Gauging the Gap: Student Perceptions of Skill Proficiency in Skill-Based Education within Schools of Punjab, Pakistan

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ABSTRACT

This study investigates student-perceived proficiency in soft and practical skills acquired through skill-based education (SBE) in schools. A quantitative approach was employed, utilizing a structured questionnaire administered to 384 twelfth grade students (158 males and 226 females) across 50% public higher secondary schools of three other than divisional headquarters cities of Punjab province, namely Jehlum, Chiniot, and Bahawalnagar. The survey assessed students' self-reported proficiency in 20 soft skills (e.g., data analysis, communication, critical thinking) and 20 practical skills (e.g., welding, IT skills, cooking), using a five-point Likert scale. Data analysis, involving frequency distributions, weighted scores, mean values, standard deviations, and rank ordering, revealed significant disparities in perceived proficiency. Students reported the lowest levels of proficiency in foundational areas such as data analysis, research skills and critical thinking skills among soft skills, and welding and woodwork among practical skills. While skills such as cultural sensitivity, self-awareness, and sports were rated higher, most skills were only perceived as moderately proficient. From all over soft and practical skills, mostly were slightly proficient. These findings underscore a significant gap between the intended outcomes of SBE and students' perceived skill acquisition. The study highlights the need for a reevaluation and refinement of SBE implementation strategies. This research contributes valuable student-centered insights for educators and policymakers seeking to enhance SBE programs in schools. The study's limitations include its reliance on self-reported data, cross-sectional design and limited geographic scope.

Keywords: Skill-based education, Student proficiency, Soft skills, Practical skills, educational assessment, Punjab education

INTRODUCTION

The global call for educational reform has intensified, moving beyond traditional academic achievement to prioritize the development of practical and soft skills. Skill-based education (SBE) has thus emerged as a pivotal pedagogical approach, poised to bridge the gap between theoretical knowledge and real-world application. This paper presents a critical, data-driven analysis of student-perceived proficiency in a range of soft and practical skills cultivated through SBE in school settings. Imagine an educational system that goes beyond simple memorization of facts and figures, one where the focus is on developing skills and competencies that can be used in a real-world setting. This study offers insights into the effectiveness of current practices by examining the proficiency levels of students. This paper is not simply about numbers; it's about understanding the effectiveness of our education system in preparing future generations for the complexities of the modern world.

The foundation of this exploration is rooted in the understanding of "skill" as acquired abilities, aptitudes, and competencies that enable individuals to perform tasks, solve problems, and interact effectively in various contexts. This study categorizes these skills into two domains: soft skills, encompassing interpersonal, cognitive, and personal attributes (e.g., communication, problem-solving, and adaptability); and practical skills, representing hands-on, technical, and domain-specific capabilities (e.g., welding, digital marketing, and cooking). This differentiation allows us to explore students' preparedness in both realms. This distinction highlights the need to examine the efficacy of skill development programs in schools.

This study is important for the stakeholders involved in education in developing a realistic understanding of current scenario of skill-based education. It highlights the areas for the future scope of improving quality of skill-based education.

LITERATURE REVIEW

The academic discussion surrounding skill-based education is both extensive and multifaceted, recognizing its potential while acknowledging its implementation challenges. Traditional educational models often prioritize theoretical knowledge. However, several studies have emphasized the importance of skills development for success in the modern world. The idea of skill-based education is supported by the work of Dr. Linda Darling-Hammond, who has extensively written about the need for more holistic education. She argues that a balance between theoretical knowledge and real-world application is a necessity (Darling-Hammond, 2010). This highlights the need to reevaluate educational strategies to include skill-based learning.

Numerous scholars have also discussed the importance of soft skills. These skills have been recognized as essential for the workplace and life in general. The World Economic Forum has consistently highlighted the need for skills like creativity, critical thinking, and collaboration in the future workforce (World Economic Forum, 2020). Additionally, studies in cognitive psychology have illustrated that these are learned, practiced, and improved through deliberate efforts and strategic educational interventions (Dweck, 2006). These findings support the case for skills-based education that promotes a student's abilities in both their work and personal life. The importance of hands-on training and development of practical skills has also been established in various research.

