thead>
<tr>
<th>Group</th>
<th>( \sum x )</th>
<th>( \sum y )</th>
<th>( \sum x^2 )</th>
<th>( \sum y^2 )</th>
<th>( \sum xy )</th>
<th>N</th>
<th>Calculated Value r</th>
<th>Table Value</th>
<th>Accepted/rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5</td>
<td>1475</td>
<td>1825</td>
<td>79885</td>
<td>120617</td>
<td>115293</td>
<td>28</td>
<td>-0.23715</td>
<td>0.478</td>
<td>rejected</td>
</tr>
<tr>
<td>5 - 10</td>
<td>2146</td>
<td>2503</td>
<td>47360</td>
<td>160139</td>
<td>120282</td>
<td>40</td>
<td>-0.152102</td>
<td>0.393</td>
<td>rejected</td>
</tr>
<tr>
<td>10 - 15</td>
<td>1624</td>
<td>1918</td>
<td>90677</td>
<td>125172</td>
<td>123901</td>
<td>30</td>
<td>0.066662</td>
<td>0.456</td>
<td>rejected</td>
</tr>
<tr>
<td>15 - 20</td>
<td>1718</td>
<td>1996</td>
<td>98006</td>
<td>131130</td>
<td>125277</td>
<td>31</td>
<td>-0.2072</td>
<td>0.456</td>
<td>rejected</td>
</tr>
<tr>
<td>Above 20</td>
<td>1924</td>
<td>2053</td>
<td>114256</td>
<td>129703</td>
<td>119098</td>
<td>33</td>
<td>-0.10298</td>
<td>0.5449</td>
<td>rejected</td>
</tr>
</tbody>
</table>
For all the cases the calculated value is less than the table values at 0.01 level of significance. As there is no significant difference, the hypothesis is rejected.

Findings

1. Teacher with below 5 and 10 – 15 years experienced do not differ in their profession perception. But other with various years of experience differ in their profession perception among themselves.
2. Teachers with various years experienced do not differ in their teaching competency.
3. There is no relationship between profession perception and teaching competency for teachers with various years of experience.

Discussion

When it is compared; among the science teachers with different years of experience; teachers with more than twenty years have high profession perception average scores but very less teaching competency average scores. Teachers with less than five years of experience have very high teaching competency average scores compared to all the other groups perception and teaching competency. For teacher of all group; then exist no relationship between their profession perception and teaching competency.

Educational Implications

It is observed that teachers with more than twenty years of service have more profession perception but very low teaching competency. This may be due to their long years of service; they have developed more profession perception and because of their age; they may exhibit less teaching competency and as the textbooks are often changed and syllabi are updated; the more experienced teachers may find it difficult to teach the concepts which they might not have studied. But this difficulty should be definitely eradicated by refreshing themselves.

Reference