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Self-reflection and Gender Dynamics: Mapping Perception and Reflective Levels of Prospective Teachers of B. Ed (Hons) program

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Self-reflection is an introspective process that helps to lead a sound consideration of personal and professional experiences. The current inquiry intended to investigate the perceptions of prospective teachers about self-reflection and quantitatively mapped their current reflective levels using a validated self-reported questionnaire aligned with Valli's (1997) typology. The study followed a cross-sectional survey method.1120 B.Ed. (Hon's) prospective teachers from 4th, 6th, and 8th semesters from public sector universities were involved across Punjab using a census approach. The questionnaire was also validated. The experts ensured the content validity and the overall CVI was 0.86. While construct validity was ascertained through exploratory and confirmatory factor analysis, to confirm alignment with the theoretical constructs. An alpha coefficient of 0.89 indicates robust scale reliability. Data were summarised and compared using statistical analysis. The results revealed that most of the prospective teachers were aware about their self-reflection but majority of them were at preliminary level of reflection. These findings highlighted that prospective teachers need more guided support to reflect more deeply. Thus, the study concluded that integrating structured reflective practices into teacher education programmes can enhance self-awareness and promote deeper reflective levels, and support the development of effective and reflective practitioners .
Keywords: self-reflection, levels of reflection, critical reflection, reflective practitioner

Self-reflection and the reflective practices play a vital function in pre-service teacher education, fostering self-reflective competencies and supporting accreditation standards. As John Dewey (1933) asserts that reflection is an active, consistent, and thoughtful examination of beliefs that supports future conclusions. Lee and Mori (2021) described that reflection helps an individual to interconnected ideas, self-monitoring and professional growth. Schon (1987) has theorized that reflective practice as a solitary and individualized activity. Gläser-Zikuda et al., (2024) argue that reflective practice is a social process used to identify professional gaps and connect theoretical concept with actual classroom practices. This reflective process empowers educators to utilize their learning experiences according to their personal, social and emotional needs and create a dynamic teaching environment. In the teaching profession, this enables teachers to plan, organize, and think critically (Harvey et al., 2025).

The reflective practices like peer observation, micro teaching, reflective journal writing, and action research promote self-reflection and allows the PTs to lift up their confidence and examine holistically the teaching learning environment (Mohammad & Rashid, 2022). During teaching practicum PTs (Prospective teachers) are observed by their peers and supervisors, they guide and support them to reflect on their thoughts and values. Journal writing enhances PTs' self-awareness by helping them articulate thoughts, critically examine judgments, and gain deeper personal and professional insights (Karnieli-Miller, 2020). However, the core aspects of reflection such as describing experiences, sustaining open-mindedness, demonstrating responsibility and wholeheartedness are often overlooked in teaching practices across all levels in Pakistan (Zahid & Khanam, 2019).

Teacher educators are not appropriately instructing the reflective strategies to Pts to improve their reflective levels (Huma, 2017). Moreover, all the Educational Policies of Pakistan focused that there is a dire need to enhance teaching and learning standards remains a significant challenge, especially in adapting to diverse teaching conditions and approaches (UNESCO, 2011). Therefore, it is essential for the professional advancement of PTs, engage in, to reflect on their practices and collaborative inquiry through teaching practicum. The current study examines insights of PTs about self-reflection, their reflective levels, and influence of gender, to understand how these factors shape the growth of their specialized abilities as professional experts.

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Objectives of the Study:

This investigation focused to attain the preceding key objectives to:

1. Investigate the perception and level of self-reflection of PTs for enhancing their professional development.
2. Determine the level of self-reflection of PTs relating to the gender, qualification, and semester-wise.

Research Questions

The following research questions were articulated to align with objectives.

1. What do PTs perceive their self-reflection and its levels for enhancing their professional development?
2. How do the perception of self-reflection and level of reflection differ between male and female PTs?
3. How do the perception of self-reflection and reflective levels vary between PTs based on their qualifications?
4. How do the perception of self-reflection and reflective levels of PTs change across semesters?

