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Computational Thinking Skills (Cts) And Women Empowerment: A Pragmatic Approach

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Abstract
India and its culture have strong roots in respecting women in all domestic and professional affairs, including nurturing, protecting, and creating abilities. The historical evidence clearly establishes that the women had a respectable position all along and were always regarded as Devi, the embodiment of energy. However, women are being criticized in the real world for their imperfect behaviour and weaknesses in day-to-day life. The growth of a nation is dependent on the use of that country's human resources, which are the use of human knowledge, inventive ability, and thinking abilities as instruments in the political, social, economic, and cultural components of the country. Modern India is creating various opportunities to reclaim their status. The effective utilisation of women's energy as human resources accelerates the political, social, cultural, and economic progress of any nation. The development of women's knowledge, inventiveness, and critical thinking abilities is essential for the effective utilisation of women's resources in domestic and professional aspects. Computational Thinking Skills (CTS) are human mind programs that generate new ways of thinking about various issues and challenges faced by women that invariably provides a solution to the issue by using an analogy to encourage critical thought before judgement. Computational thinking abilities are a tool through which the psychological toughness of the women mind may be improved. This conceptual paper will highlight how Computational Thinking Skills (CTS) work to increase psychological strength in women's minds through cooperative thinking, critical thinking, creative thinking, algorithmic thinking, and problem-solving thinking, which aids in the proper use of women's resources and their skills to reclaim their position that leads to women empowerment in all the possible aspects of life.

Keywords: *Computational Thinking Skills (CTS), Women Empowerment, Pragmatic Framework.*

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I. Introduction: An Overview

Unity in diversity of India provides a respectable place for every individual with their tradition, beliefs, and cultures. The genius minds of India compared men and women to two wings for a developed country. Furthermore, applied women's nurturing skills, creating, protecting, and controlling abilities as the power of its development. Equal empowerment for men and women makes India's political, social, economic, and cultural aspects dynamic to make India widely known worldwide. However, this is not always true for all women. In most Indian society, women's opinions are rarely acknowledged, rights are limited, struggle and determinants are downplayed, and the strength of their vision is neglected. In domestic and professional life, they are abused psychologically and insulted for their feeling, willingness, and thought. They are tortured sexually not only in their workplace but in society and also in their own family. It is not the end of women's violence; they are forced to do the work out of their physical strength without caring about their health condition. If they do not agree to do the work, they are beaten with punches, kicks, and scratches as physical torture. Not only that, they are burned with acid or with fire to kill. According to the National Family Health Survey (NFHS) report, during 2015-16 (NFHS-4) and 2019-21 (NFHS-5) in India, 31.2% and 29.3% of ever-married women of 18-49 years have experienced spousal violence, and 3.9% and 3.1% have experienced psychological violence respectively. Also, 1.5% of young women aged 18-29 have experienced sexual violence, according to the survey report of 2019-21. To eliminate women's violence, the creation of job opportunities and education opportunities are not sufficient. It is necessary to increase women's logical thinking abilities with those opportunities. Increasing women's psychological strength is also necessary to eliminate women's violence. Computational Thinking Skills

(CTS) is a tool for the thinking process to accelerate the logical thinking process to increase logical thinking and psychological strength.

II. Computational Thinking Skills (Cts)

Thinking is a mental activity process with the conscious layer of the mind. It is the image of some objects, events, or phenomena created by neurons of the human brain when a person interacts with the environment for biological needs and from previous experience (Shadrikov et al., 2016). Computational Thinking Skills (CTS) is a way of thinking to solve a particular problem. It is an algorithm that describes the theory for a problem, analyzes any fact, and designs a framework to transform, implement, and apply information. CTS is the algorithmically logical problem decomposition and modularization, abstraction, pattern recognition, and generalization strategies of memory (Lodi & Martini, 2021). Denning (2009) Explains CTS as a lens that reflects the image of the world to the person. Wing (2006), In his lecture in a seminar presentation, first explained the significance of the thinking pattern as a computer scientist in every professional life and every situation for everyone in their everyday life. Effective communication is also a CTS; the necessary components of practical communication skills are a cooperative mindset, thinking critically, a problem-solving mentality, and using an algorithm in an innovative way to create a solution to the problem. Korkmaz et al. (2017), Their study also proves **Creativity, Algorithmic thinking, Cooperativity, Critical thinking, and Problem-Solving** as reliable and valid components of CTS.