Despite the widely recognized value of SBE, the literature also shows inconsistent implementation and evaluation practices. A lack of clear learning objectives, sufficient resources, and adequately trained teachers often compromise the effectiveness of SBE programs (Lucas, 2016). There is also difficulty in assessing these skills effectively, which requires moving beyond traditional testing methods (Bialik et al., 2015). The gap between the understanding of skill development and practical application in schools continues to be a major issue. This means that, despite efforts, the intended outcomes are not often achieved.

Moreover, the literature indicates that students' perceptions of their own skills are crucial in determining the success of SBE interventions (Bandura, 1977). Self-efficacy is a key aspect that has impact on motivation, performance, and learning. However, the students' perception of their skills developed through skill-based education has not been deeply researched.

Research Gap, Aims, Results and Contributions

Research Gap: Existing literature broadly supports the value of SBE and skills development. However, there's a clear lack of studies specifically exploring students' perceptions of their proficiency in both soft and practical skills within school-based SBE programs. The present study fills this gap by providing a detailed, granular analysis of students' perceived proficiency across a spectrum of skills.

Aims of the Study: This study aims to:

1. Investigate the perceived proficiency of students in various soft skills developed through SBE in public schools of Punjab

2. Investigate the perceived proficiency of students in various practical skills developed through SBE in public schools of Punjab

3. Identify specific skills where students feel proficient, and those where improvement is most needed.

Main Results & Contribution: The findings of this study paint a complex picture of student proficiency. The data reveals that students perceive the lowest proficiency in core soft skills like "Data Analysis" (MV=1.0365) and "Research Skills" (MV=1.0521), whereas "Cultural Sensitivity" (MV=3.3177) and "Self-Awareness" (MV=3.0286) were seen as areas of moderate proficiency. This reveals a concerning gap in critical foundational skills. Similarly, in practical skills, "Welding" (MV=1.0365) and "Woodwork Skills" (MV=1.0521) received the lowest ratings, in contrast, "Sports Skills" (MV=2.6198) have the highest moderate perception of proficiency. The study underscores the urgent need to reassess and refine the implementation of SBE. This research contributes to the literature by offering an empirically grounded, student-centric evaluation of skill-based education effectiveness. Moreover, it provides a clear indication for practical, targeted improvements and resource allocation and better curriculum planning for skill-based education in schools. This will aid educational stakeholders in making informed, data-driven decision to improve SBE.

METHODOLOGY

This study employs a quantitative research design to assess student-perceived proficiency levels in soft and practical skills developed through skill-based education (SBE) in schools. The data was collected through a structured survey instrument administered to a sample of students, allowing for a statistical analysis of their self-reported proficiency levels.

Participants

The participants in this study comprised a sample of 384 students (158 males and 226 females) of 12th grade due to end product of School Education Department (SED) Punjab from 19 (50%) out of 37 public higher secondary schools of three districts; Bahawalnagar from South Punjab, Chiniot from Center Punjab and Jhelum from North Punjab. The students were enrolled in programs incorporating skill-based education. The sample size was determined to be adequate for statistical analysis and to provide a representative view of student perceptions within the targeted educational settings.

Distribution of Sample

Table 1: Distribution of respondents

12th Grade Students 'Data from Public Higher Secondary Schools in Punjab and 3 Selected Districts								
Name of Location	Total Students of 12th Grade	Male	Female	Total	Total Sample Size	Sample Size of Male	Sample Size of Female	Total Sample size
Punjab	66263	26823	39435	66263	384	155	229	384
Selected Districts Data								
Bahawalnagar	2187	813	1374	2187	264	98	166	264
Chiniot	457	305	152	457	55	37	18	55
Jehlum	533	188	345	533	65	23	42	65
Total	3177	1306	1871	3177	384	158	226	384

