Effects of Styles of Learning and Thinking on Academic Anxiety Among School Students

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ABSTRACT

This research paper delves into the intricate relationship between styles of learning and thinking and their impact on academic anxiety among school students. Academic anxiety, characterized by feelings of worry, apprehension, and stress related to academic performance, is a prevalent issue affecting students' overall well-being and academic success. The study explores how different styles of learning, including visual, auditory, and kinesthetic modalities, as well as various thinking styles such as analytical, creative, and critical, influence levels of academic anxiety. Through a comprehensive review of existing literature, theoretical frameworks, and empirical studies, the paper provides a nuanced understanding of the mechanisms underlying this relationship. Statistical analyses, including correlation tests and regression models, are employed to examine the associations between variables and identify potential mediators or moderators.

The findings reveal significant associations between specific learning and thinking styles and levels of academic anxiety among school students. Visual learners, for instance, may experience heightened anxiety when faced with predominantly auditory or text-based learning tasks, while kinesthetic learners may thrive in hands-on activities but struggle with traditional classroom settings. Similarly, students with analytical thinking styles may exhibit perfectionistic tendencies and fear of failure, leading to increased anxiety in high-pressure academic environments. Conversely, students with creative thinking styles may experience anxiety related to performance expectations and self-expression. This research contributes to the growing body of literature on the effects of learning and thinking styles on academic anxiety among school students. By elucidating the complex interplay between these variables, the study offers valuable insights into the development of targeted interventions and support systems aimed at alleviating academic anxiety and fostering holistic student development.

Keywords: learning styles, thinking styles, academic anxiety, school students, socio-emotional learning, coping mechanisms, educational interventions.

INTRODUCTION

School plays an important role in shaping young brains, encouraging mental development, and preparing students for their futures. In any event, this trip is not without obstacles. Scholarly anxiety, the dread of failure or poor judgment in educational environments can be a significant barrier for many students. This proposition investigates the potential relationship between the ways students learn, thinking patterns, and susceptibility to academic anxiety.

Learning styles include how individuals incline toward to get and prepare information. Some students

may be visual learners, thriving with pictures and graphs, whereas others can be sound-related learners, exceeding expectations with clarifications and discussions. So also, considering learning and thinking styles reflect how people approach issues and analyse information. Some could be explanatory, favouring rationale and step-by-step approaches, though others may well be more all-encompassing, leaning toward bigger picture.

This study investigates the hypothesis that a mismatch between learning styles, thinking styles, and education in schools can lead to scholarly anxiety. For example, someone who learns visually in a heavy on text environment or an expository powerhouse in a very imaginative classroom may experience greater anxiety owing to difficulty grasping topics or keeping pace with the lesson speed.

By analysing these relationships, this idea seeks to provide insight on the numerous factors that contribute to academic anxiety in school students. Recognizing how learning and thinking styles are related to instructional approaches can pave the way for the development of more individualized and complete learning environments, ultimately resulting in an improved and profitable learning experience for all students

1.1 STYLE OF LEARNING AND THINKING

Learning is the foundation of intellectual and human growth, involving the acquisition of understanding, abilities, and mindsets. Nevertheless, individuals participate in this procedure in distinct manners, underscoring the significance of comprehending different learning styles. This section examines the topic of learning styles, investigating prominent theories and their consequences for educational practice.

LEARNING STYLES:

Learning styles pertain to the favoured and most efficient methods by which individuals assimilate information and acquire expertise (Coffield et al., 2004). Comprehending these types enables educators to customise their teaching methods, promoting a more captivating and efficient learning encounter for learners (Keefe, 1987).

THEORIES OF LEARNING STYLES:

VAK MODEL: This model considers 3 primary learning styles

- "Visual learners are individuals that excel in understanding and retaining information when it is presented in visual formats such as photos, diagrams, charts, and films (Pashler et al., 2009).
- Auditory learners comprehend knowledge most effectively when it is conveyed through talks, debates, and recordings of information (Melton, 1985).
- Kinaesthetic learners, sometimes referred to as tactile learners, derive the greatest advantage from practical experiences, modelling, and activities that require physical movement (Kolb, 1984)."

THE FELDER-SILVERMAN LEARNING STYLE MODEL: This model takes into consideration four primary dimensions of learning styles

- "Sensing (S) versus Intuition (I): Sensing learners appreciate specific information, details, and practical applications. They thrive at using step-by-step methods and enjoy dealing with data. Abstract notions, theories, and big-picture thinking are particularly appealing to intuitive learners.
- Visual (V) vs. Verbal (V): This aspect is consistent with the VAK paradigm, with students who learn visually favouring graphical representations and images and verbal learners preferring written text

and explanations.

- Active (A) versus Reflective (R): Active learners thrive in debates, group projects, and hands-on activities. They appreciate learning via exploration and teamwork. Reflective learners value time for independent research, thorough analysis, and reflection.
- Sequential (S) versus Global (G): Sequential learners thrive in linear thinking, taking logical actions and building on previous knowledge. Global learners want a glimpse of the big picture before diving in depth.

"These categories serve as a fundamental structure; certain learners may have a mixture of styles, with one style being more prominent (Coffield et al., 2004)."

TECHNIQUES FOR OPTIMAL LEARNING:

"Establishing an efficient learning environment necessitates accommodating a wide range of learning styles. Here are some ways a person can utilise:

- Multimodal Instruction: Utilise a diverse range of instructional techniques such as lectures, discussions, visual aids, hands-on tasks, and written assignments (CAST, 2018).
- Collaborative Learning: Group work and interaction among peers can accommodate various learning styles and encourage active learning (Slavin, 1988).
- Technology Integration: Educational technology provides a plethora of resources that accommodate various learning styles, including simulations, multimedia presentations, and online lessons (Moseley et al., 2013).
- Opportunity: Offering students the opportunity to choose their learning activities or assessment techniques can increase their involvement and accommodate their preferred methods of learning (Weinstein & Tomlinson, 2003).
- Inclusive setting: Through the cultivation of a varied and inclusive educational setting that utilises technology and empowers students, educators may establish a more immersive and rewarding experience for all learners."

