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Article

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MANAGEMENT | RESEARCH ARTICLE

Development of an entrepreneurship model using the design thinking approach and emotional intelligence for sustainable wellness among the young generation

Rethy B. Menon^{1*}, Vidya D. Avadhani¹, Preethy B. Menon² and Dayana Das³

Abstract: Entrepreneurship is a driving force in finding a source of income for an unemployed group. Entrepreneurs should design their products/services by emotionally connecting to their customers. This study attempts to develop a model by making use of structural equation modeling techniques for integrating the design thinking approach and emotional intelligence (EI) to enhance entrepreneurial attitudes among existing and budding entrepreneurs who are in the student community which will lead to sustainable performance. The model considered the five steps of the design thinking approach empathizing, designing, ideating, prototyping, and testing. The model enables the connection between the five design thinking stages and the components of EI. Both design thinking and EI will help attain an entrepreneurial attitude, which includes components like attitude towards business startup, marketing, recording of finance, good communication, effective leadership, and problem-solving ability. The findings of the study clearly show that EI positively influences the design-thinking process among students. Design thinking mediates EI's influence on students' entrepreneurial attitudes. The research study has suggested a model which will be helpful for those students who have an inner calling to become emotionally strong entrepreneurs who can be the pillars for the sustainable wellness of society.



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Keywords: entrepreneurship model; design thinking; emotional intelligence (EI); sustainable wellness; entrepreneurial attitude; educational institution; empathy; creativity

1. Introduction

India's educational system has to be revamped and reformed with a focus on entrepreneurial competencies based on core skills to meet the challenges of today's revolutionary changes in the market. This educational system should compete with worldly academic standards, and higher-order thinking or meta-cognition skills. These skills should be taught to students at a young age.

Quality education is one of India's pertinent areas to address today. For that, various sophisticated technologies should be adopted by taking care of humanitarian concepts and their underlying values equally. To address this problem, India needs a high-quality educational system where students' creativity is utilised to its maximum.

In light of the Sustainable Development 2030 Agenda, entrepreneurship is a significant parameter for improving the inclusive and sustainable wellness and quality of life of people in a nation. Moreover, entrepreneurship is included in the Sustainable Development Goal (SDG) 4 and SDG 8 with the aim of developing the right entrepreneurial attitude and relevant skills among the youth for leading their life and contributing to society.

Design thinking is a cutting-edge approach to problem-solving that is gaining prominence, especially in entrepreneurship education. The design thinking approach develops learners' higher-order thinking skills and a positive mindset (Vallis and Redmond, 2021).

There is a necessity to reconsider existing business courses. Entrepreneurship education has to be encompassed in education by looking into our country's recent trends and future demands. The curriculum should cater to the future needs of students to be self-reliant. So the curriculum should be designed around giving importance to the thought process, the benefits of citizenship behavior and values, which the students can experience through exposure to non-traditional jobs, by giving priority to emotional intelligence (EI) (Pathak, 2019). The design thinking approach is a mediator for improving students' entrepreneurial spirit.

For entrepreneurs to be successful in their field, they have to be innovative in the products they launch or services they render. Therefore, a key factor in determining an entrepreneur's success is need of the hour. Entrepreneurship has to be taught to meet customers' diverse needs creatively, so the classroom should be appropriately equipped. The instructional methodology, teaching pedagogy, and reflection mechanisms should be ensured to mould our youth to become leading entrepreneurs creatively (Kakouris, 2021). So there arises the question of whether our education system meets the creative aspect of our young business students. The only answer to this question is to apply the design thinking approach in our educational system.

The entrepreneurship classroom serves as a "learning-by-doing" lab, to close the knowledge gap between theory and practice. It also provides ample opportunities for students to view the world in a balanced manner from a social, environmental, and economic perspective (Carey et al., 2021).

Entrepreneurship education and pedagogy (EEP) was initiated as a separate course at Harvard University in 1947 (Katz, 2003). Now this topic is being provided by many institutions as specialized courses worldwide (Morris & Liguori, 2016). This demonstrates the subject's breadth and the fact

that it is seen as being one of the key drivers of economic growth. Throwing light on the importance of entrepreneurship education for national development, the educational institutions should consider why and how to teach that to prospective entrepreneurs (Morris & Liguori, 2016). It is now necessary for academics to look into the present curriculum and critically investigate the importance and need of incorporating entrepreneurial values in the Indian university curriculum, which has to be taught at the higher educational level.

1.1. Popular models to develop entrepreneurial attitude

Emphasis on the assessment of entrepreneurship education programs is a key consideration. Developing good models creates a more enterprising framework for developing entrepreneurial competencies. For the study, a three-pronged research strategy was created. The first stage involved doing a literature study, the second involved developing appropriate measures to assess entrepreneurial competencies, and the third involved basing the results of pre- and post-test surveys on the performance of 72 students. The corporate strategy, which emphasized initiative and a positive attitude, engagement and communication, cooperation and collaboration, analytical and critical thinking, risk assessment, creativity, and invention, were successful ways to solve problems (Bolzani & Luppi, 2021).

Another model which was found to be successful in developing entrepreneurial identity was the learning-by-doing model. Entrepreneurship education should involve the construction of entrepreneurial identity, skills, and knowledge. These three things can be facilitated only by the learning-by-doing process. The learning-by-doing method provides first-hand knowledge to students by incorporating experiential learning.

A conceptual model was suggested to develop through the learning-by-doing method. An in-depth case study was used to demonstrate this model. The model highlighted that the interrelationships between entrepreneurial tasks and interpersonal conflicts within a team impacted the development of the entrepreneurial identity of team members (Chen et al., 2021).

Value creation pedagogy, a well-established model, is now accepted universally. Especially for entrepreneurship, education has more practicality in incorporating a spectrum of business activities involving specific values among students. Value-creation pedagogies should only be employed after assessing their efficacy and usefulness. This particular model of entrepreneurship education points out that student creative competency can be developed over value creation pedagogy (Jones et al., 2021).

Researchers have found that the entrepreneurship education framework known as the six-class taxonomy is needed to extract absolute entrepreneurial values through authentic learning situations and innovative educational approaches. When the authors examined and merged several entrepreneurial education models from ten technical universities in Nordic countries, they discovered three categories: teacher-directed, participative, and self-directed (Aaboen & Aadland, 2020).

A revised model for entrepreneurship instruction was developed by adopting computational thinking to improve learning outcomes related to entrepreneurship. A business model was developed for social innovation among learners. It motivated undergraduate students by posing a social problem, analyzing it, developing a solution, and implementing the appropriate solution for developing the right products and services. A survey and interview were undertaken to find out the learning outcomes the students have acquired. The feedback revealed that students gained technical, computational, and implementation skills which are very much required for an entrepreneur for business sustainability (Kang & Lee, 2020).

