Being a Teacher: Developing Self-efficacy and Teacher Identity through Self-reflective Techniques in Teacher Education Programs

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Abstract
In this study, the researcher intends to develop the self-efficacy and teachers personal and professional identities through various self reflective techniques used by the teachers. To conduct this study the main objective of the study was, to find out the effect of self-reflective techniques on self-efficacy, personal and professional identities of teachers. To achieve study objective various research questions were developed. This study was purely experimental and qualitative in nature. The population of the study was all the prospective teachers of Punjab province those were enrolled in various universities in different teacher education programs. The researcher selected the sample from the Government College University Faisalabad (GCUF). All the students enrolled in teacher education programs, who use to go for teaching practice, were selected as sample of the study. Just before the students went to teaching practice in schools, there was one week workshop conducted for experimental group by giving them lectures relevant to concepts of reflection, reflection in teaching, usage of reflective techniques in teaching, etc. At the same time, there was no similar opportunity given to students of control group officially. The pre and post tests were conducted to investigate effect of reflection on professional development of prospective teachers. The data collection was based on two phases. In first phase pre and post tests data were collected through questionnaires and the data for second phase was collected through interviews based on Gibbs (1988) model of reflection. The pre and post tests questionnaires were comprised of various questions about self-efficacy, personal and professional identities of teachers. Teacher’s personal identity scale (Cheek & Briggs, 2013), Professional Identity Scale (Hoi Yan Cheung, 2008), and Teachers’ Self-efficacy Scale (Bandura, 1997) were used together as one questionnaire. After collection of posttest data, teachers participated in treatment group were interviewed about usage of self-reflective techniques during teaching practice. The validity and reliability of tools were also done through respective techniques. The analysis of data was done with the descriptive statistics and paired sample t-test. The results of analysis showed that there was significant effect of reflective techniques on development level of self-efficacy, personal and professional identities of teachers. Teachers who were part of treatment group strongly considered, usage of self-reflective techniques is having close relation to develop not only their identities and self-efficacy but also played crucial role to activate teachers to rethink about different aspects of their teaching methodologies to teach students effectively.

Keywords: teacher self-efficacy, professional identity of teacher, personal identity of teacher, reflection in teaching, self-reflective techniques in teaching, teacher education

1. Introduction
Numerous studies on teachers’ identity have been conducted by utilizing various methodologies of investigation and different theoretical models. Most of these researches have been conducted on teachers’ professional and institutional identities. Samuel and Stephens (2000) scrutinized basic relation of student-teacher development of their professional identity (PI) in comparison with their sense of self in a dynamically changing educational setting. They concluded that there was a tension between hope and ambition and what the teacher can achieve. This study has explored the different perceptions of developing self-efficacy and teacher identities through self-reflective techniques in teacher education programs. In a study conducted by Miller (2009) on American students of high school, the researcher came to the conclusion that professional identity (PI) of a teacher is highly effected by plenty of factors involved in every educational setting, for example workload, working conditions, policies connected with curriculum implementations, cultural differences, schools’ demographics, practices adopted by institutions in which teachers are working in and availability of teaching resources (as cited in Hulley, 2007). Another factor which influences professional identity of a teacher could be regarded as gender, which was investigated in a study (Vélez-Rendón & Gloria, 2010).

This study is important at two levels. At theoretical level, the findings of study helped to broaden our view on relationship between personal and professional identities, self-efficacy and usage of self-reflective techniques by teachers while dealing with students in classrooms. At analytical level, findings further helped to see the state of the art teachers’ self-efficacy and professional identity in a much more inclusive picture and its interaction with other variables at the same time.

As described by Albert Bandura (1986) in social-cognitive theory of learning that, every person’s level of self-efficacy resides in behavioral and environmental including cognitive factors. It’s also concluded that strong
factors, such as sense of self-efficacy and confidence to achieve or perform effectively in a given task, help the person to achieve goals easier as compared to one who lacks in these factors (Bandura & Wood, 1989). The sense of self-efficacy is most important factor to attain given target most effectively when it joins person’s confidence to achieve particular task, this concept was described by Albert Bandura in 1986 for the first time. Precisely, person’s level of “self-efficacy” is someone personal assessment of his / her own capabilities to establish and show particular behavior to achieve the goal (Staple et al, 1999). On the other hand, it’s also evident that the concept of self-efficacy isn’t a kind of factor that represents someone skills or capabilities to do a task or not but it’s the way that show his confidence and trust to his own abilities. It’s also examined that people having higher level of self-efficacy consider every assigned new task as more challenging and put their effort to achieve desired outcome, in case of failure to do so, they try to investigate the things involved to make task easier and achievable within available resources. On contrary, people those are having, comparatively, lower level of self-efficacy consider every new task a risk or troublesome assignment and sometime try not to show proper interest and start avoiding by minimizing their strengths and show little interest towards achieving the particular task (Bandura, 1994).

