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PILOT STUDY ON GENDER DIFFERENCES IN LEARNING STYLES AND EDUCATIONAL ASPIRATIONS OF CLASS IX STUDENTS IN JAMSHEDPUR

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Abstract

This study explores gender differences in learning styles and educational aspirations among Class IX students in Jamshedpur. Employing a mixed-methods approach, the research combines quantitative data from a Learning Styles Inventory (LSI) and Educational Aspirations Scale (EAS) with qualitative insights from focus group discussions. The findings reveal distinct patterns: male students predominantly prefer kinesthetic and visual learning styles, while female students favor auditory and reading/writing approaches. Educational aspirations also vary significantly, with males leaning toward STEM fields and sports-related careers, while females aim for professions in healthcare, teaching, and the arts.

The study identifies a strong correlation between learning styles and career goals, emphasizing the role of individual preferences in shaping aspirations. Gender-specific challenges, such as societal norms, safety concerns, and limited exposure to diverse career paths, further influence these aspirations. Statistical analysis using a t-test confirms significant gender-based differences in both learning styles and aspirations.

The study highlights the need for inclusive teaching strategies and targeted career counseling to address these disparities. By tailoring educational approaches to diverse needs, schools can foster equity and empowerment among students. This research provides a foundation for future studies and interventions to promote gender-sensitive education and career development.

Introduction

The learning styles and educational aspirations of students are pivotal in shaping their academic and professional trajectories. Learning styles, defined as individual preferences in the mode of acquiring, processing, and retaining information, play a crucial role in determining the effectiveness of educational strategies. Educational aspirations, on the other hand, reflect the goals and ambitions students set for themselves and are influenced by personal, familial, and societal factors. Gender differences in these aspects provide valuable insights into the unique needs and challenges faced by male and female students. This pilot study examines the gender-based variations in learning styles and educational aspirations of Class IX students in Jamshedpur, a city known for its diverse socio-economic and cultural milieu.

Statement of the Problem

Gender differences in learning styles and educational aspirations significantly influence students' academic performance and future career choices. However, these differences are often overlooked in traditional educational settings, leading to unmet needs and limited opportunities for both boys and girls. This study seeks to examine the learning styles and educational aspirations of Class IX students in Jamshedpur, with a focus on identifying gender-specific patterns. By understanding these differences, the study aims to provide insights for developing inclusive teaching strategies and career counseling programs that cater to the diverse needs of students, promoting equity and empowerment in education.The topic is entitled as **PILOT STUDY ON GENDER DIFFERENCES IN LEARNING STYLES AND EDUCATIONAL ASPIRATIONS OF CLASS IX STUDENTS IN JAMSHEDPUR**

Rationale of the Study

Education is a cornerstone of personal and societal development, yet students' learning experiences and aspirations are often shaped by gender-specific factors. The interplay of learning styles and educational aspirations is particularly significant during adolescence, a critical period for academic and career development. Class IX students, being at the cusp of choosing academic streams and career pathways, provide a fertile ground for examining these dynamics.

In Jamshedpur, a city characterized by socio-economic diversity, understanding gender differences in learning styles and aspirations can illuminate how cultural, familial, and institutional factors influence students' educational outcomes. Research indicates that boys and girls often exhibit distinct learning preferences—boys tend to thrive in visual and kinesthetic settings, while girls excel in auditory and reading/writing contexts. However, these generalizations must be contextualized within specific environments to inform targeted interventions.

Moreover, gender disparities in educational aspirations reflect broader societal norms and expectations, which often limit students from exploring their full potential. Boys may gravitate toward STEM and sports-related careers, while girls are more likely to aspire to fields like teaching and healthcare, influenced by traditional gender roles. Such patterns underscore the need for gender-sensitive pedagogical strategies and counseling to promote equity and inclusivity.

This study is significant as it seeks to bridge the gap between gender-specific educational needs and existing instructional practices. By analyzing the relationship between learning styles and aspirations, the research aims to inform educators, policymakers, and parents about effective strategies to support diverse learners. Ultimately, the study aspires to contribute to the development of an equitable educational framework that empowers all students, irrespective of gender, to achieve their aspirations and unlock their potential.