Review of Literature

Dewey (1933) introduced the notion of reflection, has evolved significantly over time, this comprehend variations including self-reflection, reflective self-analysis and reflective practice. Initially it theorized as deliberate thought to address challenges, now holds an essential place in teacher education, fostering professional growth by bridging theory and practice. Educators can critically reflect on their practices and adapt to a variety of classroom needs through self-reflection. Scholars have different perspectives on reflection. Some, like Schon (1987), study how reflection takes place, while others concentrate on what teachers reflect on, such as strategies or student engagement. However, it is still essential for enhancing instruction and resolving issues in education (Suryani, 2024).

Self-Reflection in Teacher Education

Self-reflection entails carefully examining teaching experiences. It encourages educators to accumulate their work, analyze results, and modify tactics for significant development (Dewey, 1933; Schon, 1987). Researchers emphasized the cyclical nature of reflection, promotes ongoing professional development. Karnieli-Miller (2020) highlights its critical role in teachers' professional development by stating that its main goals are to enhance learning quality, expand teaching strategies, and deepen understanding.

Korthagen and Vasalos (2005) presented non-traditional methods of reflection, like guided imagery to assist pre-service teachers in challenging assumptions and making connections between them and classroom realities. Loughran (2002) described three phases of reflection anticipatory, contemporary, and retrospective as supporting critical evaluation throughout the entire teaching process. In a similar vein, Jay and Johnson (2002) proposed a description, comparison, and critique model of reflection to assist educators in identifying problems, looking into alternatives, and putting solutions into practice (Dayan et al., 2022).

The importance of sociocultural context in influencing reflective practice is highlighted by Gläser-Zikuda et al., (2024), while Zhou et al., (2025) highlight its critical role in addressing classroom challenges, incorporating feedback during teaching, and fostering professional development. In order to critically examine the dynamics of teaching, practitioners frequently engage in reflection. However, a number of studies have questioned Pakistan's pre-service teacher education programs' authenticity, teamwork, and institutional support, which may impede the growth of reflective practices (Zahid & Khanam, 2019). Addressing these gaps requires examining perceptions of PTs' and current reflective levels to inform and strengthen future teacher education programmes.

Typologies of Reflection

The typology serves as a framework for erecting reflection structures. It is adaptable enough to accommodate evolving modes of thinking, used as a tool to guide deeper reflection and analyze the levels of reflection (Minott, 2008). Various educationists have discussed significant typologies or level of reflection, including Van Manen (1977), Lasely (1992), Colton and Sparks- Langer (1993), Taggart & Wilson (1996) and Lee & Loughran (2000).

Valli's Typology of Reflection:

Valli (1997) developed a typology based on Van Manen (1977) and Shon's (1987) framework of reflection. She identifies five reflective levels: technical, reflection in/on action, deliberative, personalistic and critical reflection. Valli's typology of reflective levels was chosen because it highlights both *what* teachers reflect on and *how deeply* they engage with their reflections. The content of self-reflection relates to the teacher's consideration, whereas the quality of reflection focuses on how they interpret their thought processes which guiding their decisions.

Technical reflection:

This level focuses on the practical aspects of instructional strategies, tactics, and methods that are typically guided by established standards and research.

Reflection-in/on-action:

At this level, educators must consider their teaching choices, convictions, and classroom interactions while considering both their personal experiences and the context.

Deliberative reflection:

This level considers a variety of instructional components, including students, curriculum, teaching strategies, and classroom organization. Teachers' opinions, experiences, and peer discussions influence these decisions.

Personalistic reflection:

This type of reflection emphasizes both professional and personal development. It emphasizes fostering relationships between teachers and students that are sympathetic and assisting students' holistic and emotional growth

Critical reflection:

At this level, educators are encouraged to discuss the moral, social, and political aspects of education, with a focus on equity, moral instruction, and helping underrepresented groups.

In support of Valli (1997), Van den et al., (2023) warn against considering these levels as hierarchical, pointing out that every type of reflection has its own worth. In addition to being useful for evaluating reflective depth and analyzing participants' reflective abilities, the typology is also approachable and practical. This study, which draws inspiration from Dewey, Schön, and Valli, sees reflection as a shift from basic awareness to more deliberate, thoughtful inquiry. It assumes that how aspiring teachers develop as reflective practitioners is influenced by their perceptions and the role gender plays in shaping them collectively. The framework merely describes how these elements support their development of reflection.