LIFELONG LEARNING STYLES OUTSIDE THE CLASSROOM:

"Educational acquisition transcends the physical boundaries of the classroom. Identifying and acknowledging different ways of learning can provide learners with a sense of control and confidence that can positively impact their learning journey for the rest of their lives.

- Career Development: Individuals have the option to pursue training programmes and opportunities for professional growth that are in line with their preferred method of learning (Noe, 2018).
- Self-Directed Learning: It involves utilising internet resources, classes, or individual study to acquire knowledge. It is advantageous to have an understanding of one's learning style in order to effectively engage in this type of learning (Dabner, 2010).
- Personal Growth: Individuals can enhance their personal development by identifying their preferred learning styles and selecting activities that are both engaging and successful to them (Knowles, 1980).

  In essence, having knowledge about learning styles enables individuals to enhance their learning abilities and be more efficient learners throughout their lifetime."

1.2 ACADEMIC ANXIETY

"Academic anxiety is a common issue that affects students of many ages and backgrounds. It is defined as a strong emotional state marked by concern, apprehension, and fear related to academic achievement (Zeidner, 1990). This section thoroughly examines the complex nature of anxiety about schoolwork, investigating its origins, outcomes, and scientifically supported methods for efficiently controlling it."

CAUSES OF ACADEMIC ANXIETY

"Academic anxiety can arise from a multitude of sources, encompassing internal as well as external influences:

- Fear of failure- Academic anxiety can be caused by the fear of failure, the pressure to earn excellent grades, and the competitiveness with peers (Richardson et al., 2017).
- Low self-efficacy- It refers to a lack of confidence in one's ability to achieve academic success, might increase feelings of anxiety (Bandura, 1997).
- Perfectionism- It can worsen anxiety and impede academic success due to the presence of excessive demands for flawless performance (Egan & Perry, 2004).
- Test anxiety- It refers to the high level of anxiety that is experienced in relation to tests and assessments. This anxiety can have a major negative effect on performance(Zeidner, 1990).
- Learning Differences- Academic work might become problematic due to undiagnosed learning challenges, resulting in anxiety and dissatisfaction (American Psychological Association, 2023).

The interaction between these elements might lead to a harmful cycle of worry and poor academic performance, necessitating the implementation of appropriate intervention techniques."

RAMIFICATIONS OF ACADEMIC ANXIETY:

"Academic anxiety can profoundly affect students' overall well-being and hinder their academic achievements.

- Psychological Distress- It refers to a state of emotional strain that can manifest as symptoms such as depression, tension, and impaired concentration (Spielberger, 1980).
- Bodily Health Issues- Chronic anxiety can result in bodily manifestations such as migraines, exhaustion, and abdominal discomfort (Bäckström & Österman, 2004).
- Procrastination- Students that are anxious may engage in procrastination or completely ignore academic duties (Efklides, 2008).
- Performance- Anxiety can have a negative impact on academic performance by impairing focus, memory, and ability to think, which in turn hinders academic attainment (Zeidner, 1990).

These repercussions emphasise the significance of tackling academic anxiety in order to safeguard the physical and mental well-being of pupils while fostering academic achievement."

MANAGING ACADEMIC ANXIETY: STRATEGIES FOR TAKING CONTROL

"Fortunately, there are some evidence-based practices that can assist students in effectively managing academic anxiety and excelling in their studies:

- Cognitive-behavioural therapy (CBT)- It is a therapeutic approach that assists students in recognising and questioning negative cognitive processes that contribute to anxiety. It also aids in the development of effective coping strategies (Egan & Perry, 2004).
- Methods for Achieving Relaxation- Techniques such as deep breathing exercises, meditation on

mindfulness, and progressive muscle relaxation can effectively alleviate physiological symptoms associated with anxiousness (American Psychological Association, 2023).

- Time management skills- These skills are crucial for reducing procrastination and promoting a sense of control, which in turn helps to alleviate anxiety (Barkley, 2010).
- Developing study skills- It involves acquiring efficient study practices, like active reading and interval repetition, which can enhance confidence and improve academic success (Dunlosky & Rawson, 2012).
- Seeking Assistance- Establishing contact with academic advisers, counsellors, or tutors can offer significant help and access to vital assets (National Alliance on Mental Illness,2023)."

"By following these tactics, students can cultivate a set of skills for effectively managing academic anxiety, enhancing academic achievement, and nurturing overall well-being."

THE FUNCTION OF THE INTELLECTUAL COMMUNITY:

"In addition to personal coping mechanisms, establishing a supportive academic atmosphere can significantly help alleviate academic anxiety.

- Faculty who exhibits empathy and understanding can foster a more favourable learning atmosphere for students who are dealing with anxiety.
- By normalising conversations about mental health, the stigma surrounding it can be reduced, which in turn can enable students to seek help without fearing judgement (American Psychological Association, 2023).
- Flexible learning options, such as adjustable deadlines, different assessment methods, and retake opportunities, can help reduce stress and enhance the educational experience(Zepf et al., 2019).
- Disseminating knowledge about mental health services available on campus, strategies for managing stress, and options for academic support can enable students to actively seek assistance (National Alliance on Mental Illness, 2023)."

"By implementing these initiatives, educational institutions can cultivate a more nurturing and all-encompassing learning atmosphere that places equal importance on students' psychological Welfare and academic success."

1.3 LINK BETWEEN LEARNING STYLES AND ACADEMIC ACHIEVEMENT

"Studies on the direct relationship connecting styles of learning and achievement in school has shown varied results. Some research indicates a link connecting matching learning styles to instructional approaches and enhanced performance among pupils. For example, visual learners might profit from visual aids, whereas auditory learners might do well in interactive classrooms.

- Enhanced Understanding: When educational resources and teaching methods match the learner's predominant learning style, they are more likely to understand concepts effectively. For example, visual learners who are provided with schematics and graphic organizers may grasp a scientific study better than those who are only given text.
- Improved Participation: Students who receive teaching that is matched to their learning type are more likely to engage in the process of learning. Active learners might excel in interactive learning environments involving discussions and simulations, whereas auditory learners prefer listening to compelling presentations and taking part in group debates. Increased participation can lead to a

better grasp and retention of material.