Creativity is the conceptual framework for a work, activity, action, or situation with the help of previous and present knowledge. It is the constructive nature of memory. This nature of memory invents ways to think or to use information. The positive relationship of creative thinking ability increases learners' self-concept (Khan et al., 2013).

The algorithmic thinking ability of memory creates the link between given reasons to construct a framework to solve the problem. This ability arranges the given criteria to find out the action formula. Algorithmic thinking ability is the constructive way of memory to find the exact problem; it is the theory to analyze the problem precisely (Futschek, 2006).

Cooperativity skills are related to the decentralization of activity in a team. Group thinking is more effective than the sum of individuals thinking to conduct any problem. Learner's cooperativity in interaction increased learners' critical thinking skills (Loes & Pascarella, 2017).

Critical thinking is the cognitive paradigm to explore complex ideas. It is a self-regulatory, insightful way to explain reason purposefully with interpretation, inference, analysis, explanation, and evaluation to make thoughtful judgments (Facione, 2015).

Problem-solving is the most significant mathematics skill for everyone in everyday life. This skill deals with identifying the principles: What is the situation telling? What should be found? Moreover, for that, what should we do? (Stevens et al., 1932).

III. Women Empowerment

Empowerment is the power of confidence to lead a working life professionally and domestically. Women empowerment is the process of making women able to use the right to life and carry out the responsibility of life. It is the capacity-building process of increasing self-confidence, self-reliance, and self-identity politically, socially, economically, and culturally to make self-identity for women (Rani, 2021). Women empowerment is the upliftment of women's self-confidence, self-esteem, and interpersonal and intrapersonal relationships as psychological strength and cognitive development to make women more productive in the social, economic, and political spheres at both micro and macro levels (Tandon, 2016). Empowerment is multicollection of self-determinant, self-control, and self-efficacy against violence with power in all three levels: micro, macro, and Meso-level (Huis et al., 2017). Mandal (2013) highlights women's social, educational, economic, political, and psychological development and the challenges of women's empowerment. The above studies are direct all-round development of women in social, educational, economic, political, psychological, and cultural dimensions as women empowerment.

IV. Women Empowerment: A Theoretical Framework

Women empowerment is providing value to women resources to gain mastery over family, organization, and community using their skills to achieve their goals. The main objective of women's empowerment is to develop women's status in society. It focused on women best served with their rights to fulfill their needs and interests to overcome life struggles. Zimmerman (2000), in his study, describes the importance of the relationship of women with community and organization, understanding level as the level of participation and involvement in an activity, to increase the analogy of action of women in the organization and community to achieve the goal as the theory of empowerment to empower women.

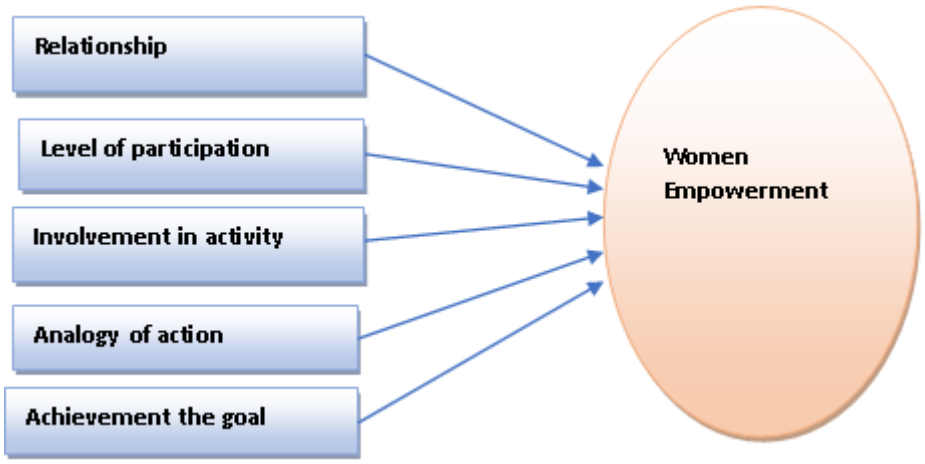

Figure 1: Theory of Empowerment

Relationship is the connection of self with others. According to the study, relationship is the primary stage of empowerment. Empathy and support in need create a relationship with each other. Surrey (1987) describes the power of relationships as interaction in communication to empower women

The level of participation is the combined strategies of understanding and cooperativeness with others. It is a valuable principle of work ethics to influence coworkers, which helps to analysis the target program. Ani, Samah, Damin, Jaes, Isa, Yusoff, Sarawati Johar, & Hamzah, (2018), in their survey-based study, analysed that the level of participation is the most significant component in enhancing women's economic empowerment.