There are plenty of researches in recent years focused specifically on the concept of “teachers’ self-efficacy”, perception of teachers on their own ability to motivate the students to participate actively in learning process has been deemed to even simpler idea with numerous valuable suggestions to improve student learning outcomes (Tschannen & Woolfolk, 2001). They also described concept of teachers self-efficacy as “the estimation of their abilities to bring desired results in potential involvement with their students, or results that are related to the students’ learning, even with students which are difficult to motivate” (Henson, 2001). They also argued that teacher self-efficacy is purely based and influenced on life experiences of people and also advocated that “teachers’ self-efficacy” stimulates teachers to remove all hindrances that ascend. As described by Albert Bandura (1981), persons having lower level of self-efficacy could be deficient and less capable to teach students, nevertheless they know what they need to do in particular situation. Similarly, a teacher having higher level of self-efficacy is a kind of assurance on his/ her own abilities to face new challenges to deal and solve day to day problems in response to manage expected outcome that could be formed during students learning process (Staple et al, 1999). According to Gibbs (2003), there are main four types of teacher self-efficacies, those play pivotal role to motivate teacher to show readiness even in more challenging situation to teach in particular educational setting, four of these are (1) behavioral self-efficacy, (2) cognitive self-efficacy (3) emotional self-efficacy and (4) the culture of his/her self-efficacy.

As quoted by Gibbs (2003), behavioral self-efficacy describes as extent to beliefs and confidence of teachers on their level of efficacy to demonstrate outcome friendly actions to handle troubles in a particular educational setting. The concept of cognitive self-efficacy leads towards teachers’ personal approximation on their own abilities to accelerate thinking process during teaching in the classroom. Teachers’ beliefs on their own capabilities to cope emotions and feelings in specific teaching context are called emotional self-efficacy of teachers. However, concept of cultural self-efficacy is closely connected with personal potential of teacher to consider him suitable and effective in particular conditions in culturally relevant or suitable teaching methods.

If we look deeply into core definition of teacher identity, it’s normally connected with how, in a particular situation, one’s intrapersonal individuality (self) not limited to individual’s reactions, way to deal with people, feelings about others, thoughts and ideologies, having closely connected relationship with past and present experiences along-with future expectations. This intrapersonal individuality formally called self also show its relationship with self of others and existence of others self in the world come up with concept of individuality that reacts in a particular context by using adopted functions from others inflecting selves under specific circumstances and this state of individuality referred by Alsup (2006) as “situated identities”. There are different circumstances having close relation with teaching practices without ignoring environmental factors including teachers’ concepts, their ideologies and philosophies about knowledge can help teachers to improve their epistemological stance as important aspect of their profession. There are more careful reviewed proved the concept of teacher identity is really complex in nature (Beauchamp & Thomas, 2009; Beijaard et al, 2004; Rodgers & Scott, 2008). Moreover, if we consider teacher identity from perspective standpoint so we need to include dialogical self-theory (Akkerman & Meijer, 2011), possible selves theory (Brown, 2006; Hamman et al. 2010), role of identity theory (Cohen, 2008), professional socialization (Flores & Day, 2006), social constructivist model (Conway, 2001), and socio-cultural model.

According to Aspects of Identity Questionnaire (AIQ), self is having dual identity construction comprised of two types of factors, one is internal factors such as, persons believes, capabilities, emotions including personal, and external factors consist of fame, body language, good will or reputation and professionalism. These factors play important role to assess variability in status of someone (Cheek et al, 1985; Cheek, 1989) and this research was particularly focused on design based on theoretical differences exist between both inter-connected concepts of personal identity and professional identity. As far as personal identity is never-ceasing activity of individuals which is backed by continuous memory with current level of consciousness of a person. On the other hand, the
concept of professional identity highlights the way how people thinks or perceive themselves in professional setting and how they use to communicate the same to their peers or people in contact; professional identity also moves within person’s instruction with society and way his friends perceived about him (Ibarra, 1999); Larson (1977) also believes that professional identity is foundation of person shared expertise. According to one approach, establishment of professional identity is based on mutual sense of commonality among experts.

Rodgers and Scott, in 2008, discussed identity’s norms in general perspective, according to them identity in general is “(1) dependent upon and formed within multiple contexts which bring social, cultural, political, and historical forces to bear upon that formation, (2) formed in relationship with others and involves emotions, (3) shifting, unstable, and multiple, and (4) involves the construction and reconstruction of meaning through stories over time” (p.733).