Entrepreneurship education helps a person to lead their business legally and ethically. Entrepreneurship and law have a close connection that helps determine the rules of entrepreneurship for starting and running a new venture. A significant way of forwarding thinking arises to

augment how legal instruction is relevant to developing entrepreneurial competencies within the school curriculum. The study proposes a cross-functional methodology to incorporate legal concepts into the business school curriculum, to build business skills for upcoming entrepreneurs (Gordon & Bursuc, 2018).

Citizenship is a value linked with developing knowledge and skills to ensure equality of rights and justice. Considering these courses as part of the educational program must be developed among the students by adopting apt pedagogy and proper instructional material and learning experiences. The model stresses the development of a successful citizen by acquiring sufficient business skills, resulting in self-reliance and economic sustainability (DeJaeghere, 2013).

The socially-oriented ventures model gives importance to emphasizing the development of social values. The model prioritizes the methods and strategies used for imparting entrepreneurship education by providing the chance to start a socially-oriented venture as part of an experiential project (Mars & Garrison, 2009).

The idea of meta-competencies is successfully incorporated into entrepreneurial education. A tripartite paradigm for enhancing meta-competencies ensures learning in the cognitive, conative, and affective domains. The empirical model showed how students' meta-competencies-based awareness-creation fosters shifts in interest and intention toward entrepreneurship. It also supported a direct relationship between meta-competencies and entrepreneurship education (Venesaar & Ustav, 2018).

Entrepreneurship education should start from school to strengthen the value of entrepreneurship for a sustainable society. Value-oriented education should motivate and engage budding entrepreneurs to become promising entrepreneurs in the future. The process of developing values should be integrated into India's curriculum and should be triggered by way of entrepreneurship education (Lindner, 2018).

Sustainable entrepreneurship is gaining importance during this time of artificial intelligence, and research has clearly shown that it is through entrepreneurship education that it can be enhanced. However, the educational methods used in imparting entrepreneurship education are to be planned and decided systematically. Entrepreneurial marketing is one of the most critical skill sets that must be focused on designing the curriculum for entrepreneurship education (Amjad et al., 2020).

Research shows that in many countries, especially Nigeria, to incorporate sustainable development into the teaching-learning process along with research, entrepreneurship education is offered in various tertiary institutions, which are the primary source of sustainable development across the country (Victor & Chinasa, 2019).

On the basis of methodological triangulation, an entrepreneurship model was developed. The model provides a framework for entrepreneurship education programs to educate cross-cultural and cross-regional setups. It was validated by considering three dimensions: entrepreneurial competencies, impediments, and intentions during the study's methodological triangulation. A study on 308 entrepreneurship education students in a Chinese university gave feedback on three key variables. The results revealed that the effectiveness of entrepreneurship education depends on entrepreneurial competencies by limiting the barriers and changing the entrepreneurial intention (Liu et al., 2021).

The courses selected as a part of entrepreneurship education have a significant role in deciding the program's quality. Empirical studies show that two points must be given due care during experiential learning. One is that it should focus on a person, and the other the environment in

which it is executed. These two points have to be very seriously incorporated into the pedagogy for developing future successful entrepreneurs (Pittz, 2014).

A learning model that works out through some serious game helped build a learning space that fosters students' spirit towards entrepreneurship through experiential learning. If students develop the right entrepreneurial mindset, it helps them gain sufficient knowledge that is important for starting and running an enterprise in the future (La Guardia et al., 2014).

The competencies which employers seek cannot be adequately learned and practically applied if taught in a lecture-mode setting. Extracurricular activities play an essential role in systematically modifying employability skills. Activities should be planned more smartly and systematically to enhance their academic and job performance to the employers' expected level (Hui et al., 2021).

Studies show that entrepreneurship education is interdisciplinary. The multidisciplinary models of entrepreneurship have a broader scope that meets the educational, social, economic, and cultural needs and can be applied to diversified disciplines and areas in academic fields to develop the entrepreneurial spirit in young minds (Mars, 2007).

Entrepreneurship intention has a significant role while designing the courses for entrepreneurship education. A study made use of an integrated entrepreneurial intention model, the opportunity evaluation through experimental learning (OETEL) model, and used an experimental research approach emphasizing the application of opportunity evaluation through experiential learning. Sixty students from two groups were used as the sample group, and a pre-test and post-test control group design was administered. The study revealed that the student's entrepreneurial intention increased by applying the opportunity evaluation model (OETEL) through experiential learning (Sukavejworakit et al., 2018).

Entrepreneurship is necessary for the economic growth of a nation. The Indian government encourages the youth to start businesses, but the essential competencies and skills must be shaped only in the classrooms. Service quality variables should be emphasized as a part of the entrepreneurship education that motivates the students. More light must be thrown on identifying the main functions and services needed for different disciplines across different academic streams (Narayan, 2015).

Entrepreneurship can be taught by using the learning-by-doing method. However, a major task is the legal challenges that are uniquely taken care of if practiced in the classrooms by the student community. The students are divided into groups of five to nine, and they spot a market need where there is a scope to develop something good for society. They create a business plan and, later, a working prototype. Then each team presents to a panel of academic judges, industry experts, and successful entrepreneurs and receives feedback. The study highlights the challenges in starting and running out of these courses for future success as entrepreneurs. Classroom business therefore has a significant role in teaching entrepreneurial skills among students (Barron & Green, 2020).

The above mentioned models clearly focus on the necessity of having design thinking approach by inculcating EI skills for the sustainable wellness among the prospective entrepreneurs. So this has initiated the investigators to come up with a model which taps out the innovative spirit among the students.

1.2. Entrepreneurial attitude and EI

Entrepreneurial intents are regarded as one of the best business behavior markers leading to the formation of new firms (Prodan & Drnovsek, 2010). Micro, small, and medium-sized businesses make up more than 99.8% of all businesses in the European Union, employing just over 66 percent of workers and contributing 57 percent of the economy's added value (Muller et al., 2018). Many

young people aspire to be entrepreneurs because it is one of the primary drivers of social, financial, and individual prosperity and productivity (Gorgievski & Stephan, 2016; Kuratko, 2005; Nabi et al., 2017).

People are increasingly looking for entrepreneurial careers despite financial, managerial, and interpersonal challenges (Zimmerer et al., 2007). According to academics, entrepreneurship is a big motivator for students and has an incredible potential for innovation.