Gender Dynamics and Reflective Levels

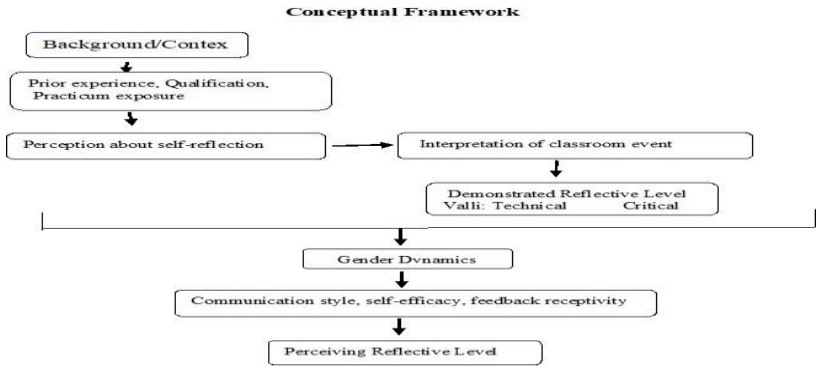
Gender diversity reflects the range of psychological characteristics and viewpoints that exist between genders. As reflective practitioners, educators observe difficulties in the classroom, challenge their methods, and look for ways to make improvements (Dewey, 1933; Schon, 1987; Valli, 1997). According to Almusharraf and Almusharraf (2021), gender influences how PTs reflect, with women frequently exhibiting more in-depth reflective practices. Gendered interactions, dialogue-based learning, and social expectations all impact the transition from technical to critical reflection in Pakistan (Nasur et al., 2024).

Gender-based mapping of initial reflective levels promotes fair and significant reflective development. Gender, experience, and qualifications did not significantly affect reflective levels, according to Khan et al., (2022) study of 60 instructors at a Turkish university. On the other hand, Sammaknejad and Marzban (2016) found that while experienced male and female teachers generally showed similar reflective attitudes, female teachers tended to participate more favorably in self-reflection and classroom management, with experienced women exhibiting the highest reflective awareness.

Conceptual Framework

The framework, is based on Dewey, Schön, and Valli, shows how PTs' prior experience, credentials, and practicum exposure influence their perceptions of self-reflection, directing how they observe and understand classroom events. Their reflective levels are determined by these processes (Valli: technical → critical), and the form and depth of reflection are moderated by gender dynamics like communication style, self-efficacy, and feedback receptivity.

Figure 01: Conceptual Framework



Method

The present study employed a descriptive, quantitative design using a cross-sectional survey to explore perception of prospective teachers about self-reflection and their reflective levels. This involves collecting data from all persons at a specific moment in time and offer a snapshot of prevailing behaviors and attitudes within a population. These studies typically precede a starting point for cohort studies (Cohen et al., 2008). Therefore, this design was chosen to collect the data from the current population of B. Ed (Hon's) from different semesters at single point at the same time.

The population of the study were the PTs of B. Ed (Hon's) from the province of Punjab. Only six public sector universities were selected based on their B.Ed. (Hon's) enrolment over the past five years. Only public universities were selected due to their standardized B.Ed. (Hons) programs under HEC guidelines, which provide reliable comparable practicum experiences, curriculum design, and assessment practices across institutions. Private universities differ widely in structure, creating variations that could affect the reliability of the data. Therefore, All PTs enrolled in the 4th, 6th, and 8th semesters of public sector universities in Punjab were included in the study.

All the PTs of these semesters have at least one-time teaching practicum experience in school during their course of study in their previous semester. This was employed to ensure fair representation of key subgroups, based on demographics such as semester, gender, and prior qualifications and supports meaningful conclusions (Gay et al., 2012).