- Boosted Confidence: Whenever students believe they can efficiently access and absorb information thanks to teaching approaches that are tailored to their style of learning, their confidence can skyrocket. This can be especially helpful for students who struggle in circumstances that do not accommodate their preferred learning approach. Increased confidence encourages pleasant learning experiences and an eagerness to take chances with one's thinking.

- Tailored Learning: Learning style advocates push for a more tailored educational approach. Recognizing an individual's preferred learning mode allows teachers to tailor lessons and evaluations to their abilities. This individualized approach can foster an environment of learning in which all students can achieve."

1.4 LEARNING STYLES AND ACADEMIC ANXIETY

"While the relationship between styles of learning and academic accomplishment is debatable, an imbalance between learning preferences and teaching approaches might increase academic anxiety. Here's how.

- Problems Grasping Concepts: When teaching approaches do not match the learner's learning method, they may struggle to comprehend the information. Someone who learns visually in a heavy on text lecture may overlook important information. This can lead to irritation, feelings of inadequacy, and, eventually, anxiety.

- Dropping Behind and Looking Helpless: Whenever students are unable to keep up owing to a style of learning imbalance, they may fall adrift on projects and conversations. This can lead to feelings of impotence and a dread of offending teachers or peers, which exacerbates anxiety.

- Unfavourable Self-Perception: Students who believe they are unable to learn well owing to a mismatch may form negative views of themselves as learners. This might have an impact on their optimism and drive, resulting in anxiety about their academic achievement."

1.5 sSCHOOL GOING STUDENTS

"In India, students aged 16 to 19 are an important demographic group who are at a pivotal stage in their academic and life paths. This section examines the present condition of this group, investigating their educational prospects, difficulties, and the changing environment of secondary school in India.

EXPANDING EDUCATIONAL PROSPECTS AND ADVANCEMENT

India has a youthful population, with a substantial proportion falling within the age range of 16-19. This results in a plethora of possibilities for learners and the nation:

- Government efforts such as the Right to Education Act (RTE) have broadened educational opportunities, resulting in a greater number of students enrolling in high school (MHRD, Government of India, 2019).

- India provides a range of educational opportunities that go beyond conventional academic paths, such as vocational training and skill development programmes (Ministry of Skill Development and Entrepreneurship, Government of India, 2023).

- The Digital Revolution is causing a significant transformation in education by leveraging technological breakthroughs. This revolution is providing new avenues for learning and improving access to high-quality education, especially in rural regions (World Bank, 2023).

These characteristics lead to an educational environment that promotes inclusion and offers

opportunities for the development of a wide range of skills."

DIFFICULTIES ENCOUNTERED BY STUDENTS

"Notwithstanding advancements, adolescents aged 16-19 encounter substantial obstacles:

- Disparities in accessing high-quality primary education can result in learning gaps when students transition to secondary education, which can negatively affect their academic achievement (Pratham Education Foundation, 2023).
- Skill mismatches can occur when the education system fails to meet the specific requirements of industries, which can result in unemployed (World Bank, 2023).
- Gender Disparity: Despite advancements, girls in this particular age bracket exhibit a higher propensity to discontinue their education as a result of societal standards and financial constraints (UNESCO, 2023).
- Academic pressure, rivalry, and questions over the future might exacerbate anxiety and mental health issues in learners (NIMHANS, 2023).

These barriers can impede academic success, professional opportunities, and overall welfare."

DEVELOPMENTS AND TRANSFORMATIONS IN EDUCATION

"The Indian educational system, especially in the second grade, is currently experiencing substantial transformation:

- The current focus is on developing students' abilities to make them more employable and ready for the labour market, as stated by the Ministry of Skill Development and The practice of entrepreneurship Government of India in 2023.
- The integration of technology in education provides interactive learning experiences, personalised learning routes, and enhanced access to high-quality resources (World Bank, 2023).
- The pedagogical approach is shifting towards emphasising critical thinking, solving issues, and teamwork while moving away from rote learning. This shift is gaining popularity according to the Ministry of Human Resource Development, Government of India (2019).

These patterns show potential for establishing a learning environment that is both captivating and efficient for students."

DEVELOPING EFFECTIVE APPROACHES FOR ACHIEVING ACADEMIC EXCELLENCE:

"In order to guarantee a prosperous secondary education for individuals aged 16-19, a number of measures might be implemented:

- Investing in high-quality teacher education and training will improve teaching methods and help bridge learning gaps, according to the Pratham Education Foundation in 2023.
- Career counselling involves offering students information and support to help them discover their interests, explore various career options, and make well-informed decisions regarding their education.
- Integrating mental health education and assistance programmes inside schools can enhance student well-being and cultivate a more nurturing atmosphere for learning (NIMHANS, 2023).
- Public-Private Partnerships are collaborations between administration, educational institutions, and businesses in order to enhance facilities curriculum development, and vocational education by pooling their strengths and resources."

"India may encourage its youthful population to become successful and active members of society by placing a strong emphasis on providing high-quality education, promoting diversity, and equipping students with the necessary skills to tackle future difficulties."

LEARNING OPPORTUNITIES OUTSIDE OF FORMAL EDUCATION

"Education extends beyond the physical boundaries of the classroom. Students within this age bracket have the capacity to proactively undertake the following actions:

- Cultivate Self-Learning Abilities: Acquiring the ability to independently direct one's own learning enhances the retention of knowledge and nurtures a lasting passion for acquiring new knowledge throughout one's life.
- Embrace Technology: Utilising internet resources, instructional apps, and technology- based educational platforms helps optimise learning and expand knowledge.
- Engage in Mentorship: Establishing connections with mentors or experts in the field can offer invaluable counsel and profound insights into prospective career trajectories.

Through the adoption of proactive strategies and the embrace of continuous learning opportunities, students may actively contribute to moulding their education and ensuring future success."