In the same context, identity of teacher is a (1) continuous process, (2) help to involve teacher in which situation he is (3) based on multiple identities extracted from main identity and these could have awesome chemistry together (4) forces teachers to show keen interest as well. Beauchamp and Thomas (2009) argued that identity of teacher must be inspected through role of person self and his feelings, life stories, replications, active involvement including background of person’s involvement with respect to identity formation throughout life span.

Bandura’s (1997) concept of teacher efficacy covers an important part: reflection. Through reflection, teachers are able to assess their skills and “construct new knowledge as the consequences of these reflections” (Merriam, Caffarella & Baumgartner, 2007, p. 160). Without being self-reflective, teachers cannot vary their levels of self-efficacy. Reflection is important if teachers are to grow professionally (Constantino & DeLorenzo, 2001; Danielson and McGreal, 2000; Glickman, 2002 & Lambert, 2003) and it “converts experience into learning” (Webster-Wright, 2009, p. 275).

In the book The Reflective Practitioner, (Schön, 1983), is attributed with creating the term “reflection-in-action,” the idea that knowing is in the action of the professional. Reflection-in-action is a procedure by which a teacher correlates experiences with reflection in order to solve a problem. This reflection on skills leads to changes in experiences. According to Schön (1987) for learning to proceed, disconnect cannot exist between theory and skills, which often happens in traditional professional development. Reflection performs an important role in the success of professional learning societies. Martin-Kniep (2007) notes, reflective practices are the fuel of cooperative learning societies by giving teachers with chances to express and examine their intellect and skills (p. 6). Teachers observe, live or involve in an involvement, understand the skills and practices based on present knowledge and find how to reply based on their experience.

The development of reflection-in-teaching & teacher education is a concept linked back to great philosopher of all time John Dewey, he described this concept as scientific-method by highlighting the way human beings thinks and learns. Without any doubt, John Dewey has unforgettable influence on education and educational philosophy, he described the way teachers use reflection and reflective practices in everyday teaching process to enhance personal and professional capabilities of teaching. He described reflection as “turning a subject over in the mind and giving it serious and consecutive consideration, thereby enabling us to act in a deliberate and intentional fashion. Reflection involves active, persistent and careful consideration” (Sweigard, 2007).

2. Objectives of Study
The objectives of the study were

- To find out the effect of self-reflective techniques on self-efficacy, personal and professional identities of teachers.
- To assess the influence of self-reflective techniques to develop self-efficacy, personal and professional identities of teachers.

3. Hypothesis
On the basis of above objectives, the following null hypotheses were formulated to conduct research in the meaningful way to achieve study objectives.

H₀₁: There is no significant difference exists between the pretest and posttest scores of personal identity of control and experimental groups.

H₀₂: There is no significant difference exists between the pretest and posttest scores of professional identity of control and experimental groups.

H₀₃: There is no significant difference exists between the pretest and posttest scores of self-efficacy of control and experimental groups.

4. Research Methodology
A research methodology is considered to be most effective road map to solve research problems by adopting
systematic process (Kothari, 2004). To keep the objectives, purpose and nature of research in mind, the researcher was able to decide by selecting Pretest-Posttest only approach, as described by Bernard & Bernard (2012), as a preferable way of research methodology. In this design, the selected sample randomly distributed into two groups such as control and experimental. Both groups were part of pretest data collection, then experimental group received treatment based on use of reflective techniques in teaching for period not exceeding 1 week so they can be able to refresh their concepts about reflection and its usage in real time teaching during teaching practice in schools. This study based on two different variables such as self-efficacy and teacher identities these were assessed with the help of quantitative tools. The only variable left that was self-reflection, it was used as treatment on experimental group by arranging 1 week training workshop to lecture prospective teachers just before leaving for teaching practice, this workshop was organized after collecting pretest data from both control and experimental groups.

Nature of Study
The nature of study was purely experimental and qualitative. The data was collected in two phases. The first phase of the study was experimental based on two groups, control and experimental. Pretest-posttest two groups design was used to conduct experiment. In the second phase of the study, semi-structured interviews were used to gather opinions of students about reflection. These interviews were designed by considering Gibbs (1988) reflective cycle as a tool of evaluation.