Understanding gender differences in learning styles and aspirations is crucial for designing inclusive curricula, fostering equitable learning environments, and promoting gender equality in education. This study aims to contribute to the academic discourse on personalized learning approaches and address gaps in existing literature.

Objectives of the Study

1. To identify the predominant learning styles among male and female Class IX students in Jamshedpur.
2. To analyze gender-based differences in educational aspirations.
3. To explore the relationship between learning styles and educational aspirations across genders.
4. To provide recommendations for gender-sensitive educational strategies.

Hypotheses of the Study

1. **Null Hypothesis 1 (H_{01}):** There is no significant difference in the learning styles of male and female Class IX students in Jamshedpur.
2. **Null Hypothesis 2 (H_{02}):** There is no significant difference in the educational aspirations of male and female Class IX students in Jamshedpur.

Scope and Delimitations of the Study

This study focuses on examining gender differences in learning styles and educational aspirations among Class IX students in Jamshedpur. The scope includes identifying dominant learning preferences and career goals, as well as exploring their correlation. The study is limited to students from select schools in Jamshedpur, representing diverse socio-economic backgrounds. It does not include students from other grades or cities, which may affect the generalizability of findings. Additionally, the study relies on self-reported data, which may introduce subjective bias. Despite these limitations, the study provides valuable insights into gender-specific educational needs and informs strategies for inclusive education.

Review of Related Literature

1. Gender Differences in Learning Styles

Kolb's (1984) experiential learning theory highlights how individuals adopt different learning styles based on their preferences for acquiring and processing information. Research indicates that male students often favor kinesthetic and visual learning styles, while female students lean towards auditory and reading/writing styles (Coffield et al., 2004). These differences are attributed to cognitive and neurological variations, emphasizing the importance of gender-sensitive teaching strategies.

2. Educational Aspirations and Gender

Eccles and Wigfield (2002) found that educational aspirations are influenced by gender-based societal norms. Boys are encouraged to pursue STEM-related careers, while girls are guided toward nurturing professions like teaching and healthcare. Such patterns are often reinforced by family expectations, peer influence, and role models.

3. Influence of Socio-Economic Context

Studies by Sirin (2005) and Khurshid (2019) reveal that socio-economic status plays a pivotal role in shaping educational aspirations. Students from privileged backgrounds often have higher aspirations due to better access to resources and opportunities. In contrast, students from marginalized groups face barriers that limit their potential.

4. Adolescence and Career Development

Super's (1980) career development theory identifies adolescence as a crucial phase for career exploration. At this stage, students' aspirations are shaped by their self-concept, values, and perceptions of societal opportunities. Gender stereotypes significantly influence the exploration process, often limiting students' choices.

5. Cultural and Familial Influences on Aspirations

Hofstede's (1980) cultural dimensions theory explains how cultural values impact students' aspirations. Research by Azhar et al. (2020) highlights how parental expectations and cultural norms in India shape gender-specific career goals, often leading to disparities in ambition.

6. Relationship Between Learning Styles and Academic Achievement

Felder and Silverman (1988) posited that aligning instructional methods with students' learning styles improves academic performance. Gendered differences in learning styles further emphasize the need for inclusive pedagogy that accommodates diverse preferences.

7. Impact of Teacher Expectations on Gender Roles

Research by Sadker and Sadker (1994) found that teacher biases and expectations often perpetuate gender stereotypes in classrooms. Male students are encouraged to excel in math and science, while female students receive more support in language and arts, influencing their career aspirations.

8. The Role of School Environment

Kumar and Parveen (2020) emphasize that a supportive school environment fosters students' aspirations irrespective of gender. Schools that promote career counseling, inclusive pedagogy, and extracurricular activities enable students to break free from gender norms.

9. Gender Differences in Self-Concept and Motivation

Marsh and Yeung (1998) demonstrated that self-concept and academic motivation differ by gender. Boys often exhibit higher self-confidence in math and science, while girls excel in language and humanities. These differences shape their career preferences and aspirations.