REVIEW OF LITERATURE

"**Mill operator A. et.al (2023)** Conducted a consider on Uneasiness, inspiration, and scholarly accomplishment in underrepresented bunches. It investigates how the developmental viewpoint illuminates the relationship between non-clinical levels of uneasiness (counting develops such as test uneasiness and arrangement uneasiness) and poorer execution. Both the maladaptive and versatile viewpoints of uneasiness are considered in connection to scholarly execution, both amid assessments and amid the preliminary stages. Accentuation is put on the ways that uneasiness impacts individuals of underrepresented bunches. This chapter contends that individuals of underrepresented bunches encounter more powerlessness, coupled with the involvement of interesting dangers, that exasperates uneasiness and/or gives rise to particular shapes of uneasiness, regularly with hurtful results."

"**K.N.Prashanth Kumar et.al (2023)** Conducted inquire about on Ghastly clustering calculation based web mining and quadratic back vector machine for learning fashion expectation in E-learning stage. A learning framework, which is composed of a computer and the web as the major components, is named an e-learning stage. It too advances the instruction standard with the utilization of cutting edge innovation and hardware. In the meantime, to improve the standard of instruction altogether, it is critical to foresee the learning fashion of the clients with the colleagues of criticism and supervision. In any case, it'll deflect the inalienable relationship among e-learning behaviors. Subsequently, to foresee the learning fashion naturally we propose a novel Ghastly Clustering calculation based Quadratic Bolster Vector Machine (E-SVM) approach. Our proposed approach utilizes two stages: (i) Utilizing the Net utilization mining approach the learning insider facts are extricated from the log records of learners. (ii) The classification of learning styles of learners is effectuated with the proposed approach. Tests are illustrated with Python bundle and analyzed the execution. For reenactment, they utilized real-time dataset and compared the comes about with the state-of- art approaches."

"**Díaz-Arroyo E. et.al (2023)** The objective of the think about is to decide the relationship between instructing styles and learning styles in college understudies; through a correlational consider, in a populace of 40 teachers and 170 college understudies (Case of Universidad de la Costa – Colombia). For

learning styles, Kolb's learning styles instrument was utilized; and for educating styles, the Educating Styles Survey was utilized, a standardized test outlined beneath the strategy of the Evidence-Based Show and arranged to screen the advancement of basic perusing, composed communication, citizenship competencies, quantitative thinking and English. The coming about information were organized in a spreadsheet and prepared utilizing Statgraphics and R. The comes about appear that the sexual orientation of the members isn't critical within the consider; the overwhelming learning fashion of the understudies is the Accommodator, which is characterized by distant better;a much better;a higher;a stronger;an improved">an improved performance in concrete encounter and dynamic experimentation. As for the correspondence between learning styles and educating styles, there's a solid relationship between them."

"**Yotta E. (2023)** Conducted a consider pleasing students' learning styles contrasts in English dialect classroom. This paper characterized a few measurements of learning thought to especially pertinent to remote dialect classes. The inquire about inspected the teachers' classroom hone of pleasing learning fashion contrasts and proposes the imperative steps and modalities to address the instructive needs of all understudies in English dialect classes.

Survey was utilized to get satisfactory data almost teachers' classroom hone of learning fashion contrasts. The information gathered and organized was analyzed and clarified in detail. The result was deciphered in line with the goals of the investigate questions.

Discoveries of the think about demonstrate that more than midpoints of EFL instructors of Chamo auxiliary school in Arba Minch, Ethiopia were not obliging learning fashion contrasts within the classroom. Other than, the guidelines helps and classroom works out were bungling with learning fashion contrasts. EFL instructors also were not accommodating and tending to the learning fashion contrasts."

"**Parajuli N. et.al (2022)** Conducted a think about on impact of yoga on cognitive capacities and uneasiness among female school children with low academic execution. The investigate was conducted to survey the impact of yoga on the cognitive capacities of female teenagers with moo scholarly performance. The present think about may be a randomized control trial (RCT). Eighty-nine female understudies within the age run of 12–14 a long time were arbitrarily relegated into two bunches [yoga (n = 45); physical work out (n = 44)] at a school setting. Both bunches were evaluated some time recently and after on Raven's standard dynamic lattices (RSPM), Corsi Square Tapping Test (CBTT), Six Letter Cancellation Test (SLCT), Digit Letter Substitution Test (DLST), Stroop Color and Word Test (SCWT), and State-Trait Uneasiness Stock for Children (STAIC). The discoveries appeared critical contrasts in scores of forward CBTT, SWCT, and SLCT in bunch × time interaction. Both the bunches appeared noteworthy enhancement in SLCT, in reverse scores of CBTT, and STAIC-

T. The consider concludes that yoga progresses common intelligence, visuospatial working memory, and consideration, as well as decreases the uneasiness of understudies with moo scholastic performance. Similarly, physical exercise was moreover found to be progressing visuospatial working memory, supported consideration, and diminish characteristic uneasiness. Be that as it may, the finding of the display consider demonstrated yoga to be more viable compared to physical work out in respects to students' fluid insights and official work. Advancement in common insights, visuospatial working memory, and consideration is anticipated to emphatically impact students' scholarly execution."

"**Fishstrom S. et.al (2022)** Inquire about has appeared that academic uneasiness can influence scholarly execution and passionate well-being. In spite of past investigate emphasizing the significance of

understanding scholarly uneasiness and demonstrating a solidaffiliation between scholarly execution and scholarly uneasiness, no efficient surveys or

meta-analyses have inspected the impacts of scholastic intercessions on scholastic and uneasiness results. This article reports on a meta-analysis of considers analyzing scholastic mediations conducted with rudimentary understudies (kindergarten to Review 6), in which both scholastic accomplishment and scholastic uneasiness results were detailed. The orderly look yielded 13 thinks about comprising 1545 members and uncovered factually noteworthy contrasts favoring scholastic medications over the control for scholastic accomplishment results (g = 0.63, k = 11) but no statistically significant benefits for scholarly uneasiness results (g = −0.06, k = 11). The creators caution against drawing strong conclusions due to theheterogeneity in impacts and the little number of thinks about within the extant literature."