Table 1

Demographic detail of subgroups of the study (N= 1120)

Subgroup	F	P(%)
Semester		
4	247	22%
6	416	37%
8	457	41%
Total	**1120**	**100%**
Gender		
Male	155	14%
Female	965	86%
Total	**1120**	**100%**
Qualification		
F. A	722	51%
F. Sc	398	48%
Total	**1120**	**100%**

Tool for data collection

The data was collected through QASRPL (Questionnaire for assessing self-reflective perceptions and Level). A deductive approach was adopted to develop the questionnaire. Valli's (1997) framework was utilize to investigate the perception about self- reflection and reflective levels of prospective teachers. This framework was based on Van Manen (1977), Shon (1987) themes of reflection. Valli (1997) describe five level of reflection. These are Technical reflection, Reflection in/on action, deliberative reflection, Personalistic reflection and Critical reflection. Keeping view the major constructs, an extensive literature was reviewed and sub-constructs were identified. The researcher developed items according to the constructs and sub-constructs about the self-reflection and their reflective levels. Initially 80 number of

items were developed. The questionnaire statements were review, revised and double-barreled statements were liminated, only 64 were persisted. A five-point Likert-type scale, ranging from strongly agree to strongly disagree, was administered to gather responses. The QASRPL consisted into 2 parts. The part: A is related to the informed consent, demographic information, Part: B consisted on 42 items. The item no (1-5) statements related the concept of self-reflection and next (9-42) were rendering to the Valli's (1997) reflective levels.

Pilot testing

A pilot study was conducted with 50 B.Ed (Hon's) PTs from the target population, excluding the main sample, to enhance the credibility of the tool (Bell, 2014). The Cronbach's alpha in SPSS 25.0 was used to assessed the reliability of the questionnaire. Only 64-items questionnaire was piloted to check clarity and consistency. Reliability analysis refined it, retaining 42 clear, reliable items for the study. it indicates high internal consistency of .089. The adequate values between .70 and .90 are generally considered acceptable (Norman, 2010).

Table 2

Reliability of the QASRPL

Total items	Cronbach Alpha
42	.89

Validation of Instrument

The Content Validity Index (CVI) was applied to ensure item relevance, with the construct. Six field professionals assessed each item of the questionnaire based on appropriateness, representativeness, precision, and simplicity, through a four-point ranging from (Not relevant=1 to High relevant =4). Keep in view experts' response, overlapping statements were eliminated, retained components were refined to better reflect the construct. The overall CVI was 0.86, above the adequate benchmark of 0.80 (Polit & Beck, 2007).

Construct Validity

To ensure the accuracy of the questionnaire, Exploratory Factor Analysis and Confirmatory Factor Analysis were used as part of the construct validity process. EFA helped to identify the underlying structure of the tool, while CFA tested the fit of the proposed model, confirming its theoretical alignment and measurement accuracy (Brown, 2010). This process also helped to reduce the number of items and clarify the connection among observed variables and underlying constructs. To examine and confirm the construct validity of the instrument, EFA was carried out in SPSS and CFA in AMOS.

Table 3

Kaiser–Meyer–Olkin and Bartlett's Test

KMO statistics (Sampling Adequacy)	.872
Bartlett's Test of Sphericity (Chi-Square)	11,865.24
Degree of freedom	1900
Significance (P-value)	.000

Results mention in the above table show that KMO value is .872 indicated that the sample was appropriate for factor analysis, while a significant Bartlett's Test of Sphericity confirmed sufficient correlations among items (χ^2 = 11,865.24, df = 1900, $p < .001$). Kaiser (1974) described that a strong level of adequacy lies between the values of 0.8 and 0.9 which confirms that the data were well-suited for exploring the underlying factor structure.

Table 4

Results of CFA Model Fit

Index	**CMIN/DF**	**RMR**	**IFI**	**TLI**	**CFI**	**RMSEA**
Model Results	1.87	0.029	0.942	.918	.934	.041
Sample size 350						

The CFA results show a strong model fit. It was assessed using standard indices as recommended by Byrne (2001) and Hair et al., (2010). The final model, consisting of 42 items, presented a suitable model fit: CFI (0.934), TLI (0.918), and IFI (0.942) all exceeded the 0.90 threshold. The CMIN/DF (1.87) and RMSEA (0.041) met the accepted thresholds limits, and the RMR (0.029) was well below 0.05, indicating minimal residual error. These results confirm that the remaining items align well with the theoretical structure and support the model's validity.