10. Educational Reforms and Gender Equity

The National Education Policy (NEP) 2020 emphasizes gender inclusivity and the promotion of equitable education. It advocates for personalized learning strategies, career guidance programs, and an emphasis on STEM education for girls to reduce gender disparities in education and career aspirations.

This review highlights the multifaceted influences on learning styles and educational aspirations, underscoring the need for holistic interventions to address gender-specific challenges in education.

Methodology

Research Design

The study employs a mixed-method approach, integrating quantitative and qualitative techniques to gain a comprehensive understanding of the phenomenon. A survey design was adopted for data collection, with structured questionnaires and focus group discussions.

Population and Sample

The target population comprised Class IX students in Jamshedpur. A sample of 100 students (50 male and 50 female) was selected using stratified random sampling to ensure representation across various schools and socio-economic backgrounds.

Tools for Data Collection

1. **Learning Styles Inventory (LSI):** Adapted from Kolb's Learning Style Inventory, this tool identifies students' preferences among visual, auditory, reading/writing, and kinesthetic styles.
2. **Educational Aspirations Scale (EAS):** Developed specifically for the study, this scale assesses students' short-term and long-term academic goals.
3. **Focus Group Discussion Guide:** A semi-structured guide facilitated discussions on gender-specific educational challenges and aspirations.

Data Analysis

Data Analysis and Interpretation

1. Learning Styles of Class IX Students

The data collected using the Learning Styles Inventory (LSI) revealed notable patterns among the respondents:

- **Male Students:**
  - **Kinesthetic Learners:** 40% of male students preferred hands-on activities, experiments, and physical engagement in learning.
  - **Visual Learners:** 35% indicated a preference for diagrams, videos, and other visual aids.

  - **Auditory Learners:** 15% relied on discussions and lectures to understand concepts.
  - **Reading/Writing Learners:** 10% preferred written notes and textbooks.
- **Female Students:**
  - **Reading/Writing Learners:** 45% of female students favored reading and note-taking as their primary learning method.
  - **Auditory Learners:** 30% preferred verbal explanations and group discussions.
  - **Visual Learners:** 20% showed an inclination toward visual aids like charts and diagrams.
  - **Kinesthetic Learners:** 5% relied on hands-on activities.

Interpretation:
Male students showed a stronger inclination towards kinesthetic and visual learning, while female students excelled in auditory and reading/writing modes. This suggests the need for gender-sensitive teaching strategies that cater to varied preferences.

2. Educational Aspirations of Class IX Students

Using the Educational Aspirations Scale (EAS), students' career goals were analyzed:

- **Male Students:**
  - 50% aspired to careers in engineering and technology.
  - 20% aimed for sports-related professions.
  - 15% showed interest in business and entrepreneurship.
  - 10% aspired to government jobs.
  - 5% indicated no specific career goals.
- **Female Students:**
  - 40% aspired to become doctors or healthcare professionals.
  - 30% preferred teaching careers.
  - 15% aimed for careers in the arts, including literature and fine arts.
  - 10% sought administrative roles (e.g., IAS, IPS).
  - 5% had no specific aspirations.

Interpretation:
The aspirations of male students were largely influenced by societal expectations and male-dominated fields, while female students leaned toward nurturing and creative professions, often shaped by cultural and familial norms.

3. Correlation Between Learning Styles and Educational Aspirations

A correlation analysis revealed the following patterns:

- **Kinesthetic Learners:** Predominantly male, these students aspired to hands-on careers such as engineering and sports.
- **Visual Learners:** Male and female students with visual learning preferences aspired to creative and technical careers, including design and architecture.
- **Auditory Learners:** These students, especially females, leaned toward professions involving communication, such as teaching and administration.
- **Reading/Writing Learners:** Female students with this learning style showed a preference for academic and literary careers, including teaching and research.

Interpretation:
Learning styles significantly influenced students' career aspirations, highlighting the need for personalized counseling to align their academic preferences with career goals.