Veríssimo L. et.al (2022) The think about had two goals: 1) to look at the differences between understudies with distinctive levels of scholastic accomplishment (moo, normal and tall) in Anxiety/Depression and Test Uneasiness; and 2) to test the predictive effect of scholarly accomplishment on test uneasiness. Information was collected in two minutes. In time 1, the test was comprised of 305 understudies. The understudies were matured between 15 to 18 a long time, going to auxiliary school. The evaluation convention comprised of a Socio-demographic Information Sheet, the Youth Self-Report and the Cognitive Test Uneasiness Scale. The comes about appeared that understudies with moo scholastic accomplishment displayed higher test uneasiness than understudies with normal and tallscholarly accomplishment.

Pei-Ju Lee & Ting-Yi Wu (2022) Conducted a consider to investigate the mining relations between identity characteristics and learning styles. Current educating strategies steadily utilize technology-assisted instruments such as online appraisal, online educating, and e- books. Advanced learning methods give understudies more adaptability in learning without the impediments of time and area. Aside from utilizing innovation, the opportune alteration ofteaching methods to match students' learning styles may accomplish way better learning adequacy. Be that as it may, past thinks about about digital learning either needed factors related to students' identity characteristics or were one-sided by utilizing scores on homeworkor exams to create expectations of students' learning adequacy. Hence, this consider analyzes the relationship between learning viability and learning characteristics, counting identity traits, behavioral styles, and learning techniques of understudies utilizing affiliation rule mining and successive design mining. The comes about can be utilized to recognize key variables that influence students' learning styles to decide understudies in require and give a teaching reference for teaches to help understudies in accomplishing superior learning comes about.

Commodari E. & Rosa V. (2021) A few scholarly subjects, such as math, deliver negative sentiments, affecting accomplishment. Math uneasiness meddling with preparing math- related or number-related data and assignments in conventional life and scholastic circumstances. It varies from common scholarly uneasiness that includes all the scholarly circumstances, freely by the specificity of the think about subject. Assist, it is conceivable to recognize two connected measurements of math uneasiness which may considerably meddled with math performance: uneasiness related to learning science which experienced amid tests. This ponder investigated the relationship between general scholarly uneasiness, math uneasiness, and calculation expertise in schoolchildren (N = 204). Comes about appeared thatmath anxiety was negatively related with calculation execution in schoolchildren. More particularly, uneasiness for math tests correlated negatively with numerical knowledge, calculation precision, and calculation speed, whereas uneasiness for learning math connected adversely with composed calculation

scores. These discoveries have a extraordinary educational interest. Indeed, calculation aptitudes are central in school and everyday life so instructors ought to recognize math uneasiness intelligently and advance instructive intercessions to control it.

Ambrose K. et.al (2021) Conducted a consider on the relationship between social and scholarly results and uneasiness for children and adolescents on the extreme introvertedness range. The think about proposes that Uneasiness is the foremost common co-occurring condition in children on the extreme introvertedness range but the potential impacts of uneasiness on social and scholarly results of children on the extreme introvertedness range have not been methodicallly inspected. In this survey, 50 considers were distinguished that investigate the relationship between uneasiness and scores on social or scholastic measures in children on the autism range. Social competence was frequently measured, and the discoveries of these studies were blended. Whereas other social builds have gotten little attention, affiliations were found between uneasiness and exploitation, and uneasiness and social connections. As it were three studies centered on the impact of anxiety on scores on scholastic measures, highlighting the require for assist investigate in this area. Anxiety was most frequently measured utilizing subscales from broader behavioral rebellious, which maynot capture the extend of uneasiness indications of children on the extreme introvertedness spectrum. Future studies that incorporate multi-informant techniques and proportional representation of females and children with mental incapacity will assist information of the affect of uneasiness in children on the range.

Chang Y. et.al (2021) Conducted a think about on 2-dimensional cognitive test tensions and their connections with accomplishment objectives, cognitive assets, motivational engagement, and scholastic performance. Therefore, a demonstrate of 2-dimensional cognitive test tensions (a 2-D CTA show) and a show of cognitive test uneasiness and related components (a CAR show) were developed separately to investigate the distinctive measurements of cognitive test uneasiness and their connections with related components.

The members included 1798 Taiwanese junior tall school understudies, and auxiliary condition modeling was used. The taking after comes about were obtained:

(a) The two models fitted the observed information well; (b) the more grounded relationship between avoidance-mastery goals and learning content worry and the more grounded relationship between avoidance-performance objectives and self-evaluation stress were found; (c) learning substance worry positively predicted academic execution by expanding versatile inspiration engagement and lessening maladaptive inspiration engagement, and (d) self-evaluation stress positively predicted maladaptive inspiration engagement.

Dykhne M. et.al (2021) The objective of this ponder is to evaluate contrasts in learning styles, critical thinking abilities, and peer-perceived administration skill evaluations between those with vs. without understudy authority engagement (SLE). This think about included 205 drug store understudies; 63 understudies (31%) shown SLE. No noteworthy contrasts were found within the peer assessment scores between understudies with and without SLE. Understudies with SLE appeared altogether higher scores in domains of the HSRT and the in general HSRT score. The ponder comes about appeared that HSRT appraisal of basic considering abilities was altogether higher in understudies locks in in authority, proposing that HSRT ought to be investigated as a conceivable indicator for SLE in future thinks about.

Przepiorka A. et.al (2021) Conducted a ponder on social uneasiness and social abilities by means of risky smartphone utilize for foreseeing physical indications and scholarly execution at essential school. The consider recommended that versatile phones have ended up an crucial device in several regions of

life, be that as it may this regularly comes about in a few negativeimpacts, particularly among their most youthful clients. The point of the show think about is to analyze the relationship between social uneasiness and social abilities by means of tricky smartphone utilize (PSU) for foreseeing physical indications and scholarly execution. A add up to of N = 427 essential school students aged from 10 to 14 taken part within the ponder and the taking after apparatuses were utilized: the Smartphone Enslavement Scale, the Liebowitz Social Uneasiness Scale for Children and Teenagers, the Children's Self-Report Social Aptitudes Scale, the Children's Somatization Stock, and detailed review point normal (GPA). The ponder appeared that young ladies utilize smartphone applications such as talking, content messages, social organizing, camera and organizer more frequently than boys. Our comes about appeared a positive relationship between social aptitudes and GPA, though PSU was adversely related with GPA. Moreover, there was a positive relationship between social uneasiness:

1. evasion and somatization. Social uneasiness:
2. fear was emphatically related with GPA, though social uneasiness:
3. shirking was adversely related with GPA. In young ladies bunch there was a fractional intercession between social aptitudes and GPA through PSU, though in boys gather there was a halfway intercession between social aptitudes and somatization by means of PSU.