Ethical Consideration and Data Collection

Before collection of the data, researcher received ethical approval from the university's research board. Prior permission was also secured from the administrations of the six participating public universities. The researcher personally administered the questionnaires and followed all ethical protocols. Participants were fully informed about the study's aims, assured that their participation was voluntary, and that their responses would remain anonymous and confidential. QASRPL with five response options from Strongly Agree to Strongly Disagree was employed for its clarity, ease of use, and effectiveness in capturing nuanced opinions. This format allowed for practical analysis and meaningful comparison of participant responses. Only1120 respondents out of 1250 responded and the response rate was 89%.

Results

This section presents the analysis of data collected from B.Ed. (Hon's)PTs. Descriptive statistics, frequencies, means, and standard deviations were calculated to examine their perceptions of self-reflection and their current levels of reflection. Likert scale data were considered as interval to allow inferential statistics (Cohen et al, 2008). Thus, the Shapiro–Wilk test was employed to assess the assumption of normal distribution before applying inferential statistics to treat Likert scale data.

Table 5

Shapiro–Wilk test

Test	N	Shapiro–Wilk W	Sig. (p)
	1120	0.987	

The above table result generated a significance value of .078, that is above than the conventional threshold of .05, showing that the data exhibit an acceptable level of normality. Therefore, it was appropriate to proceed with parametric tests, including t-tests and ANOVA, to examine the variances in perception and their reflective levels regarding demographic variables. To highlight PTs' responses to each statement, data arranged into tables, aiming to identify variations in response levels across participants.

Table 6

Perceptions of PTs about self-reflection

.no	Items	S. Ag f (%)	Ag f (%)	Un. D f (%)	D. Ag f (%)	S. DA f(%)	M	SD
1	Self-Reflection is a process of reflecting on oneself to analyze experience	212(19)	433(39)	158(14)	168(15)	149(13)	3.34	1.31
2	It helps to analyse ones thinking and practices	265(23)	473(42)	105(9)	152(13)	125(11)	3.5	1.30
3	Self -reflection helps to increase self-awareness	360(32)	439(39)	133(12)	102(9)	86(8)	3.6	1.38
4	It involves a cyclic process of problem identification and plan of action	214(19)	422(37)	154(14)	148(13)	182(16)	3.30	1.35
5	It helps to develop personal and professional ability	258(23)	440(39)	150(13)	98(9)	174(15)	3.0	1.34

Table 7

Perception of PTs' about Technical-level of reflection

S.no	Items	S. Ag f (%)	Ag f (%)	Un. D f (%)	D. Ag f (%)	S. DA f (%)	M	S. D
6	I identify students' learning problems	242(22)	410(37)	138(12)	168(15)	162(14)	3.3	1.30
7	I analyze students' learning problems	194(17)	398(36)	198(18)	144(13)	186(16)	3.24	1.32
8	I support pupils to identify their learning difficulties	285(25)	426(38)	165(15)	159(14)	85(8)	3.5	1.22
9	I adapt informed decisions to progress teaching	241(21)	309(28)	178(16)	187(17)	205(18)	3.1	1.31

10	I discuss with colleagues to guide decisions for students' learning.	221(20)	386(34)	152(14)	214(19)	147(13)	3.2	1.33
11	I effort to know the varied demands of learner	226(20)	362(32)	119(11)	197(18)	216(19)	3.0	1.14
12	I admit several resolutions of learning complications	197(17)	343(31)	186(17)	258(23)	136(12)	3.1	1.01
13	I appreciate students to ask questions	228(20)	353(32)	180(16)	235(21)	124(11)	3.3	1.34