5. Population of Study
The population of study is a set of all elements, such as objects or persons; those can have common characteristics selected through specific criteria of sampling. Most of the researches are conducted to a specific portion of population but the study results can be generalized to whole population. So here, the population of this study was all the prospective teachers of government sector universities which offered teacher education programs in Pakistan. The group of objects/people to whom researcher plans to generalize research findings, only if they meet the specific set criteria is called target population (Stake, 1967). The target population of this study was all the prospective teachers of government sectors universities who offered teacher education programs in the Punjab province. A specific portion of population to whom researcher having access is called accessible population of study; may also be considered to be subset of targeted population and may be limited to specific region, state, city, county, or institution. So the accessible population of this study was all the institutions who offered teacher education programs within the Faisalabad district.

6. Sample of Study
The researcher selected sample by using purposive sampling technique and the sample for this study was prospective teachers enrolled in semester 4 and 7 of B. Ed. (Hons) program in Government College University, Faisalabad. The researcher selected students of 4th and 7th semester because in aforementioned program, students who enrolled in these semesters need to go to schools for almost two months to involve themselves in real time teaching practice.

7. Instrumentation
The data was collected in two phases. In first phase, data from experimental and control groups was collected through three quantitative instruments such as (1) Teacher’s Personal Identity Scale developed by Cheek & Briggs (2013), (2) Professional Identity Scale developed by Hoi Yan Cheung (2008), and (3) Teacher Self-efficacy Scale developed by Bandura (1997). Albert Bandura is considered to be pioneered in development of teachers self-efficacy scale. His instrument, the Teacher Self-Efficacy Scale (TSES) contains 30 items. TSES actually uses a nine-point, Likert-type response scales ranging from “nothing” to “a great deal.” Higher (i.e., more positive) scores represent higher level of self-efficacy of teacher. So the scale stretched between 5 responses such as Nothing, Very Little, Some Influence, Quite a bit and A Great Deal. Rests of 4 responses are available to select between any two adjacent responses. That’s why researcher split Bandura’s Scale of Teacher self-efficacy into 5-point Likert scale to equalize response rate as compared to response options available in merged form of Teacher Professional and Personal Identity Scale (TPPIS).

8. Validation of Instruments
The content validity of tools, such as TSES and TPPIS, was measured by panel of experts before collecting data from targeted sample. The researcher used simple table of percentage agreement to access level of content validity, which was developed by Abu Bakar and Bhasah in 2008 to collect expert’s opinions. For this purpose, the researcher involved five experts especially experienced teachers having teaching experience more than 10 years not less than designation of Assistant Professor. Logic to use percentage agreement tool for assessment of content validity was to easily analyze and explain it with the help of statistics (Stemler Steven, 2004). Based on opinions of experts, content was considered to be valid or appropriate only when 4 out of 5 professors considered
it to be valid so with this 80% favorable results content was considered to be valid and rest of it removed or modified to make it valid based on comments of experts.

The concept, reliability of the instrument is referred as how consistent and stable response of the research instrument is (Creswell, 2005). In this study internal consistency of items was measured with the help of coefficient of Alpha formally called Cronbach alpha (α). The test-retest reliability of the instrument was measured over time and researcher got Cronbach Alpha (α) value equal to 0.89 that was evident to show instrument was highly reliable to collect data from main sample.

9. Collection of Data
As mentioned earlier the data was collected in two phases. In first phase, the data was collected twice before and after end of teaching practice form both control and experimental groups. It helped to assess level of teachers’ self-efficacy and their identities before start of teaching practice and at the end of teaching practice. After collection of data from both experimental and control groups, participants of experimental group received treatment based on 1 week training workshop about concepts of reflection, reflection in teaching, importance and usage in real time teaching to improve teaching learning process while dealing with students in school setting. On the other hand, participants of control group didn’t have this opportunity officially. After end of this training workshop, students of both groups went to teaching practices in different schools for almost two months because it’s essential part of degree requirement. When students moved back into university, data was collected again from both control and experiment groups as post test data to analyze the results of pretest and posttest together to see if change occurred or not.

In second phase of data collection, students of experimental group were interviewed about their experiences and usage of reflective practices during teaching practice in schools. The researcher used semi-structured interviews for this purpose.

10. Methods of Data Analysis
For the data analysis of first phase, the SPSS latest version 24.0 was used to analyze pretest-posttest scores of both experimental and control groups. The obtained data was analyzed by using descriptive statistics, and independent sample t-test to compare significant difference, if any, among mean scores based on responses of both groups in pretest and posttest responses. All this procedure was done after encoding original responses to make it meaning for statistical tool. After analysis of data, results were decoded for better interpretation. The data collected in second phase was analyzed with NVivo latest version to analyze qualitative based responses of respondents. All this procedure was done after encoding original responses of respondents to make it meaning for aforementioned statistical tools and then the results were decoded for interpretation.