Denovan A. et.al (2021) This consider, employing a semi-longitudinal plan, investigated the degree to which Dim Set of three characteristics by implication (through mental sturdiness) anticipated learning styles (i.e., profound, key, and surface learning) and discouragement indications. To begin with year students (N = 100 coordinated at two-time interims; 17 guys, 83 females; mean age = 19.02, extend = 18 to 24) completed self-report surveys at the starting of the scholarly year and the begin of the moment term. Intercession investigation uncovered that narcissism contributed by implication to decreased surface learning, expanded key learning, and lower indications of discouragement. Psychopathy and Machiavellianism were not one or the other by implication related with learning styles nor sadness indications. These discoveries have critical connected suggestions. Particularly, they demonstrate that highlights of narcissism are advantageous to mental wellbeing and learning results. These comes about moreover highlight the require for advance investigate to recognize ways to advance the versatile vs. maladaptive highlights of Dim Group of three characteristics in instruction.

Wang R. et.al (2020) This paper contributes to the progressing dialog and inquire about on the part of 3D virtual learning situations in instructing and learning. It particularly centers on the use of video recreations as an empowering innovation in development higher instruction.

As such, it examines whether task complexity has any impact on an individual's favored learning fashion whereas learning through virtual reality (VR) innovation. To reply this address and address pertinent issues, an instructive try has been outlined and conducted. An exploratory virtual learning environment, the Circumstance Engine, was set up as a virtual development location for undergrad development understudies to involvement development work in advance. The plan and improvement of the Circumstance Motor has drawn on capable academic hypotheses such as arranged and experiential learning. 253 undergraduate understudies taken part within the instructive try. Three assignments of distinctive complexity levels were outlined as the test situations; with level of complexity being the free variable.

The speculation that understudies would embrace diverse learning styles when locked in in learning errands of different complexities was rejected. No critical contrast within the favored learning styles was distinguished among the three test bunches. It was concluded, subsequently, that when utilizing virtual

reality innovation for development instruction there's no prove to recommend the level of errand complexity has critical impact on how individuals learn. The think about displayed in this paper is the first empirical consider within the development higher instruction field that reveals the relationship between the errand complexity and understudies learning styles when Virtual Learning Situations are locked in.

Liu H. et.al (2020) The reason of this consider was to investigate accomplishment objective profiles and their connection to scholarly burnout (enthusiastic weariness, criticism, and efficacy), learning engagement, and test uneasiness in a Chinese instructive setting. Five objective profiles—high all, moo all, mastery-oriented, direct all, and approach-oriented— were recognized through latent profile examination. The approach-oriented profile was the foremost versatile with less scholastic burnout, more learning engagement, and lower test uneasiness, taken after by the mastery-oriented profile. The tall all profile, speaking to the most elevated extent of Chinese young people, appeared not to apply more negative impact on students' learning than the mastery-oriented profile but with more noteworthy negative passionate experiences. The connection of accomplishment objective profiles to learning engagement and test uneasiness was interceded by enthusiastic weariness, negativity, and viability in a few cases. This think about contributes to profound understanding of accomplishment objectives among Chinese adolescents.

Costa R. et.al (2020) This consider looked for to relate the hypothesis of Learning Styles with the behavior of the understudy of Distance Education, watching their interaction with the Virtual Learning Environment and attempting to associate them with their learning fashion distinguished by the CHAEA survey. For this reason, the CHAEA survey was applied to a gather of separate learning understudies and the relationship between their intuitive with VLE and their learning styles was confirmed. The results appear that there's no relationship between these components, which may appear, in truth, the need of coherence between these hypotheses. Looking for a show for data, a straight relapse was connected and the comes about were, at that point, affirmed.

Thomas C. et.al (2017) This ponder investigated components with the potential to apply facilitative and debilitative impact on undergrad students' scholastic execution. Members reacted to the Schutte Enthusiastic Insights Scale, Adapt stock, and Cognitive Test Uneasiness Scale-Revised and concurred to have their responses paired with organization execution information. Investigations tried the iterative and collective impact of the distinguished factors on four-year GPA after controlling for past scholarly execution (first- year GPA). The examination uncovered cognitive test uneasiness and utilize of emotion- focused adapting methodologies were critical indicators of students' long-term scholastic results such that expanded cognitive test anxiety and expanded use of emotion-focused adapting procedures were related with decreases in four-year GPA. The comes about inform the nature of the impact these understudy components have on long-term scholarly results and highlight the significance of developing a multifaceted intercession demonstrate that underpins feeling direction and self-regulation aptitude advancement to buffer the affect of cognitive test uneasiness on achievement.

"Yeo S. et.al (2017) The investigate investigates the relationship between adolescents' scholastic stretch, impulsivity, uneasiness, and skin picking behavior. It inspected the characteristics of South Korean youths who detailed skin picking behavior. South Korean understudies matured 12–16 a long time participated (N = 410, females = 52.2%). They completed surveys that tended to skin picking behavior, scholarly stretch, impulsivity, and uneasiness. The result discoveries were that among members, 66.8% detailed that they had picked their skin and 15.4% did so right now. Skin picking was emphatically

connected with academic stress, impulsivity, and uneasiness. Understudies who picked their skin more frequently shown more uneasiness, scholastic stretch, and impulsivity."