Table 8

Perceptions of PTs about level of Reflection in/on Action

S. No	Items	S. Ag f (%)	Ag f (%)	Un.D f (%)	D. Ag f (%)	S. DA f (%)	M	S. D
14	One-way communication is a learning hindrance	221(20)	294(26)	189(17)	156 (14)	260(23)	2.90	1.29
15	I find out chances for students' learning	196(18)	262(23)	178(16)	210(19)	274(24)	2.65	1.45
16	I monitor students' involvement in learning tasks	188(17)	247(22)	168(15)	246(22)	271(24)	2.80	1.43
17	I adjust my lesson based on students need	167(15)	242(21)	169(15)	248(22)	294(26)	2.56	1.42
18	I assemble my class observation to analyse my teaching	183(16)	225(20)	182(16)	244(22)	286(26)	2.49	1.44
19	I record journaling to reflect on teaching experiences.	162(14)	251(22)	174(16)	237(21)	296(26)	2.41	1.33

Table 9

Perceptions of PTs about Deliberative level of reflection

S.no	Items	S. Ag f (%)	Ag f (%)	Un. D f (%)	D. Ag f (%)	S. DA f (%)	M	S. D
20	Journaling helps to recognize areas for progress in teaching	143(12)	254(23)	182(16)	247(22)	294(26)	3.02	1.42
21	I develop plan to support my teaching	157(14)	239(21)	182(16)	245(22)	297(27)	2.7	1.41
22	I utilize pupils' feedback to progress in instruction	221(20)	294(26)	189(17)	156 (14)	260(23)	2.6	1.38
23	I observe all indications that encounters the instructional process	254(23)	286(25)	161(14)	175(16)	244(22)	3.12	1.32
24	I observe that each student reflects when guided properly	295(26)	337(30)	164(15)	126(11)	198(18)	3.21	1.39
25	I identify collaborative learning improves teaching	214(19)	422(37)	154(14)	148(13)	182(16)	3.0	1.25

Table 10

Perceptions of PTs about Personalistic level of reflection

S.no	Items	S. Ag f (%)	Ag f (%)	Un. D f (%)	D. Ag f(%)	S. DA f(%)	M	S. D
26	I communicate advanced procedures with peers to enhance students learning	125(11)	167(15)	187(17)	298(27)	343(30)	2.31	1.36
27	I follow expert's opinion for professional growth.	95(8)	176(16)	165(15)	328(29)	356(32)	2.20	1.31
28	I identify how learning process effect my teaching.	84(7)	145(13)	192(17)	311(28)	388(35)	2.21	1.27

29	I up-to-date research to improve instructional process.	58(5)	125(11)	220(20)	348(31)	369(33)	2.20	1.31
30	I believe that continuous self-improvement, enhance learning process	67(6)	132(12)	194(17)	335(30)	392(35)	2.0	1.12
31	I effort to learn even out of the worst relationship	52(5)	134(12)	168(15)	382(34)	384(34)	2.1	1.14
32	I develop collaboration for effective instructions.	62(6)	128(11)	197(18)	336(30)	397(35)	2.2	1.22
33	I engage students to adapt an optimistic view towards challenges.	32(3)	139 (12)	204 (18)	355 (32)	390 (35)	2.1	1.20

Table 11

Perceptions of PTs about Critical level of reflection

S.no	Items	S. Ag f (%)	Ag f (%)	Un-D f (%)	D. Ag f (%)	S. DA f (%)	M	S. D
34	I know the cultural morals that may affect instructions	52(5)	142(12)	178(16)	364(33)	384(34)	2.10	1.12
35	I know the societal inequalities that may affect learning	51(5)	132(12)	155(14)	388(34)	394(35)	2.14	1.14
36	I engage learners in journaling to become reflective	65(6)	124(11)	167(15)	377(34)	387(34)	2.13	1.16
37	I engage learners in dialogues to develop open minded	57(5)	120(12)	172(15)	379(33)	392(35)	2.23	1.15
38	I engage learners for the common good of the society	78(7)	134(12)	156(14)	366(33)	386(34)	2.20	1.19
39	I foster awareness about societal responsibilities in learners	67(6)	123(11)	144(13)	388(34)	398(36)	2.12	1.13
40	I show dedication to societal values	72(6)	122(12)	158(14)	379(33)	389(35)	2.10	1.20
41	I engage myself in democratic practices during teaching	55(5)	120(11)	170(15)	378(34)	397(35)	2.10	1.12
42	I encourage learners to talk on societal problems.	46(4)	123(11)	176(16)	377(34)	398(35)	2.0	1.10