Although cognitive abilities assist an entrepreneur in solving business difficulties, they are not always sufficient to allow the entrepreneur to make logical and prudent judgments (Cardon et al., 2012). They should be able to feel emotions. These skills include the ability to perceive people, create a solid first impression, and convince or influence others during interpersonal interactions. Since innovation is a crucial aspect of business, it is essential to comprehend how EI may help entrepreneurs be more innovative by allowing them to leverage their emotions., intelligence has been connected with only intelligence and cognition. A person's intelligence level can be measured through test. (Binet, 1975)). Thorndike emphasized the relevance of "non-intellective" features as early as 1920 when tracing the evolution of the EI theory (Dhani & Sharma, 2016). Wechsler (1940) remarked, "The key question is whether non-intellectual, emotive and conative traits, are accepted as components of general intelligence." Gardner (2005) claims that he is not interested in proving that this intelligence can be tested and validated but rather in demonstrating that humans possess a variety of intelligence that must be examined before labeling someone intelligent or not. Thorndike challenged the traditional notion that intelligence is defined by cognitive characteristics such as memory and problem-solving when he spoke of "Social intelligence" (Thorndike & Stein, 1937), which is the capacity to comprehend other people, and to act wisely in social situations (Cherniss, 2000). The idea of social intelligence opened the door for ideas emphasizing a person's other latent skills, but it was neither successful nor convincing. Although it succeeded in altering public perceptions of intellect, it was unable to establish itself as a unique type of intelligence. The general population also recognized the importance of social intelligence. When Sternberg et al. (1981) asked laypeople to list the characteristics they thought were important in an intelligent person, they mentioned things like making fair judgments, being considerate of others' needs, displaying interest in the larger world, admitting mistakes, and so on (Kihlstrom & Cantor, 2000).

The notion of EI was created due to the research conducted by Yale University psychology professors Salovey and Mayer from the University of Hampshire in the year of 1993.

EI is defined as a "collection of individual social talents or skills to monitor, distinguish and use one's own and other people's emotions to influence one's thinking and behavior" is meant by EI (Salovey et al., 2000). EI includes the ability to comprehend, regulate, and explain one's emotions and use them to motivate oneself and others (Goleman, 2007; Salovey et al., 2000).

According to some scholars, EI can help predict entrepreneurial success and performance (Chell, 2008; Zampetakis et al., 2015). According to Kamalian and Fazel (2011), people with higher degrees of EI have better responses to external stressors, allowing them to identify and regulate feelings that may disappoint them, increasing their entrepreneurial behavior. People with greater EI can understand the environment and societal requirements and manage the circumstances proactively (Zampetakis et al., 2008). People with self-efficacy are usually less affected by stress and are resilient (Mikolajczak et al., 2007). Being resilient, emotional maturity, stress management, self-management, empathy, conflict handling ability, inner motivation social awareness are essential characteristics of an entrepreneur. These characteristics are the components of EI that Daniel Goleman introduces.

Great performers had EI competencies, with self-management and relationship management demonstrating more excellent creative performance (Gerli & Bonesso, 2011). Innovation is the

hallmark of entrepreneurship (Kuratko, 2005). A Middle Eastern study found that EI greatly enhances corporate creativity and innovation (Suliman & Al-Shaikh, 2007). The most potent components of invention are self-awareness and motivation. Self-control had the most significant impact on risk-taking, while empathy had the highest impact on proactiveness, according to a study on EI and business entrepreneurship (Kamalian et al., 2011). The effectiveness of top managers depends on their social skills and EI. IQ (intelligence quotient) measures do not consider senior leaders and top managers (Webb, 2009). People who had a better understanding of their emotions were better able to control them and, as a result, made better decisions (Seo & Barrett, 2007). Entrepreneurs can achieve excellent performance with their peak emotional and spiritual experiences. It has been demonstrated that feeling good about yourself increases memory, confidence, excitement, adaptability, creativity, and inductive thinking (Cross & Travaglione, 2003). Entrepreneurs can be motivated by happiness, pushing themselves to achieve more excellent performance and ultimately finding pleasure and success (Loehr & Schwartz, 2001).

1.3. Design thinking for developing entrepreneurial attitudes

Entrepreneurship education can be taught through formal and informal activities to teach entrepreneurial attitudes and behaviors, especially in higher education. Higher education institutions should look into skill-based programs, innovative ideas, and projects. These activities have to be projected, and participative decision-making has to be encouraged among the higher education stakeholders to create an entrepreneurial ecosystem among under and postgraduates through inter-organizational cooperation and collaborative work (Marques et al., 2015).

People require various skill sets to become entrepreneurs and overcome all problems in their future life. The idea of transforming the classroom into a design-thinking lab outfitted with state-of-the-art virtual and augmented reality, interactive workstations, smart boards, and interactive video display walls to meet today's digital world will help the student community in addressing various issues related to contemporary business and in gaining the skills necessary for the efficient operation of the company. There is an urgent need for a transformation in our educational system that incorporates all the skills for entrepreneurial practice required to carry out the desired job and become a successful entrepreneur in the future, transit from education to a chosen career or entrepreneurship practice.

If students are given the chance to conduct commercial operations in a creative manner in the classroom and through digital transformation, future entrepreneurs can be shaped. Future graduates should be prepared for the labour market by giving them the essential practical experience and instilling an entrepreneurial mentality.

In order to create new business prospects, a company using interactive business models must mix its internal resources with those of the ecosystem.

Entrepreneurial inclination has to be fostered at a young age. Design thinking helps to integrate the basic principles of creativity to promote entrepreneurial competencies in European school curricula (Val et al., 2017).

Design thinking dimensions explore more areas in higher education where business skills can be developed systematically and scientifically.

It has been determined that design thinking contributes significantly to management and business. An increasing number of higher education programs instruct managers, executives, and business students in design thinking. However, the variety of perspectives and the various definitions of design thinking have led to misunderstandings over possible directions. In order to find trends in higher education programs, this article investigates the concepts of design and design thinking. We report the outcomes of a preliminary exploratory study on design and design thinking in business programs in higher education. Around human-centered innovation, integrative

thinking, design management, and design as a strategy, we describe four different educational approaches. There are some directions for management education programs

1.4. Design thinking follows a five-stage framework

1.4.1. Empathize

In this first stage, the teachers evaluate students' previous knowledge and observe how they have ideas about manufacturing, selling, and marketing the products or rendering some service to understand entrepreneurial skills and how they benefit their future life. Educators should come down to the level of the learners and try to think about their status before any judgment is made. They should feel empathetic towards learners without any preconceived notions. The empathetic observation by handholding the learners will help to know their difficulties and uncover those obstacles they did not think they had or could not orally express. This stage reveals the learners' need for an efficient model for developing entrepreneurial competencies.