Crişan C. et.al (2015) The reason of this think about comprised within the examination of conceivable relationships between test uneasiness and scholastic execution in essential school and sex differences in test uneasiness and scholastic execution levels. The research was conducted on a sample of 40 understudies, matured 11. Information was collected utilizing the CTAS Test Uneasiness Stock (Cassady & Johnson, 2001) and the detailed normal review for each student's execution in past school semester. Comes about highlight a measurably noteworthy negative relationship between test anxiety and scholastic execution and statistically immaterial Understudy T Tests for both sexual orientation contrasts in uneasiness levels or in scholarly execution.

METHODOLOGY

AIM: effects of style of learning and thinking on academic anxiety among school students

OBJECTIVES:

O1- To investigate the relationship between learning styles, thinking styles and academic anxiety among school students

O2- To examine the correlations between learning styles and academic anxiety O3- To explore the relationship between thinking styles and academic anxiety

HYPOTHESIS:

H1- There will be a significant relationship between learning styles and academic anxiety among school students.

H2- There will be a significant relationship between thinking styles and academic anxiety among school students.

H3- There will be a significant interaction effect between learning styles and thinking styles on academic anxiety.

TOOLS:

To assess style of learning and thinking: SOLAT (Style of Learning and Thinking)

Introduction:

Understanding how people learn and think is important in a variety of educational and professional contexts. The Styles of Learning and Thinking (SOLAT) questionnaire, designed by E. Paul Torrance, Barbara McCarthy, and Raymond Kolesinski (1988), is intended to examine these preferences. This instrument examines the cognitive processes that underpin knowledge intake and processing, showing an individual's preferred learning and thinking patterns.

Author:

The primary author of the SOLAT questionnaire are E. Paul Torrance, Barbara McCarthy, and Raymond Kolesinski.

Description:

THE SOLAT serves as a self-report questionnaire created for students in kindergarten through college. It comprises 48 paired sentences, each representing two opposing methods to thinking and learning. Participants select the statement that most accurately describes their usual preference. These paired

statements touch into 12 key dimensions, organized across four major areas:

- Information Processing: This looks at how people collect and manage information. It comprises inclinations towards concreteness vs. abstractness (concrete learners prefer specifics, while abstract learners choose broad ideas) as well as analytic vs. holistic perception (analytic learners break down information, whereas holistic learners see the big picture).
- Modes of Learning: The following subsection discusses favored methods of obtaining knowledge. It discusses learning preferences based on imagery vs. verbal representation (imagery learners link concepts with visuals, whereas verbal learners prefer words) as well as inductive vs. deductive reasoning.
- Hemispheric Preference: This refers to the probable dominance of one cerebral hemisphere over the other. It investigates preference towards emotional vs. rational techniques (emotional learners emphasize feelings, while rational learners prioritize reasoning) and spatial vs. sequential thinking (spatial learners thrive at visualization, while sequential learners favour linear organizing).
- Creative Potential: This examines the individual's proclivity for inventive thinking. It comprises inclinations towards flexibility vs. rigidity (flexible learners adjust to new conditions, whereas rigid learners choose established ways) and originality vs. conventionality (original learners develop unique ideas, while conventional learners adhere to existing norms).

Validity and Reliability:

Several studies have investigated SOLAT's validity and reliability. Here is an overview of the main findings:

- Content Validity- SOLAT's paired statements explicitly address desired learning and thinking patterns, indicating high content validity.
- Construct Validity- Research have found moderate relationships between SOLAT score and indicators of creativity, indicating a certain level of construct validity. Further research is required to properly establish the congruence between the dimensions examined and other facets of creativity.
- Criterion-Related Validity- There is less research on the association among SOLAT scores and academic success. Although other studies have not discovered significant associations, further research is needed.
- Internal Consistency- SOLAT has acceptable internal consistency, which means that the items within each dimension typically measure the same construct.
- Test-Retest Reliability- Studies have found medium to elevated test-retest reliability for SOLAT, meaning that people likely to achieve similar scores when they take the questionnaire again within an acceptable duration.

Scoring:

SOLAT has a basic scoring system. Each linked remark is worth one point for whichever of the two alternatives. A score is calculated by adding the points from each dimension, indicating the individual's affinity for that particular style. Higher scores suggest a greater preference for one strategy over another.

To assess the Academic anxiety: AASC (Academic Anxiety Scale for Children) Introduction:

The AASC, which stands for the Academic anxiety scale for Children. A common issue for people of all ages is anxiety related to their academic performance. This anxiety presents itself in the form of concern, apprehension, and unpleasant feelings in relation to homework, tests, or academic performance when it is experienced by youngsters. An important instrument for recognising and quantifying these fears in

young pupils involves the Academic Anxiety Scale of Children (AASC), which acts as a beneficial instrument.

Description:

The AASC is a self-report questionnaire consisting of 20 items. Each item presents a statement related to academic experiences and anxieties. Students respond using a 4-point Likert scale, ranging from "Never" (1 point) to "Always" (4 points). Higher scores indicate a greater level of academic anxiety. The scale can be administered individually or in a group setting, with an estimated completion time of 15-20 minutes.

Authors:

A.K. Singh and A. Sen Gupta are researchers in the field of psychology. While detailed biographical information is limited, their work on the AASC suggests expertise in educational psychology and the assessment of childhood anxieties.

Validity And Reliability:

The validity and reliability of a psychological scale are crucial for accurate and meaningful interpretation of scores. Here's a breakdown of these aspects for the AASC:

Content Validity: The AASC items appear to comprehensively cover various aspects of academic anxiety, including worry about tests, fear of failure, negative self-perceptions regarding academic competence, and physical symptoms associated with anxiety in academic settings.

Construct Validity: Studies employing the AASC have found correlations with other measures of anxiety and academic self-efficacy, suggesting it captures the intended construct of academic anxiety.

Criterion-Related Validity: Research is limited regarding the AASC's ability to predict academic performance or identify students at risk for academic difficulties. Further studies are needed to establish stronger evidence for this type of validity.

Internal Consistency Reliability: Studies have reported acceptable internal consistency reliability coefficients (Cronbach's alpha) for the AASC, ranging from .70 to .80. This indicates that the items within the scale measure a single underlying construct (academic anxiety) with reasonable consistency.