Table 2: Distribution of the students' area

Area	f	%	Valid %	Cumulative %
Urban	209	54.4	54.4	54.4
Rural	175	45.6	45.6	100
Total	**384**	**100**	**100**	

Instrument

A structured questionnaire was developed to gather data on students' perceptions of their proficiency in various soft and practical skills. The questionnaire included a list of 20 soft skills (e.g., data analysis, research, communication, etc.) and 20 practical skills (e.g., welding, woodwork, digital marketing, etc.). These skills were selected to reflect a broad spectrum of abilities typically targeted by SBE programs. The response scale used was a 5-point Likert scale with the following anchors:

- 1 = Not Proficient
- 2 = Slightly Proficient
- 3 = Moderately Proficient
- 4 = Proficient
- 5 = Highly Proficient

This scale enabled students to self-assess their perceived level of competence in each skill. The questionnaire was designed to be clear, concise, and easily understandable for students. The tool was validated through expert opinion and consultation with research specialists. Pilot testing was conducted in two public higher secondary schools (one for males and one for females) in the Bahawalnagar district. After data collection, reliability was assessed using Cronbach's Alpha, which yielded a value of 0.82, indicating good reliability.

Data Collection Procedure

The questionnaire was administered to students on working days at their respective schools in person by the researcher using printed questionnaires, with the permission of head teachers and the consent of respondents. Students were given clear instructions on how to complete the survey and were assured of the confidentiality and anonymity of their responses. The data collection process was supervised by the research supervisor and field experts to ensure consistency and compliance. All ethical guidelines were strictly followed during data collection.

Data Analysis

The collected data were analyzed using descriptive statistics to summarize the central tendencies and dispersion of student proficiency scores. Specifically:

1. **Frequency Distribution:** The frequency of student responses for each proficiency level (1 to 5) was calculated for every skill.

2. **Weighted Score (WS):** A weighted score was computed for each skill by multiplying the frequency of each response level by its corresponding scale value (1 to 5). This allowed for a more nuanced view of the overall proficiency level. The formula used was: WS = (f1 * 1) + (f2 * 2) + (f3 * 3) + (f4 * 4) + (f5 * 5)

$$WS = \sum_{i=1}^{5} (f_i \cdot i)$$

Where:

- WS is the weighted sum,

- f_i represents the frequency or weight associated with each factor,

- i represents the weight (ranging from 1 to 5).

3. **Mean Value (MV):** The mean value for each skill was calculated by dividing the weighted score by the total number of participants (384). The formula used was: $MV = WS / N$, where N= 384

4. **Standard Deviation (SD):** The standard deviation was calculated for each skill to understand the variability and consistency of student responses.

5. **Rank Order (RO):** Skills were ranked in order of increasing mean values, from lowest to highest, to determine the skills perceived by students as areas of lower to higher proficiency.

Statistical analysis was performed using SPSS and Microsoft Excel. The mean values were utilized to compare and rank different skills based on the students perceived level of proficiency.
No inferential statistical analysis was performed in this study.

Limitations

This study acknowledges several limitations. The findings are based on self-reported perceptions of proficiency, which may not directly reflect actual skill competence. Self-reporting is subjective and can be influenced by personal biases or misinterpretations. The cross-sectional nature of the study does not allow for an examination of skill development over time. Also, the study used only quantitative approach without any qualitative information. The sample size, although adequate for the analysis, is from a specific geographic region and educational context, which may limit the generalizability of the results to broader populations or different educational settings. Additionally, the findings may not be fully applicable to schools with different curricula, teaching methodologies, or socio-economic conditions.

Summary

This methodology section provides a clear framework for the data collection and analysis used in the study. The quantitative approach allows for a structured assessment of students' perceptions regarding their skill proficiency. The use of descriptive statistics and ranking order facilitates comparison and identification of areas that require improvement in skill-based education.

Okay, I'll revise the results section to include the tables directly within the text and cite them by number. This will make the results section more comprehensive and self-contained, and easier to follow when discussing them later.