1.4.2. Define

In this second stage, teachers should help the students frame the problem they face to gain the desired attitude and skill set to start their business. The challenges the learners face may be short-term and long-term, but putting them in the right way and formulating it correctly will help define them appropriately. Educators should look into the learners' issues and problems and have their observations and judgment based on that to guide them in appropriately defining the situation.

1.4.3. Ideate

Ideation is the third step, where the educator facilitates and guides learners by bringing out ideas for solving their problems and coming up with an apt product or service. The educator should give ample opportunities for the learners to come up with different business ideas about how to solve their problems. There are various techniques to ideate business ideas to solve their problems. Brainstorming sessions can be carried out by dividing students into groups, encouraging them, and gathering different creative ideas. A class may involve some introverted students who may have innovative ideas but do not find themselves comfortable revealing their thoughts and feelings in front of others. So at this point, the educator can use the Brainwriting technique. Here, each learner will be given a piece of paper, and five minutes are given to note down all the solutions for solving the problem. Then the piece of writing is passed to another learner who builds upon the ideas they had written down. This process is continued till all learners have contributed. In the end, the educator collects all the papers and displays them. Storyboarding is another technique that makes the learners create a story that includes their ideas and expected outcomes of the chosen concept and an in-depth analysis of what all things work and what all areas of attention must be drawn into to solve the problem.

Mind mapping is a higher-order thinking ability ideation technique used to solve a problem by diagrammatically representing it. Usually, the educator asks the learners to write down the keyword (problem) at the center of a whiteboard or on a sheet of paper. Then the learners can highlight the different solutions for solving the problem. Next, the learners are asked to add another layer that specifies how to reach out to the proposed solutions, connecting to the previous layer. SCAMPER (substitute, combine, adapt, modify, put, eliminate, and reverse) is another technique for ideating more solutions, focusing more on the problem. This technique is not to develop a new product idea but to work on the issues faced with the existing product or service. This technique consists of a set of questions that leads to viable solutions. Here in this technique, "S" stands for substitute, which makes the learner think that all existing products or service points can be swapped for something else. "C" stands for the combine, where the learners can use this product with some other products to improvise the existing product. "A" is for adapt, where the students try to adapt the existing product to another set of customers. "M" for modifying, which gives intuition for the learners to change the features of the current product/service. "P" stands for put for another use. Here the learners are subjected to identify other benefits for which the same

product can be used other than intended. “E” for eliminate asks the students to pick out those features that can be eliminated from the existing product to streamline and enhance its functions better. R’ concentrates on what would happen if the entire manufacturing process is reversed again. It is up to the educator to decide which technique can be adopted by looking into the capability and personality of learners. At the end of this stage, the educator should make learners capable of shortlisting a few ideas with which to move forward.

1.4.4. Prototype

Once ideation has happened, the learners are asked to develop a miniature model. A prototype has to be manufactured by keeping the user in mind. The Prototype has to be formed by taking care of constraints, how much you want to spend, targeting the customers, and the different forms of designing the Prototype. A prototype is a working model of the actual product or service. It helps to test the acceptance and success of the project idea. It also assists the customers in knowing the product or service before commercializing. Therefore, the entrepreneur will see the cost and market trends, collect feedback, and add many more features to the products and services according to the customer’s preferences. At this phase, the educators have to make students develop prototypes of their product that will match their version of their final product. The prototype development involves basic steps like: a) observing products/services that are more successful in the market, maybe even that of the competitors; b) creating a sketch of your prototype idea, which can be a paper-pencil one or a virtual one; c) A handmade version of the product has to be made; d) get ready with the patent rules and regulations if preferred; e) look into the number of funds to be raised and from which all sources; and f) launch in a market and evaluate based on the feedback of customers.

1.4.5. Test

Customers should be given a prototyped solution, and you must watch how they use it. During this testing phase, you gather comments on your work. The final step is when the finished product is produced and delivered to the intended customers. Close observation and evaluation should be done to understand the users and determine their satisfaction with the product launched. Even during this phase, alterations can happen at any point in time.

This model helps to use the design thinking model by integrating EI components and redefining the problems in developing the right entrepreneurial attitude by listing out the challenges faced by people willing to become future entrepreneurs. For people to become successful entrepreneurs, innovation is the driving force; equally, they should have a well-balanced emotional mindset to balance all the challenges and threats that come their way.

Design thinking involves cognitive activities structured in a process followed by Design while implementing a project (Cross et al., 1992; Eastman et al., 2001). This approach mainly focuses on problem-solving with a human-centric methodology. Understanding others’ mindsets and stepping into their shoes is essential to blending in a human-centric approach. Our affective domain should be strong enough, and working on our emotional stability is necessary. Design thinking opens up a wider view by visualizing the actual way of dealing with problems (Rittel & Webber, 1973). It opens up real-world life experiences and a way of creative action in front of future aspirants who want to become entrepreneurs. The applicability of design thinking concepts is gaining more attention in almost all sectors, irrespective of the conservative way of developing gaining entrepreneurial attitude only by acquiring theoretical concepts and then starting up their own business. The design thinking method is used to teach entrepreneurship in European school curricula as a catalyst for innovation and commercial success (Davis, 2010; Dorst, 2011; Fraser et al., 2007; Glen et al., 2014; Hassi & Laakso, 2011; Royalty & Roth, 2015). Here learners are given a chance for creative skills and higher-order thinking. The suggested model will also integrate the emotional mindset so the product the entrepreneurs come up with will be able to satisfy the heart and heads of the consumers. This approach mainly keeps humans at the heart of the design process.

Design thinking is placed on different principles, differentiating it from other approaches in gaining an entrepreneurial attitude. The primary human-centered principle is the highlight principle that helps entrepreneurs clearly understand customers' mindsets and help them innovate and design according to it. This approach gives the entrepreneur a chance to introspect and place themselves in the customers' place, consider all the economic, social, political, and cultural constraints, and find out the feasibility of the proposed idea by appraising the light of all limitations. This approach appraises the project idea and discovers how the obstacles can be reduced or eradicated.

The following important principle on which design thinking is based on abductive reasoning. Abductive reasoning is a concept formulated by the philosopher Charles Sander Pierce. New and innovative ideas and perspectives arise by visualizing future possibilities through rational thinking by giving importance to emotions and feelings.

The diamond model put forward by the Design Council in 2005 is another primary basis on which design thinking is worked out. The Double Diamond model is a framework that uses both divergent and convergent thinking (Tschimmel, 2012). Design thinking uses divergent thinking to develop various solutions (feasible or not) and then uses concurrent thinking principles to recognize and select the best solution.