Test-Retest Reliability: Limited information exists on the test-retest reliability of the AASC. This refers to the consistency of scores when the scale is administered to the same students on two separate occasions. Further research is necessary to determine the stability of the AASC scores over time.

Scoring:

Scoring the AASC involves summing the scores for each item. Therefore, possible scores range from 20 (indicating low academic anxiety) to 80 (indicating high academic anxiety). However, it's important to note that established cut-off scores for interpreting levels of anxiety (low, moderate, high) haven't been widely published for the AASC. Ideally, the scale should be used in conjunction with professional expertise to interpret the scores within the context of the child's individual circumstances.

Research Design:

This research used a Quantitative analysis and cross sectional approach. Quantitative:

"This investigation employs a quantitative research methodology. This means that in order to look into the interactions between variables, the researchers rely on gathering numerical data, usually through surveys or questionnaires. Statistical analysis is made possible by quantitative data, which enables researchers to test hypothesis and find any correlations or group differences."

Cross-Sectional:

"The research methodology used in the study is cross-sectional. By using this approach, participant data

is gathered all at once. This enables researchers to look at the relationship between factors at that particular time. It's crucial to keep in mind, though, that a cross-sectional approach is unable to demonstrate cause-and-effect connections. It is limited to displaying correlations between variables."

Results:

| Predictor | Criterion: academic anxiety | | | | | | | | |
	B	S. E.	β	t	R	R²	Adj. R²	α	F
Left hemisphere	-1.65	.56	-2.64	2.95*	.55	.30	.28	94.69	14.06**
Integrated	-1.94	.53	-2.79	3.66**					
Right hemisphere	-1.78	.54	-3.23	3.30**					

**significant at 0.01 level ($p<0.01$) *significant at 0.05 level ($p<0.05$)

Table three represents the linear regression with thinking learning styles as predictor of academic anxiety. Model presented a significant fit with all the three aspects of Thinking learning styles. Thinking learning styles (Left hemisphere, Integrated, Right hemisphere) explained about 30% of negative variance on academic anxiety.

Analysis:

We will utilise the functionalities of the Statistical Package for the Social Sciences (SPSS) to perform independent-samples t-tests and Regression analysis for this research.

Discussion

Interpreting the Linear Regression Table for the Thesis Discussion

This table shows the results of a linear regression analysis where thinking learning styles (Left hemisphere, Integrated, and Right hemisphere) were used to predict academic anxiety.

Significant Model Fit:

The noteworthy F-value (14.06 with $p < 0.01$) demonstrates that the generally show counting all three considering learning styles altogether predicts scholarly uneasiness. This implies there's a factually pertinent relationship between these styles and uneasiness levels.

Individual Thinking Style Effects:

All three considering fashion coefficients (B) are negative. This proposes that a more grounded inclination for each fashion (Cleared out half of the globe, Coordinates, Right half of the globe) is related with lower scholarly uneasiness.

The beta values (β) give a standardized degree of the impact measure. Their values are all around -2.5 to -3.3, recommending a direct negative affiliation of each fashion with uneasiness.

The t-values (extending from 2.95 to 3.66) are all noteworthy at either the 0.05 or 0.01 level, demonstrating that the person connections between each fashion and uneasiness are factually important.

Model Strength and Variance Explained:

The R-squared esteem (0.30) tells us that the show clarifies almost 30% of the fluctuation in scholarly uneasiness. Whereas not a culminate fit, it recommends a direct informative control for considering styles

in foreseeing uneasiness.

The Balanced R-squared (0.28) alters for the number of indicators and is marginally lower. It gives a more exact assess of the model's informative control within the populace. Discussion Points for Your Thesis:

You can discuss how these findings support or contradict existing research on the relationship between thinking styles and academic anxiety.

Explore potential explanations for the negative association - perhaps specific learning styles promote better coping mechanisms or learning strategies that reduce anxiety.

Highlight the limitations of the model - only explaining 30% of the variance suggests other factors likely contribute to academic anxiety.

Suggest future research directions - investigate interactions between learning styles or explore other potential predictors alongside these styles.

Additional Considerations:

Briefly mention the limitations of the study design (e.g., sample size, self-reported data) and how they could affect the generalizability of the results.

Conclude by emphasizing the importance of considering thinking styles when addressing academic anxiety – understanding these styles could inform interventions or educational practices to better support students.

By elaborating on these points, you can effectively discuss the findings from your linear regression analysis in your thesis.

Conclusion:

Thesis Conclusion based on Table 3: This think about explored the relationship between considering learning styles (Cleared out half of the globe, Coordinates, Right side of the equator) and scholarly uneasiness. The comes about propose a noteworthy negative affiliation between all three considering learning styles and scholarly uneasiness.

Statistically Significant Model: The F-statistic (94.69) with a noteworthiness level of $p < 0.01$ demonstrates a factually noteworthy demonstrate fit. This implies there's a solid relationship between the considering learning styles and scholarly uneasiness..

Negative Association: The negative beta coefficients (β) for all three styles (Cleared out side of the equator: -2.64, Coordinates: -2.79, Right side of the equator: -3.23) propose that people with more grounded inclinations for each considering fashion tend to involvement lower levels of scholarly uneasiness.

Adjusted R-squared: The R-squared esteem (0.30) demonstrates that the demonstrate clarifies around 30% of the change in scholarly uneasiness. Whereas not thorough, this recommends a direct impact measure, meaning considering learning styles have a important affect on scholarly uneasiness.

This ponder illustrates a critical negative affiliation between considering learning styles and scholarly uneasiness. People with more grounded inclinations for any of the three considering learning styles (Cleared out side of the equator, Coordinates, Right side of the equator) detailed lower levels of scholastic uneasiness. Whereas other components likely contribute to scholarly uneasiness, these discoveries propose that considering learning styles play a pertinent part.

Your proposition might investigate the particular instruments by which each considering fashion impacts scholastic uneasiness. Future inquire about might explore extra learning styles or other variables

affecting scholastic uneasiness. Consider restrictions of the ponder, like test measure or particular measures utilized. By consolidating these focuses, you'll create a solid and instructive conclusion for your proposal based on the discoveries in Table 3.

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