Involvement in activity identified the relationship between the level of involvement and a person's psychological strength. The level of involvement in activity strengthens the level of the position as membership. The level of activity involvement empowers women's psychological dimension for active participation in empowerment (Ani et al., 2018).

The analogy of action is the ability to create a hypothetical situation of the problem with similar and dissimilar knowledge. It makes a relationship of information into the problem-solving framework. Analogical reasoning ability accelerates students' capacities to draw the map of relationships (Vendetti et al., 2015).

Achievement of the goal is a step-by-step objective performance journey, leading to the successful achievement of related tasks. Using the goal achievement model, Sommet and Elliot (2016) explain how successfully performance goals empower students to be motivated.

V. Relationship Between Computational Thinking Skills (CTS) And The Theory Of Women Empowerment:

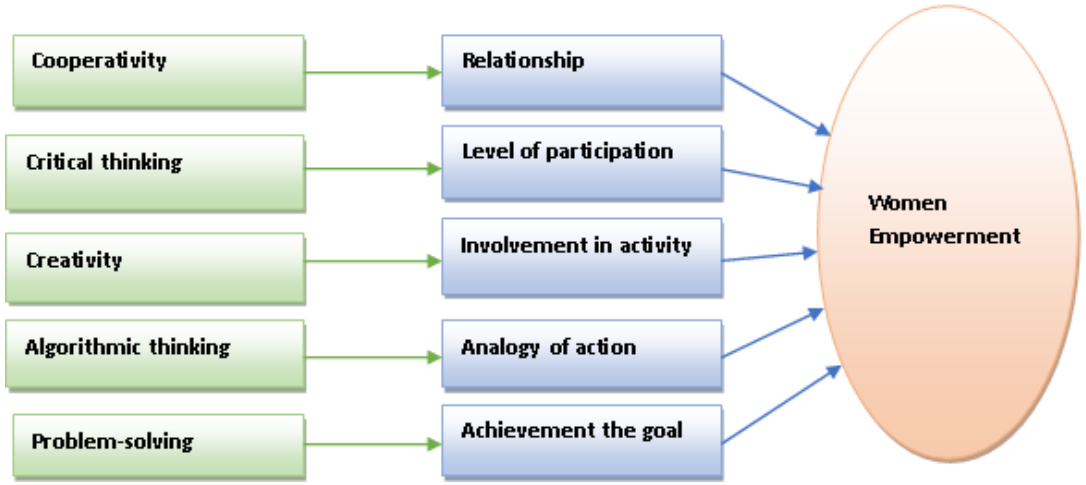

Figure 2: Relationship between Computational Thinking Skills (CTS) and Empowerment Theory

To gain empowerment, women should learn to manage relationships with suitable activity in action into problems to enhance their power. For that, Computational Thinking Skills (CTS) in women are necessary.

VI. Implication Of The Study

The educational implications of the study are

- The study focuses on women's skills development to use their rights.
- The study discussed the stages of developing women's empowerment by shaping their relationship to control their activity in action.
- Importance of thinking skills to use opportunities to regain women's position.
- The study shows how Computational Thinking Skills (CTS) help to convert women's emotions into emotional intelligence.
- It also discussed how CTS enhances women's psychological strength to get empowerment.
- The study explains that cooperativity, creativity, critical thinking, algorithmic thinking skills, and the problem-solving tendency of CTS are doing their function in women's behavior as participation, relationship, activity, and action to achieve the goal of empowerment.

VII. Conclusion

Cooperativity in a relationship is a vital characteristic for gaining a high level of participation. Critical thinking skills create participation more strongly to be involved actively. Creativity in activity invents new logic for action, which enhances algorithmic thinking to increase the problem-solving tendency to achieve the goal as power. Therefore, the study can conclude that incrementing computational thinking skills (CTS) is necessary to increase women's empowerment and achieve the sustainable development goal.

References:

[1] Ani, F., Ramlan, N., Yusoff, R. Md., & Damin, Z. A. (2018). Measuring The Level Of Participation And Its Relationship With Psychological Empowerment Through Community Based Organisation (Cbo) Activities. International Journal Of Academic Research In Business And Social Sciences, 8(8). Https://Doi.Org/10.6007/Ijarbss/V8-I8/4621

[2] Ani, F., Samah, A. A., Damin, Z. A., Jaes, L., Isa, K., Yusoff, R. M., Sarawati Johar, S., & Hamzah, S. (2018). Participation And Women's Economic Empowerment: Clarifying Their Relationship In Community Based Organization. In International Journal Of Engineering & Technology (Vol. 7, Issue 4).