The most important skill required for an entrepreneur in today's world is an innovative way of solving the problem with an empathetic overview. Design thinking is typically described as a creative and analytical process that offers chances for experimentation, model creation and prototyping, feedback gathering, and redesign (Razzouk & Shute, 2012). It has been said that skilled designers utilize design thinking as a solution-based talent or methodology to imaginatively approach meeting challenges (Dorst, 2011; Razzouk & Shute, 2012). Design thinking has the impending ability that is equal to TQM which is applied for a manufacturing sector to tap out the participants' entire creative capability to win their dedication and improve the entire process of doing something in an innovative way (Jeanne, 2018). Design thinking has garnered a lot of attention from academics and practitioners alike because it presents a fresh method for creativity and problem-solving in education (Micheli et al., 2018). The design thinking technique is completely different from other ways of entrepreneurship education. In design thinking, we are giving more importance to the empathy element which acts as the essential factor for understanding feelings, and beliefs and being with individuals from diverse origins and viewpoints (Carlgren et al., 2016). Unless and until an entrepreneur understands the emotions of his/her customers, the product/service he manufactures will not be accepted by them. The major problem that comes across design thinking strategy is that the framework for tackling problems becomes too rigid and complex. So due care should be given to keep a balance between methodology and flexibility (Katharine, 2018). At the same time, the literature suggests that academicians usually face the problem of potential problems that can arise at the time of application of design thinking process as participants feel it as more rigid, lack of creative confidence or mastery, feelings of worry and frustration, disputes in the workplace shallow ideas, and excessive creative confidence (Panke, 2019). Here it arises the importance of managing the emotions of the participants while engaging in the design thinking process. Design thinking requires a culture of trust and belief among the participants to feel at home and to contribute their actual creative ideas. The participants need to rely on the milestones in their creative process journey but should not become mechanical and lose their soul. Skilled designers often criticize the design thinking approach as more of a structured and linear one. After an extensive literature survey, the investigators observed a wide research gap in including the emotional component to rectify the shortcomings of the design thinking approach in developing an entrepreneurial mindset among students. Managers should consider the emotions of innovators they go through the time of executing design thinking activities to reshape their experiences in a profound way (Jeanne, 2018). Design thinking schools produced a variety of competencies. Emotional intelligence is considered an essential competency that is required to carry out a design thinking process. The culmination of these creative

competencies is the development of creative confidence, which gives the students assurance that they can act and think creatively (Rauth et al., 2010)). The facilitator of the design thinking process encourages students to use constraints as sources of inspiration (Brown & Wyatt, 2010). To meet the constraints in one's life, emotional intelligence is needed. Emotional intelligence can enhance innovativeness by managing emotional and cognitive disturbances that can arise during the design thinking process. There is a connection between entrepreneurship education and emotional intelligence (Makhmudah (2018). It was observed that design thinking university courses, lacked the development of creative confidence and it was found ineffective in developing students levels of creative self—efficacy (Ohly et al., 2017). When coming up with an idea and designing a product, creativity is an inevitable factor. The development of both critical thinking and emotional intelligence is a continuous process. In order to assess the level of emotional intelligence, researchers claim that critical thinking serves as a crucial link between intellect and emotions (Ragab et al., 2021). Critical thinking skills are greatly appreciated in higher education (Dym et al., 2005) and in today's cutthroat competitive career market (Hogland-Smith, 2017; Levin, 2018; Montini, 2014; Reed, 2018). Academicians have suggested emotional intelligence can improve academic and educational achievement (Mohzan et al., 2013). So the investigators felt that there is a great necessity to add an emotional intelligence variable to cover all the limitations of the design thinking approach which can help the students develop positive entrepreneurial attitudes at a faster pace. Although more studies are there to show the connection between the design thinking approach and the development of entrepreneurship attitude among students, the novelty in this study is that it includes emotional intelligence which is the essential element that helps in the smooth functioning of the design thinking approach. Based on a mapping of an analytical interconnection between these three variables, the study suggests a wonderful, innovative, and delightful approach in which emotional intelligence positively influences the design-thinking process among students in developing entrepreneurial attitude by enhancing critical thinking in designing new products or services which ultimately lead to sustainable entrepreneurship skills among the students.

1.5. Objectives of the study

- (1) To study the students' EI and its influence on the design thinking process.
- (2) To study the mediating effect of design thinking on entrepreneurial attitude through the influence of EI
- (3) To identify the level of EI and design thinking among the male and female selected students.

1.6. Hypotheses

Hypothesis 1: EI positively influences the design thinking process among the students.

Hypothesis 2: Design thinking mediates EI's influence on students' entrepreneurial attitudes.

Hypothesis 3: There is a difference in the levels of EI and design thinking among the male and female selected students.

2. Methods

2.1. Study design

This was a descriptive study conducted among students from across different states in India such as Karnataka, Kerala, Tamil Nadu, Maharashtra and Bihar. The students have been selected based on a stratified sampling technique. Data was collected for a period of two and half months starting from January 2022 to mid-March 2022.

2.2. Participant sampling

The total number of student responses was recorded to be 601 out of the selected 711 samples; 601 answered all the questions, which were complete and considered for further data analysis. The eligibility criteria was commerce students from different states of India. The respondents were aged between 18 to 21. College students from Kerala, Maharashtra, Karnataka, Tamil Nadu and Bihar were selected across India by listing out the number of colleges in these states. From Karnataka, 142 respondents were responded, Kerala 108 respondents answered, Tamil Nadu 151, Maharashtra 102, and Bihar 98. In total 601 participants were taken for the study from different Government Colleges, Aided Colleges, and Private Colleges across India. Two hundred and three students were recruited from government colleges across the selected states, 99 students were selected from aided colleges, and 299 students from private colleges from selected states. Responses were recorded with the help of the survey method. The sampling technique adopted for the study is the stratified sampling method. The researchers adopted the Krejcie and Morgan (1970) table at a confidence level of 95% and 3.5% standard error margin. The adequate sample size of the study when there is a population between 2,500 and 3,500 is between 597 to 641. Out of the selected 711 samples of the study, 601 samples answered all the questions, and these were complete and considered for further data analysis. Hence, the survey's response rate was about 84.5% eliminating the incomplete 110 responses. Data was collected for a period of two and half months starting from January 2022 to mid of March 2022.