RESULTS AND DISCUSSION

This section presents the findings of the study, focusing on students' self-reported proficiency levels in both soft and practical skills as developed through skill-based education (SBE) in schools. The results are organized into two main subsections: one for soft skills and one for practical skills. Each subsection will refer to the included tables, enhancing the readability and accessibility of the results.

Student Perceptions of Proficiency in Soft Skills

Table 1 presents the frequency, weighted scores, mean values, standard deviations, and rank order of students' perceptions regarding their proficiency in 20 different soft skills. The findings reveal a wide range of perceived proficiency levels among students, with some skills being ranked significantly lower than others.

Table 3: Student Perceptions of Proficiency in Soft Skills

Sr. No.	Soft Skills	*f*	WS	MV	SD	RO
1	Data Analysis Skills	384	398	1.0365	0.18767	1st
2	Research Skills	384	404	1.0521	0.22248	2nd
3	Stress Management Skills	384	560	1.4583	0.79050	3rd
4	Creative Thinking Skills	384	583	1.5182	0.64203	4th
5	Critical Thinking Skills	384	584	1.5208	0.76788	5th
6	Effective Communication Skills	384	593	1.5443	0.74967	6th
7	Decision Making Skills	384	656	1.7083	0.97130	7th
8	Presentation Skills	384	670	1.7448	0.92962	8th
9	Risk Management Skills	384	704	1.8333	1.09274	9th
10	Project Management Skills	384	719	1.8724	1.09443	10th
11	Problem Solving Skills	384	770	2.0052	0.99081	11th
12	Leadership Skills	384	801	2.0859	1.08173	12th
13	Time Management Skills	384	977	2.5443	1.05371	13th
14	Collaboration Skills	384	981	2.5547	1.21011	14th
15	Financial Literacy Skills	384	996	2.5938	0.97572	15th
16	Social Interaction Skills	384	1052	2.7396	1.02445	16th
17	Ethical Judgement Skills	384	1056	2.7500	0.91120	17th
18	Respect for Diversity Skills	384	1152	3.0000	1.30474	18th
19	Self-Awareness Skills	384	1163	3.0286	0.97312	19th
20	Cultural Sensitivity Skills	384	1274	3.3177	1.28380	20th

Scale: 1=Not Proficient, 2=Slightly Proficient, 3= Moderately Proficient, 4= Proficient, 5=Highly Proficient; Abbreviations: f=Frequency, WS=Weighted Score, MV=Mean Value, SD=Standard Deviation, RO=Rank Order

As shown in Table 1, the soft skills with the lowest perceived proficiency levels were "Data Analysis Skills" (Rank 1st, MV = 1.0365, SD = 0.18767) and "Research Skills" (Rank 2nd, MV = 1.0521, SD = 0.22248). These skills have mean values near the 'Not Proficient' end of the scale, indicating that students, in general, perceive their skills in these areas to be quite low. Furthermore, "Stress Management Skills" (Rank 3rd, MV = 1.4583, SD = 0.79050) shows low level of proficiency, leaning towards not proficient.

Skills like "Creative Thinking Skills" (Rank 4th, MV = 1.5182, SD = 0.64203), "Critical Thinking Skills" (Rank 5th, MV = 1.5208, SD = 0.76788), "Effective Communication Skills" (Rank 6th, MV = 1.5443, SD = 0.74967) "Decision Making Skills" (Rank 7th, MV = 1.7083, SD = 0.97130) and "Presentation Skills" (Rank 8th, MV = 1.7448, SD = 0.92962), "Risk Management Skills" (Rank 9th, MV = 1.8333, SD 1.09274), "Project Management Skills" (Rank 10th, MV=1.8724, SD= 1.09443), "Problem Solving Skills" (Rank 11th, MV = 2.0052, SD = 0.99081) and "Leadership Skills" (Rank 12th, MV= 2.0859, SD = 1.08173) indicate slightly proficiency levels. These soft skills are clustered around the lower-to-mid-range of the scale, suggesting a modest degree of proficiency as perceived by the students.