[3] Denning, P. J. (2009). The Profession Of It: Beyond Computational Thinking. Communications Of The Acm, 52(6), 28–30. Https://Doi.Org/10.1145/1516046.1516054

[4] Facione, P. (2015). Critical Thinking: What It Is And Why It Counts Leadership Thinking Resources View Project Critical Thinking, Decision Making, And Problem Solving View Project. Https://Www.Researchgate.Net/Publication/251303244

[5] Family, N., & Survey, H. (N.D.). Government Of India Ministry Of Health And Family Welfare Compendium Of Fact Sheets India And 14 States/Uts (Phase-11).

[6] Futschek, G. (2006). Algorithmic Thinking: The Key For Understanding Computer Science. In Lncs (Vol. 4226).

[7] Huis, M. A., Hansen, N., Otten, S., & Lensink, R. (2017). A Three-Dimensional Model Of Women's Empowerment: Implications In The Field Of Microfinance And Future Directions. Frontiers In Psychology, 8(Sep). Https://Doi.Org/10.3389/Fpsyg.2017.01678

[8] Jeannette, M. W. (2006). Computational Thinking. Communications Of The Acm, 49(3), 33-35.

[9] Khan, M. A., Jabeen, S., & Khan, M. A. (2013). A Study On Creative Thinking Abilities And Self-Concept Of High And Low Achievers Unique Journal Of Educational Research A Study On Creative Thinking Abilities And Self-Concept Of High And Low Achievers. In Article In The Journal Of Educational Research (Vol. 1, Issue 1).

[10] Korkmaz, Ö., Çakir, R., & Özden, M. Y. (2017). A Validity And Reliability Study Of The Computational Thinking Scales (Cts). Computers In Human Behavior, 72, 558–569. Https://Doi.Org/10.1016/J.Chb.2017.01.005

[11] Lodi, M., & Martini, S. (2021). Computational Thinking, Between Papert And Wing. Science And Education, 30(4), 883–908. Https://Doi.Org/10.1007/S11191-021-00202-5

[12] Loes, C. N., & Pascarella, E. T. (2017). Collaborative Learning And Critical Thinking: Testing The Link. Journal Of Higher Education, 88(5), 726–753. Https://Doi.Org/10.1080/00221546.2017.1291257

[13] Mandal, K. C. (2013). Concept And Types Of Women Empowerment. In International Forum Of Teaching & Studies (Vol. 9, No. 2).

[14] Rani, M. S. (2021). A Study On Women Empowerment In India. International Journal For Modern Trends In Science And Technology, 7(11), 120-124.

[15] Shadrikov, V. D., Kurginyan, S. S., & Martynova, O. V. (2016). Psychological Studies Of Thought: Thoughts About A Concept Of Thought. In Psychology. Journal Of The Higher School Of Economics (Vol. 13).

[16] Sommet, N., & Elliot, A. J. (2016). Achievement Goals. In Encyclopedia Of Personality And Individual Differences (Pp. 1–4). Springer International Publishing. Https://Doi.Org/10.1007/978-3-319-28099-8_484-1

[17] Stevens, " B G, Immaculata; M, Hansen ; •Carleton; W, Washburne, W., & Osborne, R. (1932). The Decelopmem-Oi Problem-Solving Abil-Ities In Arithmetic. Toronto, Canada. Clarke. Irwin And Com-Pany, Ua. In Educational Research Bulletin, Number (Vol. 25). Ember.

[18] Surrey, J. L. (1987). Working Paper Series Working Paper Series Work In Progress Relationship And Empowerment. Www.Jbmti.Org.

[19] Tandon, T. (2016). Women Empowerment: Perspectives And Views. The International Journal Of Indian Psychology, 3(3), 6-12.

[20] Vendetti, M. S., Matlen, B. J., Richland, L. E., & Bunge, S. A. (2015). Analogical Reasoning In The Classroom: Insights From Cognitive Science. Mind, Brain, And Education, 9(2), 100–106. Https://Doi.Org/10.1111/Mbe.12080

[21] Zimmerman, M. A. (2000). Empowerment Theory: Psychological, Organizational And Community Levels Of Analysis. In Handbook Of Community Psychology (Pp. 43-63). Boston, Ma: Springer Us.