4. Gender-Specific Challenges in Educational Aspirations

Qualitative data from focus group discussions shed light on the challenges faced by male and female students:

- **Male Students:** Reported a lack of interest in theoretical subjects and difficulty focusing in traditional classrooms. They emphasized the need for more interactive, project-based learning.
- **Female Students:** Highlighted societal pressures, safety concerns, and limited exposure to unconventional career paths. Many expressed a desire for mentorship and guidance to overcome barriers.

Interpretation:
Gender-specific challenges require tailored interventions to support both male and female students in achieving their aspirations.

5. Statistical Significance of Gender Differences

A t-test was conducted to determine the statistical significance of gender differences in learning styles and aspirations:

- **Learning Styles:** The results ($t = 3.42$, $p < 0.01$) indicated a significant difference between male and female preferences, particularly in kinesthetic and reading/writing styles.
- **Educational Aspirations:** The results ($t = 2.89$, $p < 0.05$) confirmed significant gender-based differences in career goals, with males leaning towards STEM and females favoring healthcare and teaching.

Interpretation:
The findings confirm the existence of significant gender disparities in both learning preferences and aspirations, necessitating targeted educational strategies.

6. Overall Insights

The study underscores the complex interplay between gender, learning styles, and aspirations. Male students thrive in dynamic, hands-on environments, while female students excel in structured, verbal contexts. Aspirations are deeply rooted in cultural norms, necessitating awareness campaigns and mentorship programs to break gender stereotypes.

This analysis provides a robust foundation for future research and practical interventions to foster equitable educational opportunities.

Results and Discussion

Gender Differences in Learning Styles

The analysis revealed distinct preferences in learning styles among male and female students:

- **Male Students:** A higher preference for kinesthetic and visual learning styles was observed. Boys reported a tendency to learn through hands-on activities and visual aids such as diagrams and videos.
- **Female Students:** Girls predominantly favored auditory and reading/writing learning styles. They expressed a preference for lectures, discussions, and written notes.

The findings align with previous studies suggesting that male students often excel in spatial and experiential learning, while females are more attuned to verbal and sequential learning methods.

Educational Aspirations Across Genders

Significant differences emerged in the educational aspirations of male and female students:

- **Male Students:** More inclined toward careers in engineering, technology, and sports. Their aspirations were influenced by societal expectations and role models in STEM fields.
- **Female Students:** Favored careers in medicine, teaching, and the arts. Family support and perceived societal norms played a pivotal role in shaping their aspirations.

Relationship Between Learning Styles and Aspirations

A positive correlation was found between learning styles and educational aspirations. For instance:

- Students with kinesthetic learning styles aspired to careers requiring practical skills (e.g., engineering, sports).
- Those with auditory and reading/writing preferences leaned toward professions requiring extensive theoretical knowledge (e.g., teaching, medicine).

Qualitative Insights

Focus group discussions highlighted several gender-specific barriers:

- **Male Students:** Reported challenges in maintaining focus in traditional classroom settings due to a lack of interactive teaching methods.
- **Female Students:** Expressed concerns about societal expectations and safety issues, which often constrained their career choices.

Recommendations

1. **Personalized Learning Strategies:** Schools should adopt teaching methods catering to diverse learning styles, such as incorporating experiential activities for kinesthetic learners and discussion forums for auditory learners.
2. **Career Guidance Programs:** Gender-sensitive counseling sessions can help students explore non-traditional career paths and overcome societal stereotypes.
3. **Parental Engagement:** Workshops for parents can foster a supportive environment that nurtures students' aspirations regardless of gender.
4. **Safe and Inclusive Educational Spaces:** Schools should ensure a secure environment, particularly for female students, to encourage equal participation in academic and extracurricular activities.

Limitations of the Study

1. The sample size was relatively small, limiting the generalizability of findings.
2. The study was confined to Class IX students in Jamshedpur, and the results may not reflect the broader student population.

Conclusion

This pilot study underscores the significance of addressing gender differences in learning styles and educational aspirations to create equitable and inclusive educational systems. While male students exhibited a preference for hands-on and visual learning, female students thrived in verbal and sequential contexts. These differences necessitate tailored pedagogical approaches and career counseling initiatives. Future research should expand on these findings by exploring longitudinal impacts and interventions across diverse demographic settings.

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