11. Analysis of Data
H01: There is no significant difference exists between level of personal identity of control and experimental groups on posttest scores

Table 1: Level of Teachers’ Personal Identity of both Control and Experimental Groups

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>78</td>
<td>37.76</td>
<td>5.994</td>
<td>154</td>
<td>-2.453</td>
<td>0.015**</td>
</tr>
<tr>
<td>Experimental</td>
<td>78</td>
<td>40.14</td>
<td>6.145</td>
<td>154</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**p<0.05

Among teachers of control and experimental groups with respect to their personal identity development (N = 78), there was statistically significant difference exists between these two groups, Control (M = 37.76, SD = 5.994) and Experimental (M = 40.14, SD = 6.145), t(154) = -2.453, p ≤ .05. Therefore, we can reject the null hypothesis (H01) that there is no significant difference exists between level of personal identity of control and experimental groups on posttest scores. Hence, we can conclude that our training/lecture sessions, based on usage of self-reflective techniques in teaching, were able to show notable difference in the way of development of teachers’ personal identity.

H02: There is no significant difference exists between level of professional identity of control and experimental groups on posttest scores

Table 2: Level of Teachers’ Professional Identity of both Control and Experimental Groups

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>78</td>
<td>69.72</td>
<td>13.566</td>
<td>154</td>
<td>-4.947</td>
<td>0.001**</td>
</tr>
<tr>
<td>Experimental</td>
<td>78</td>
<td>78.65</td>
<td>8.396</td>
<td>154</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**p < 0.05

The Table No. 2 shows results of t statistics that among teachers of control and experimental groups with respect to their professional identity development (N = 78), there was a statistically significant difference exists between groups, Control (M = 69.72, SD = 13.566) and Experimental (M = 78.65, SD = 8.396), t(154) = -
between level of professional identity of control and experimental groups on posttest scores. Moreover, on the basis of above statistics we can easily depict, training/ lectures sessions based on usage of self-reflective techniques in teaching, were able to deliver positive results in the form of positive development of professional identity in experimental group teachers as compared to teachers those didn’t receive any training/ lectures for the same purpose.

\( H_3 \): There is no significant difference exists between teacher’s self-efficacy level of both control and experimental groups on posttest scores.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>78</td>
<td>108.78</td>
<td>20.483</td>
<td>154</td>
<td>-4.204</td>
<td>0.001**</td>
</tr>
<tr>
<td>Experimental</td>
<td>78</td>
<td>131.06</td>
<td>15.688</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < 0.05

Above table indicates the results of t-statistics of control and experimental groups with respect to teachers’ self-efficacy development (N = 78), t-test results helps us to conclude there was a significant difference exists between Control group (M = 108.78, SD = 20.483) and Experimental group (M = 131.06, SD = 15.688), t(154) = -4.204, p ≤ .05. That’s why, we have enough evidences to reject null hypothesis (H03) that there is no significant difference exists between teacher’s self-efficacy level of both control and experimental groups on posttest scores. Among both groups, we can portray that training/ lectures sessions, based on usage of self-reflective techniques in teaching, were able to deliver positive results in the form of development of teacher’s self-efficacy in experimental group teachers those attended regular training sessions/ lectures to learn how to use self-reflective techniques in teaching during teaching children at school.

The analyzed results based on interviews concluded that majority of teachers had strong believe that reflection is crucial element to develop positive improvement to establish understanding about subject matter and ways to discover/ experience problems and find it's prospective solutions and reanalyze outcomes to improve actions to get expected outcome and so on. Participants also considered self-reflection in teaching also having strong effect to develop understanding about teacher identities along-with their self-efficacy as well.

12. Conclusion

No doubt reflection is one of major nominator to influence things in every matter of life, in some cases; influence could be lower as compared to other, having inverse in nature, where influence is really very high and effectively leave its influence that can’t be ignored in any situation. Analysis of data advocated the same; first variable personal identity was able to show significant effect of self-reflection process in the way of development of teachers’ personal identity level. Similarly, other two variables also showed significant change in their levels and we can conclude quite easily that our training sessions based on self-reflection and use of reflective practices having enough weightage to help teachers to develop level of their professional identity and teacher’s self-efficacy. Moreover, results also indicates that level of self-efficacy of teachers improved dramatically higher as compared to level of teacher professional identity even both showed positive and significant results but self-efficacy developed more in comparison with professional identity. Hence we can conclude, use of reflection or reflective practices in teaching can help teachers to develop their level of professional identity and self-efficacy in a positive way, similarly there is also positive but slight difference was found, as compared to other two variables, in favor of development in the presence of reflective practices in teaching.

References


Mahwah, NJ: Lawrence Erlbaum.

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