Table 12

Semester wise Comparison of self –perception and level of reflection of prospective teachers

Factors	Semester	No	Df	Mean Square	F	Sig.
Perception about S. R	4th	246	2	210	21.37	.00002
	6th	417	1117	10		
	8th	457				
Levels of Reflection	4th	246	2	5470	12.72	.00014
	6th	417	1117	430		
	8th	457				
		1120				

Table 13

Gender wise difference

Components		N	M	SD	df	t-value	Sig.
Perception about Self-Reflection	Male	155	20.33	3.108	1118	-1.48	.139
	Female	965	20.41	3.204			
Level of Reflection	Male	155	132.04	19.17	1118	-14.35	P <.001
	Female	965	169.95	21.23			

Table 14
Qualification wise difference

Components		N	M	SD	df	t-value	Sig.
Perception about Self-Reflection	F. A	722	20.75	2.11	1118	1.60	.110
	F. Sc	398	20.45	3.57			
Level of Reflection	F. A	722	173.02	15.20	1118	2.133	.033
	F. Sc	398	170.43	22.59			

Findings

1. The conclusions about the perception of self-reflection demonstrate that the highest mean score is (M=3.6, SD=1.38) and the lowest mean score is (M=3.2, SD=1.34). The average mean score (M=3.34) recommends a moderately homogeneous perception among PTs regarding the concept of self-reflection. The finding revealed that most of the PTs are cognizant about the notion of self-reflection.
2. The results show that PTs primarily operate at the initial three levels of Valli's (1997) reflective framework technical (M = 3.23), reflection in/on action (M = 2.64), and deliberative reflection (M = 3.00) which focus on general teaching practices. These findings suggest a need for greater engagement in reflective practices to deepen their reflective thinking.
3. Personalistic reflection, which supports teachers' holistic development, had a low average mean score (M = 2.16). Item no 26 indicates the maximum mean (M = 2.31, SD = 1.13), though item no 30 related to time management had the lowest (M = 2.01, SD = 1.28), indicating a major barrier in reflective growth is time management. These findings present that there is a dire need for the structured training to support PTs manage time effectively.
4. Critical reflection, which concentrates the morality, socio- political dimensions of education, presented the lowest average mean (M = 2.12). The highest mean score of critical level of reflection is (M = 2.23, SD = 1.15) reflected a general commitment to morality, while item 37 had the lowest (M = 2.07, SD = 1.21), indicates partial engagement with democratic practices and open discussions. These results highlight that there is a need to train PTs, promote critical thinking, and arrange meaningful social dialogue in the classroom.

5. To examine the variances in perception and reflective levels across the B. Ed (Hons) 4, 6, and 8 semesters a One-way ANOVA was operated. Results showed significant differences for both perception of self-reflection, ($F= 21.37$, $p < .001$) and levels of reflection, ($F = 12.72$, $p < .001$). Post hoc Tukey tests indicated that 8-semester PTs scored higher than 4 and 6 semester PTs, while 6-semester PTs scored higher than 4-semester PTs. These results suggest a progressive increase in reflective awareness and depth as PTs advance through the B. Ed (Hons) program.

6. Results related to gender-wise difference in perception show that there is no significant difference in perception of self-reflection regarding males (M=20.33, SD=3.108) and females (M = 20.41, SD = 3.20), $t= –1.48$, $p = .139$. The other dimension of results concerning the reflective level showed that there is a significant difference in males (M=132.04, SD= 19.17) and females (M=169.95, SD= 21.23; $t= -14.35$, $p< .001$). This shows that female students demonstrate a substantially higher level of reflective engagement compared to male students. Therefore, it is concluded that males and females have no difference regarding perception of self-reflection, but there is a significant difference regarding their reflective levels.