2.3. Data collection

The researcher collected data from the students with the help of structured questionnaires. As there are three variables in the study, three questionnaires were developed to collect data. The Emotional Intelligence Scale, Design Thinking Questionnaire, and Entrepreneurial Attitude Scale were constructed and standardized. Reliability test and validity tests were also ensured. For preparing the three tools for data collection, an extensive review of related literature was done and focused interviews have been conducted with experts in the field. Based upon the interview we have used standardised questionnaire. The interview was conducted only for 25 respondents representing a few students' side teachers' representation. The main intention of carrying out the interview is to understand the pulse of people in society on various chosen aspects. Here fundamental questions were asked, and points were noted down. Further, it was compared with what the theory says. The secondary data sources obtained from websites, journals, newspapers, and articles are used for tool development. All the three questionnaires were based on Likert Scale with five points: Strongly agree (5), Agree (4), Neutral (3), Disagree (2) and strongly disagree (1). All the questionnaires collected preliminary information about the respondents related to socio-demographic factors of respondents such as locality, gender, age, and type of family. The emotional intelligence scale (Avadhani & Menon, 2021) consisted of 44 statements with 9 factors. They are emotional awareness, self-assessment, self-confidence, self-control, trustworthiness, conscientiousness, adaptability, empathy, and conflict handling. The design thinking questionnaire (Menon & Avadhani, 2022) consists of 20 statements with 5 factors empathy, defining, ideating, prototype, and testing. The entrepreneurial attitude questionnaire (Menon & Meera, 2011) included 18 statements which include factors like attitude towards business start-ups, marketing, recording of finance, communication, problem-solving, and leadership.

2.4. Data analysis

Reliability and validity are the two essential concepts for measuring the bias or errors in the measurement scale, checking the reliability, and measuring the research instrument's accuracy and stability. It will also ensure the validity and appropriateness of assessing the construct it purports to measure. These two processes help the researcher interpret the results accurately and make proper decisions. For all three questionnaires, content validity has been ensured. Suggestions and reviews have been recorded. The addition and deletion of questions were done. Further reliability testing was done for the data and it was found to be reliable. The EI scale has a reliability value of 0.84, the design thinking scale has 0.79 and the entrepreneurial attitude scale has a reliability of 0.75. Structural Equation Modelling is used to validate the model. The

researchers applied different statistical tools for analysis by using the statistical package of SPSS 22 and AMOS 20 which are more suited to make inferences with regard to the objectives of the study.

3. Ethical considerations

All informants completed the consent form. It was made clear that their identities and responses would remain confidential and only be used for the data analysis of this study. Participants were voluntary, meaning that they could decide to withdraw from any questions they felt uncomfortable with. Permission to record the data was obtained from informants on the form through signature to provide their consent. This study protocol was approved by the ethical committee from the Amrita Vishwa Vidyapeetham, Amrita School of Arts, Humanities, and Commerce, Mysuru campus, India (Figure 1).

4. Results

In Table 1, of reliability and validity measures it was agreed that an item statement's factor loading must be more significant than .40 in order for it to be retained in its respective scale, in light of the CFA models employed in the works of Paré and Tremblay (2007) and Nasurdin et al. (2009). Conversely, assertions that are negligibly significant or inconsequential (.40) are eliminated. The CFA model showed a good model fit with acceptable indices for entrepreneurial spirit, creative thinking, and EI. The components loaded for EI, design thinking, and entrepreneurial attitude are all above the prescribed level, ensuring the unidimensionality of the construct (Nunnally & Bernstein, 1994). It is discovered that the average variance explained (AVE) of all the latent variables of entrepreneurial spirit, design thinking, and EI is greater than 0.5, demonstrating the convergent validity of all three constructs (Campbell & Fiske, 1959). Moreover, all the measured variables for each latent variable ensure closeness to each variable in the same construct. It is also identified that the square root of the Average Variance Explained (VE) value in respect of all constructs is more significant than the squared correlation of two construct values. As a result, it can be concluded that the research instrument was used to assess factors influencing students' EI, design thinking, and entrepreneurial attitude. It has the desired discriminant validity (Henseler et al., 2014), ensuring that each latent variable or construct used in the study is distinct from the others. The entire constructs of EI, design thinking, and entrepreneurial attitude have composite reliability of more than 0.7 among students, indicating that dependability is well established (De Von et al., 2007). It is found that the data of each construct of EI, design thinking, and entrepreneurial attitude possess average distribution properties since the significant value evaluated using statistical tests through the Kolmogorov-Smirnov test (Razali et al., 2011) is more

Figure 1. Structural equation model.

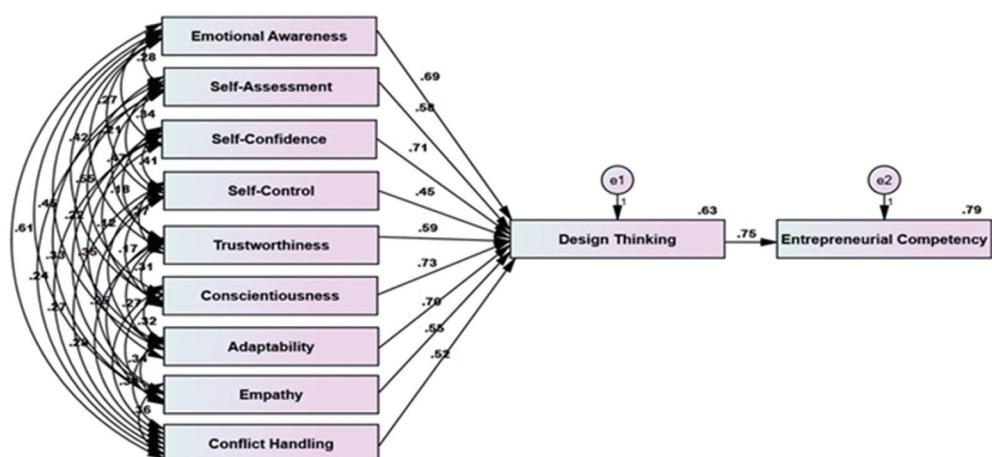


Table 1. Reliability and validity measures of emotional intelligence, design thinking and entrepreneurial attitude

Latent variables	AVE (average variance explained)	Square root of AVE	Correlation	Composite reliability
Emotional awareness	0.65	0.806	0.721	0.77
Self-assessment	0.58	0.762	0.623	0.84
Self-confidence	0.62	0.787	0.614	0.79
Self-control	0.67	0.819	0.722	0.83
Trustworthiness	0.69	0.831	0.759	0.81
Conscientiousness	0.53	0.728	0.528	0.88
Adaptability	0.61	0.781	0.611	0.75
Empathy	0.64	0.800	0.734	0.82
Conflict handling	0.59	0.768	0.513	0.78
Design thinking	0.52	0.721	0.592	0.84
Entrepreneurial attitude	0.68	0.825	0.658	0.85

Source: computed from primary data.

significant than 0.05. Because the VIF (variance inflation factor) value is less than five and the tolerance level value is more significant than 0.2, there are no multicollinearity difficulties between EI, design thinking, and entrepreneurial attitude (Kumar, 1975).