Skills like "Time Management Skills" (Rank 13th, MV = 2.5443, SD = 1.05371), "Collaboration Skills" (Rank 14th, MV = 2.5547, SD = 1.21011), "Financial Literacy Skills" (Rank 15th, MV = 2.5938, SD = 0.97572), "Social Interaction Skills" (Rank 16th, MV = 2.7396, SD = 1.02445) and "Ethical Judgement

Skills" (Rank 17th, MV= 2.7500, SD = 0.91120) indicate a slightly higher degree of proficiency level. These skills are perceived moderately proficient.

The skills with the highest perceived proficiency were "Respect for Diversity Skills" (Rank 18th, MV = 3.0000, SD = 1.30474), "Self-Awareness Skills" (Rank 19th, MV = 3.0286, SD = 0.97312) and "Cultural Sensitivity Skills" (Rank 20th, MV = 3.3177, SD = 1.28380). These skills are positioned towards the moderate proficiency level on the scale.

Student Perceptions of Proficiency in Practical Skills

Table 2 shows the frequency, weighted scores, mean values, standard deviations, and rank order of students' perceptions concerning their proficiency in 20 different practical skills. Similar to soft skills, there was a notable range in perceived proficiency levels.

Table 4: Student Perceptions of Proficiency in Practical Skills

Sr. No.	Practical Skills	f	WS	MV	SD	RO
1	Welding Skills	384	398	1.0365	0.18767	1st
2	Woodwork Skills	384	404	1.0521	0.22248	2nd
3	Plumbing Skills	384	306	1.0573	0.23270	3rd
4	Digital Marketing and E-Commerce	384	444	1.1563	0.41077	4th
5	Electrical and Electronics Skills	384	447	1.1641	0.44153	5th
6	Mechanical Skills	384	497	1.2943	0.61263	6th
7	Arts and Craft Skills	384	623	1.6224	0.65486	7th
8	Entrepreneurship Skills	384	648	1.6875	1.08455	8th
9	Noting and Drafting Skills	384	668	1.7396	1.04963	9th
10	Computer Skills	384	681	1.7734	1.10457	10th
11	Acting Skills	384	696	1.8125	0.99673	11th
12	Cooking Skills	384	726	1.8906	1.00574	12th
13	Sewing and Textile Skills	384	734	1.9115	1.14826	13th
14	Agricultural and Gardening Skills	384	743	1.9349	0.91602	14th
15	Laboratory Skills	384	774	2.0156	0.98276	15th
16	Photography Skills	384	774	2.0156	1.32056	16th
17	Communication Technology Skills	384	794	2.0677	1.02735	17th
18	First Aid Skills	384	870	2.2656	1.29963	18th
19	Events Management Skills	384	880	2.2917	1.06858	19th
20	Sports Skills	384	1006	2.6198	1.20539	20th

Scale: 1=Not Proficient, 2=Slightly Proficient, 3= Moderately Proficient, 4= Proficient, 5=Highly Proficient; Abbreviations: f=Frequency, WS=Weighted Score, MV=Mean Value, SD=Standard Deviation, RO=Rank Order

As shown in Table 2, the practical skills with the lowest perceived proficiency levels are "Welding Skills" (Rank 1st, MV = 1.0365, SD = 0.18767), "Woodwork Skills" (Rank 2nd, MV = 1.0521, SD = 0.22248) and "Plumbing Skills" (Rank 3rd, MV = 1.0573, SD = 0.23270). Students rated these skills to be around "Not Proficient". Similarly, "Digital Marketing and E-Commerce" (Rank 4th, MV = 1.1563, SD = 0.41077) and "Electrical and Electronics Skills" (Rank 5th, MV = 1.1641, SD = 0.44153) and "Mechanical Skills" (Rank 6th, MV=1.2943, SD=0.61263) had low ratings.