7. An independent samples t-test was conducted to compare perceptions and level of self-reflection between F.A and F.Sc PTs. The findings showed that the difference was not statistically significant regarding perception thus, PTs having F.A. (M=20.75, SD=2.11) and F. Sc (M=20.452, SD=3.573; $t= 1.60$, $p= .110$) demonstrated similar perception about self-reflection. But their reflective levels regarding F. A (M=173.02, SD=15.20.) and F. Sc (M=170.43, SD=22.59; $t= 2.133$, $p= .033$) are statistically significant, which shows that PTs of F.A have higher levels of self-reflection than the PTs of F.Sc.

Discussions and Conclusions

The primary emphasis of professional development lies in encouraging educators to involve in day-to-day reflective practices. For effective implementation, it is crucial that teachers not only grasp the concept of reflection but also assess their current level of reflection. Valli's typology of reflection was used to analyzed the data and findings revealed that majority of the PTs perform at preliminary reflective level which require deep consideration, to comprehend theory and practice gap and contextualize their action corresponding to broader educational land scape. The findings of the study sustained with Arshad and Malik (2023) who described that deep self-awareness support to reflect more critically and more thoughtfully respond instructional challenges.

The findings reveal that PTs demonstrate overall awareness of self-reflection, a gap exists between their perceived and actual reflective levels during the semester. The mean score for the technical level of reflection exceeds the personalistic and critical reflection. It is indicated that PTs have an inadequate awareness of their reflective growth. Kamali and Javahery (2025) further emphasize the strong influence of reflective awareness on instructional practice of teachers. The results also highlighted that male and female PTs have no difference regarding their perceptions of self-reflection, but there is a major difference in their reflective levels.

Consequently, it is imperative for PTs, often confined to the initial, routine level of critical thinking. Zhou et al., (2025) claims that PTs are involved in supporting reflection and cross-examinations should learn suitable way to critically reflect on their actions. This helps them to examine their teaching, and understand why they teach as they do. In the same vein, Hussain et al., (2023) and Ndelu and Utete (2025) emphasizes that developing reflective awareness among PTs supports their professional growth and can lead to more meaningful and effective classroom experiences. These findings align with the earlier work of Almusharraf and Almusharraf,(2021) presenting deeper reflection among female teachers. The study results concluded by Ullah et al., (2025) emphasizes on reflective dialogue also help explain females' stronger reflective engagement. The findings of the study of Dayan et al., (2022) also indicates that establishing a conducive environment support PTs to reflect and make them responsive to perform their instructional and professional practices.

The present study concluded that PTs commitment with contextualized activities primarily at surface level. The findings also revealed that reflective competences of gender also influence the deepness of reflective consideration. Therefore, it is essential to cultivate reflective practitioners, embed reflective practices in teacher education which help to produce more thoughtful reflective practitioners.

Key Contributions, Limitations, and Future Research Directions

The current study maps the initial reflective level of PTs' and present how gender engage in the reflective process. It bridges theory and practice gap by connecting with Dewey, Shon and Valli's model with the teaching practicum of PTs which contribute practical insights for teacher education. The findings provide directions for planning and designing gender-responsive reflective activities and a practical method to assess reflection in B.Ed. programs, that support to develop reflective practitioner.

In spite of careful planning the study represents some limitations. The sample was restricted to only public sector universities of the Punjab, excluding private institutions and other regions. The use of self-reported Likert scale data may have introduced socially desirable responses, while treating such data as interval remains debated. Additionally, relying primarily on quantitative methods limited opportunities to explore deeper, personal aspects of reflection. While the current study provides useful insights into PTs' self-reflective practices, future research could adopt longitudinal and qualitative methods to explore deeper, personal dimensions of reflection. Interviews, focus groups, or reflection journals could help uncover nuances that structured survey responses may overlook.

To address the complexities of the current situation, there is a need for universities to design reflective teaching practicum programs and arrange seminars. Teacher educators need to be encouraged to incorporate reflective tools such as dialogue journals, interactive discussions, classroom observations, informal assessment, like development of rubrics and engage in shared action research in their day-to-day teaching practices. These reflective activities are intended to support PTs in enhancing their engagement with reflective practices during their teaching practices and transform them as reflective practitioner.

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