4.1. Mediating effect of design thinking through the influence of EI on the entrepreneurial attitude among the students

Hypothesis 1: EI has a positive influence on the design thinking process among the students.

Hypothesis 2: Design thinking mediates the influence of EI on the entrepreneurial attitude among the students.

In Table 2 the results of goodness of fit are given, with acceptable indices of GFI (goodness of fit index)=.971, AGFI (adjusted goodness of fit index)=.966, NFI (normed fit index)=.966, TLI (Tucker—Lewis index)=.969, CFI (comparative fit index)=.997, RMSEA (root mean square error of approximation)=.055, RMR (root mean square residual)=.047, CMIN/df (statistically significant), the Chi-square value which is used to compare if the observed variables and expected result = 2.95, and probability level (p-value) =.301. The SEM model supports the hypothesis that design thinking mediates the influence of EI on the entrepreneurial attitude among the students produced a good model fit. The data set correctly fits the suggested structural model, hence the hypothesis is accepted (Anderson & Gerbing, 1988; Bentler, 1980).

In Table 3, the standardized estimate (SE) is considered to determine the influence of the independent variable on the dependent variable through the inclusion of a mediating variable. It is revealed that all the nine variables of EI positively influence the design thinking process among the students. Design thinking has a positive effect on entrepreneurial attitude through the influence of EI. The influence is identified as follows:

- (1) If emotional awareness is raised by 1%, the creative thinking process among students is raised by 0.692 percent.

Table 2. Results of goodness of fit test									
Indices	χ^2/df	P	GFI (Goodness of Fit Index)	AGFI (Adjusted Goodness of Fit Index)	NFI (Normed Fit Index)	TLI (Tucker—Lewis Index)	CFI (Comparative Fit Index)	RMSEA (Root Mean Square Error Of Approximation)	RMR (Root Mean Square Residual)
Model Value	2.95	.301	.971	.966	.966	.969	.997	.055	.047
Recommended Value	<3.0	>.05	> 0.90	>.90	> 0.90	>.90	>.95	<.05	< 0.05

Table 3. Regression weights

Construct	INF	Construct	SE (Standardized Estimate)	UE	S.E.	C.R.	P
Design thinking	←	Emotional awareness	0.692	0.718	0.052	19.512	***
Design thinking	←	Self-assessment	0.581	0.666	0.048	11.258	***
Design thinking	←	Self-confidence	0.716	0.748	0.041	10.122	***
Design thinking	←	Self-control	0.457	0.516	0.059	9.287	***
Design thinking	←	Trustworthiness	0.592	0.601	0.053	15.870	***
Design thinking	←	Conscientiousness	0.738	0.759	0.046	21.001	***
Design thinking	←	Adaptability	0.709	0.738	0.066	20.678	***
Design thinking	←	Empathy	0.551	0.565	0.055	14.135	***
Design thinking	←	Conflict handling	0.524	0.576	0.038	13.001	***
Entrepreneurial attitude	←	Design thinking	0.758	0.793	0.064	25.123	***

- (2) When self-assessment is enhanced by 1%, the design thinking process among students increases by 0.581 percent.
- (3) If self-confidence increases by 1%, the design thinking process among students increase by 0.716 percent.
- (4) If self-control is strengthened by 1%, the design thinking process among students increases by 0.457 percent.
- (5) If trustworthiness increases by 1%, the design thinking process among students increases by 0.592 percent.
- (6) If students' conscientiousness is improved by one percent, the design thinking process increases by 0.738 percent.
- (7) When adaptability is raised by 1%, the design thinking process among students is increased by 0.709 percent.
- (8) If empathy is increased by one percent, then it can be seen that the job design thinking process among the students is increased by 0.551 percent.
- (9) If conflict resolution is improved by 1%, students' job design thought process improves by 0.524 percent.

A student's entrepreneurial mindset will increase by 0.758 percent if their EI skills boost their creative thinking process by 1%. All the constructs of EI such as emotional awareness, self-assessment, self-confidence, self-control, trustworthiness, conscientiousness, adaptability, empathy, and conflict handling. It explains 63.3 percent variance in the design thinking process among the students. It reveals that the mediating effect of design thinking through the influence of EI on entrepreneurial attitude among the students is 79.4 percent. Hence, it is concluded that EI positively influences the design thinking process among students. Finally, design thinking mediates the influence of EI on entrepreneurial attitude among the students. Therefore, it proves that creative thinking is a subset of EI, and this will enable the students to increase or maintain a positive mood. Thus the students will ultimately increase their creative design thinking and improve their entrepreneurial competencies among the students.

4.2. The difference in the level of EI and design thinking among the male and female selected students

The discriminant analysis compares the level of emotional and design thinking among the male and female selected students (Press & Wilson, 1978). The predictor variables of EI are emotional awareness (X1), self-assessment (X2), self-confidence (X3), self-control (X4), trustworthiness (X5), conscientiousness (X6), adaptability (X7), empathy (X8), conflict handling (X9) and the mediation

variable to improve the entrepreneurial competencies among the selected students is design thinking (X10).

Hypothesis 3: The different levels of EI and design thinking among the male and female selected students.

Table 4 displays the results of the Box's M Test for data appropriateness for discriminant analysis and the significant F value. The sufficiency of the analysis is indicated by a value of .000.

In Table 5 the tests of equality of group means have been explained. Wilks' lambda is the ratio of the total sum of squares to the sum of squares within groups (Klecka et al., 1980). Wilks' lambda is incredibly small for emotional awareness (.352), adaptability (.389), and design thinking (.321), indicating that there was a substantial group difference between the selected male and female students. The mean values for the components of EI and the creative thinking process differ significantly between the two groups of chosen male and female students. The F statistic measures the amount of variation between and within groups. The F ratio number in relation to degrees of freedom is very significant, according to the significance scale. The significance value for each of the nine EI and design thinking predictor factors is less than 0.05, demonstrating a significant difference between the male and female students who were chosen for the study. The two aforementioned facts demonstrate both the accuracy of the current segmentation and the importance of the differences between groups.

Table 4. Box's M test results for suitability of data

Box's M		713.240
F	Approx.	27.128
	df1	62
	df2	2079.125
	Sig.	.000

Tests null hypothesis of equal population covariance matrices.