"Arts and Craft Skills" (Rank 7th, MV = 1.6224, SD = 0.65486), "Entrepreneurship Skills" (Rank 8th, MV = 1.6875, SD = 1.08455), "Noting and Drafting Skills" (Rank 9th, MV = 1.7396, SD = 1.04963) and "Computer Skills" (Rank 10th, MV=1.7734, SD=1.10457), "Acting Skills" (Rank 11th, MV = 1.8125, SD = 0.99673), "Cooking Skills" (Rank 12th, MV = 1.8906, SD = 1.00574), "Sewing and Textile Skills" (Rank 13th, MV=1.9115, SD=1.14826), "Agricultural and Gardening Skills" (Rank 14th, MV = 1.9349, SD= 0.91602) and "Laboratory Skills" (Rank 15th, MV= 2.0156, SD = 0.98276) indicate slightly proficiency level. These skills tend towards "Slightly Proficient". "Photography" and "Communication Technology Skills" (Rank 16th, and 17th MV 2.0156 and 2.0677), "First Aid Skills" (Rank 18th, MV=2.2656) and "Events Management Skills" (Rank 19th, MV=2.2917) indicates better perceived proficiency slightly leaning towards "Slightly Proficient".

"Sports Skills" (Rank 20th, MV = 2.6198, SD = 1.20539) were perceived as areas where students were most proficient, although the mean value is still in the moderately proficient range.

Summary of Key Findings

- Students reported the lowest proficiency levels in foundational skills such as data analysis and research (Table 3), and in practical skills like welding and woodwork (Table 4).

- Most of the soft and practical skills were perceived at "slightly proficient" level by the students (Table 3 and Table 4).

- Skills such as cultural sensitivity, self-awareness (Table 3), and sports (Table 4) received the highest proficiency scores, although still within a "moderately proficient" range.

- The standard deviations show varying levels of agreement in the responses about skills (Table 3 and Table 4).

DISCUSSION

This study investigated students' perceived proficiency levels in a range of soft and practical skills developed through skill-based education (SBE) in schools. The results, presented in Tables 3 and 4, reveal a complex landscape of student perceptions, highlighting areas of strength and significant gaps in the effectiveness of current SBE practices. This discussion will interpret these findings, relating them to the existing literature, addressing the study's aims, and suggesting avenues for future research.

Interpretation of Key Findings

The findings reveal a concerning trend: students perceive themselves as least proficient in foundational skills such as *data analysis* (Table 3, Rank 1) and *research skills* (Table 3, Rank 2), as well as in practical skills like *welding* (Table 4, Rank 1) and *woodwork* (Table 4, Rank 2). These skills are crucial for both academic success and professional development. This finding contradicts the goals of SBE, which aims to equip students with practical and applicable skills (Darling-Hammond, 2010). The low proficiency in these basic areas could be attributed to several factors, such as a lack of adequate instruction, insufficient resources, or ineffective pedagogical strategies. These deficiencies demand urgent attention and strategic planning from educators and policy makers. These results indicate that a considerable amount of work is needed to improve the skill-based education in schools.

Notably, students reported moderate to slightly moderate proficiency in the majority of other skills, both soft and practical. Skills like *stress management*, *critical thinking*, *communication*, *digital marketing* and *computer skills* which are considered to be very important for professional life, are also perceived at slightly proficiency level. These results highlight the need to improve the quality of the delivery of skill-based programs in school. This indicates that while some level of skill development may be occurring, it is not reaching a desired degree of proficiency (Lucas, 2016). It may also be due to a lack of proper engagement by the students in the programs.

The slightly higher moderate proficiency reported in skills such as *time management*, *collaboration*, *financial literacy* and *ethical judgement* (Table 3) suggests that students are acquiring some of the needed skills. These skills are essential for working in teams, managing tasks and maintaining ethics. But even in these soft skills and in practical skills such as *sports* (Table 4, Rank 20) the highest perceived level of proficiency is only moderately proficient, which is still a concern. This indicates that there is still considerable room for improvement.

The higher moderate proficiency perceived in *cultural sensitivity*, *self-awareness* and *sports* is interesting. One possible explanation could be that these areas are addressed in school either directly or indirectly, in multiple courses or through various activities such as games and sports or co-curricular activities in general. These are areas that need to be improved and further explored.

Implications in Relation to Literature

These findings align with the concerns raised in the literature regarding the implementation challenges of SBE (Bialik et al., 2015). The study highlights that despite the recognition of the importance of skill development by many researchers, as reported by the World Economic Forum, the practical implementation remains ineffective (World Economic Forum, 2020). This study supports the arguments of researchers like Dweck who emphasize the need for intentional learning strategies for skill development (Dweck, 2006). The study highlights the existing gap between theory and practice.

The disparity between students' perceptions of proficiency in various skills also suggests that current assessment methods may not be accurately gauging true skill competence, something that is repeatedly raised in the literature (Lucas, 2016). The dependence on self-reported data, despite its limitations, is a good starting point for evaluating the perception of skill proficiency, that is often not captured in other conventional assessments (Bandura, 1977).

Addressing Research Aims

This study successfully addressed its aims. It was able to:

1. **Investigate the perceived proficiency** of students in various soft skills developed through SBE (Table 1). The data revealed that students perceived lowest proficiency in skills like data analysis and research.

2. **Investigate the perceived proficiency** of students in various practical skills developed through SBE (Table 2). The results showed that students perceived lowest proficiency in welding and woodwork skills.

3. **Identify specific skills where students feel proficient, and those where improvement is most needed** (Tables 1 and 2). The results point to a need for improvement in almost all skills.

These goals have been achieved through data analysis.

LIMITATIONS OF THE STUDY

It is important to acknowledge the limitations of this study. First, the findings are based on self-reported data, which is subjective and may not accurately reflect students' actual skill levels. This reliance on self-assessment is susceptible to social desirability bias (where respondents may over report their abilities to present themselves favorably) (Paulhus, 1991) and response bias (where the method of data collection itself influences the responses) (Tourangeau et al., 2000). Additionally, self-assessments can be affected by various factors such as students' individual levels of self-confidence [self-efficacy] (Bandura, 1977) and personal biases [cognitive biases] (Tversky & Kahneman, 1974). Second, the study used a cross-sectional design, which does not track skill development over time, but rather represents a snapshot of a current situation in a school or education system. This approach limits our ability to infer causal

relationships or understand the trajectory of skill acquisition [lacks temporal precedence] (Reichardt, 2002). Finally, the generalizability of the results might be limited by the specific context of the study. The sample consisted of students from four divisional headquarters cities of Province Punjab, namely, Jehlum, Faisalabad, Chiniot, and Bahawalnagar. This geographical focus limits the extent to which the results can be generalized to other regions of Punjab, let alone other provinces or countries. [limited external validity] (Reichardt, 2002). Factors like varying socio-economic conditions, educational resources, and cultural contexts in other regions may influence the outcomes of skill-based education differently. Also, this study focuses only on quantitative analysis without gathering any qualitative information about the perspectives of the students. The absence of qualitative data [missing contextual understanding] (Creswell & Plano Clark, 2017) restricts our capacity to explore the nuances of student experiences and their reasoning behind the given ratings.

FUTURE RESEARCH DIRECTIONS

Future research should focus on several key areas:

1. **Longitudinal Studies:** Tracking skill development over time using longitudinal studies would provide a more comprehensive understanding of the effectiveness of SBE.

2. **Objective Skill Assessments:** Combining self-reported data with objective skill assessments would provide a more robust evaluation of student proficiency.

3. **Qualitative Data:** Gathering qualitative data through interviews or focus groups with students and educators would provide deeper insights into the experiences and perceptions of SBE.

4. **Impact of Instructional Methods:** Investigating the impact of different instructional methods and pedagogical strategies on skill development is also important.

CONCLUSION

In conclusion, this study provides valuable insights into students' perceptions of their skill proficiency through SBE in schools. The findings highlight the urgent need for a reevaluation and refinement of current educational practices. By addressing the identified gaps and limitations, and pursuing the avenues for future research, we can strive to better equip students with the skills they need to succeed in an increasingly complex world. The study contributes to an evidence-based approach towards improving the quality of skill-based education.

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