Table 5. Tests of equality of group means

Construct	Wilks' lambda	F	df1	df2	Sig.
Emotional awareness	.352	41.685	1	598	.000
Self-assessment	.486	23.423	1	598	.000
Self-confidence	.498	21.128	1	598	.000
Self-control	.629	13.198	1	598	.000
Trustworthiness	.527	16.123	1	598	.000
Conscientiousness	.530	17.382	1	598	.000
Adaptability	.389	37.109	1	598	.000
Empathy	.522	16.124	1	598	.000
Conflict handling	.499	21.487	1	598	.000
Design thinking	.321	45.218	1	598	.000

Table 6. Eigen value and canonical correlation analysis

Eigen value	% of variance	Cumulative %	Canonical correlation	Wilks' lambda	Chi-square	Sig.
3.585 ^a	100.0	100.0	.825	.331	134.245	.000

First 1 canonical discriminant functions were used in the analysis.

In Table 6, the ratio of the sum of squares generated between and within groups is known as the Eigenvalue. The biggest Eigenvalue is corresponding to the widest spread of the group means. Only a small portion of the total Eigen is represented by the full dispersion. The discriminant function's Eigenvalue is 3.585, which points to a potent function that explains both design thinking and EI in both male and female students in the most comprehensive way. For the two groups, there will be a single canonical correlation and a single discriminant function. One way to determine the association between the discriminant function and the two groups is to use the canonical correlation. The discriminant function has a very high canonical correlation (0.825) between the two groups, showing that the function has a good link with the design thinking and EI components. Wilks' lambda for the overall discriminant function is 0.331, showing that there are differences between the group means of EI and design thinking for the selected male and female students. The degree of importance is determined by combining the degrees of freedom with a chi-square transformation of Wilks' lambda. The discriminant function has a significance value of .000, which is less than 0.05, showing that the means of EI and design thinking among the selected male and female students differ significantly.

The canonical discriminant function coefficients, which are predicted to differentiate the amount of EI and design thinking among the male and female students, are shown in Table 7. The discriminant function coefficient indicates the partial contribution of each variable to the discriminant function. It evaluates the discriminant function's unique contribution to all nine predictor factors of EI and design thinking. The unstandardized beta coefficients of each variable of EI and design thinking are positive, indicating that all ten predictor variables directly affect the level of EI and design thinking among the male and female students. It was also discovered that emotional awareness and adaptability are essential in determining the amount of EI among the selected male and female students, resulting in a significant difference in the creative thinking process

Table 7. Canonical discriminant function coefficients

Construct	Function
	1
Emotional awareness	.521
Self-assessment	.281
Self-confidence	.292
Self-control	.123
Trustworthiness	.336
Conscientiousness	.273
Adaptability	.499
Empathy	.284
Conflict handling	.286
Design thinking	.557
(Constant)	6.224

Unstandardized coefficients.

between the two groups. As a result, the hypothesis is accepted, and it is concluded that male and female students have significantly different levels of EI and design thinking.

5. Implications of the study

Implications for the study can be viewed from different angles. It can be looked from the view points of students, teachers, policy makers and society. Entrepreneurship is the most promising solution for the growing unemployment of any nation. The entrepreneurial attitude can be developed at a very small age among the children so that they can become the economic builders of the nation. Though Entrepreneurship is taught through a lot of methods, teaching entrepreneurship through design thinking approach by integrating Emotional intelligence helps to develop successful Entrepreneurs who has innate calling to become business men by developing empathy, creativity, innovation, novelty, emotional stability etc. among the new generation. The model suggested in the study can help the student community by giving them an opportunity to construct their own knowledge and skill in entrepreneurship by giving due importance for their emotions and feelings. By adding emotional intelligence component, will give an individualised practical,real time entrepreneurial experience for students which enhance the present system of education. The five step of the design thinking model consisting of empathizing, designing prototyping and testing helps the students to have a clear idea about the needs of the market and to develop a prototype that serves the actual demands of the market. Nowadays, Educationists spend a lot of time inventing the most appropriate method for teaching Entrepreneurship. The implementation of the design thinking model in educational institutions will help to develop various entrepreneurial skills easily among students. The policymakers should set apart some funds for prototype development for students in the annual budgets. There should be easy availability of funds for product development through nationalized banks and other financial institutions. National, local, and regional level competitions on prototype exhibitions, brainstorming sessions on novel product ideas, etc. should be done. The accreditation agencies should rate the educational institutions based on the quality of prototypes developed by students of that institution too. Policymakers should take all necessary steps to protect the property rights of the students by incorporating the lessons of patents and copyrights in their curriculum. Students get an opportunity to scan the societal problems and challenges faced by the community at large, engage with real-world problems and they can come up with innovative and empathetic solution in the form of social ventures which in the long run provides a positive change for the society. Thus teaching students Entrepreneurship through design thinking by incorporating Emotional intelligence will develop all the qualities and values required for successful entrepreneurs among the students which ultimately results in becoming sustainable entrepreneurs in future.

6. Conclusion

Our educational system should be reformed and restructured to mould creative people who can find solutions for the challenges the world faces today. Suppose educators utilize design thinking clubbed with EI in their classes. In that case, it will help them uplift the students from the basic level of knowledge to the higher level of creation. This model helps tap learners' creativity and teamwork to produce innovative products or services and become successful entrepreneurs with high ethical values in this competitive world. The study revealed that EI positively influences the design-thinking process among students. Design thinking mediates the influence of EI on entrepreneurial attitudes among students. There is a difference in different levels of EI and design thinking among the male and female selected students. The study was carried out only in Karnataka, Maharashtra, Tamil Nadu, Kerala and Bihar but not in other states. Based on few sample states the results of the study has been generalised, we could not collect data from more states due to resource problems.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

Underlying data

Zenodo: Development of an Entrepreneurship model using the design thinking approach and emotional intelligence for sustainable wellness. <https://doi.org/10.5281/zenodo.7288793> (Menon & Avadhani, 2022)

This project contains the following underlying data:

Extended data

Zenodo: EXTENDED DATA OF ARTICLE: - Development of an entrepreneurship model using the design thinking approach and emotional intelligence for sustainable wellness. <https://doi.org/10.5281/zenodo.7385992> (Menon et al., 2023)

This project contains the following extended data:

- Questionnaire -DESIGN THINKING.docx
- QUESTIONNAIRE -EMOTIONAL INTELLIGENCE.docx
- QUESTIONNAIRE ENTREPRENEURIAL ATTITUDE SCALE.docx

Data are available under the terms of the Creative Commons Attribution 4.0 International license (CC-BY 4.0).

Declaration

We declare that study was conducted by the investigators and it is original and not been submitted or published before.

Correct information

Grant information there is no grant

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