UNVEILING CREATIVITY: A COMPREHENSIVE STUDY OF CREATIVITY SKILLS AMONG UNIVERSITY GRADUANDS IN SRI LANKA

P.A.R.T. Gunawardena[1]

ABSTRACT

In the dynamic landscape of higher education, fostering creativity is not merely an option but a fundamental imperative for nurturing innovative thinkers and preparing students for the challenges of an ever-evolving world. This paper presents an in-depth examination to investigate the current status of skills in creativity among university graduands in Sri Lanka. The study is anchored in the context of evolving educational paradigms that emphasize the importance of these skills in the 21st century. Through a mixed-methods approach, the research delineates the constructs of creativity, assesses their current proficiency levels among university students, identifies challenges in skill development, and proposes strategies for enhancement.

Quantitative data were gathered through a survey administered to 250 university students, providing insights into demographic trends, perceptions of creativity and critical thinking, and their correlation and application in education. The survey revealed a diverse understanding of these skills across different faculties and academic years, with a notable emphasis on their importance in modern education. However, a lack of significant correlation between the conceptualizations of creativity and critical thinking suggested a need for more integrated approaches in teaching.

The study findings reveal that while most graduands acknowledge the importance of creativity and critical thinking, there is minimal focus on their utilization in academic activities. The study achieved its objectives by providing a thorough understanding of creativity within the Sri Lankan university context. It offers valuable insights into the perceptions of students, the challenges faced in nurturing these skills, and practical recommendations for policy and curriculum enhancements. The findings underscore the necessity for systemic changes in higher education to foster an environment conducive to developing these critical skills. This research contributes to the broader discourse on educational reform and skill development in higher education, with implications for policymakers, educators, and students in Sri Lanka and similar contexts.

***Key words**: Creativity, Higher Education, University Graduands*

[1] Faculty of Education, Open University of Sri Lanka, pagun@ou.ac.lk

1. INTRODUCTION

Creativity skill stand as pivotal competences in the educational landscape of the 21st century, garnering extensive discourse and scholarly debate. Historically, education systems prioritized subject matter knowledge; however, the dawn of this century has witnessed a paradigm shift towards the cultivation of thinking skills, with creativity at the forefront (National Education Association, 2017).

The conceptualization of creativity has evolved, initially framed as divergent thinking by (Guilford & Vaughan, 1962; Guilford, 1967, 1973), to a broader understanding that encompasses cognitive behaviors and mental processes. Guilford (1967) posited that creativity is fundamental to education and problem-solving. The etymology of the term 'creativity' traces back to the Indo-European word 'kere', denoting the act of creation, implying originality and uniqueness (Cottrell, 2017). Creativity thus encapsulates a spectrum of attributes, including imagination, ingenuity, and originality.

Key competencies for learning in the context of the 21st century educational framework include creativity, critical thinking, collaboration, and communication (Ahmadi & Besançon, 2017). These are not separate abilities, but rather they build upon one another, with progress in one area often paving the way for improvement in others. Creativity, for instance, can boost conversation, while critical thinking can strengthen teamwork.

University students may sometimes be perceived as lacking creativity due to various factors within the educational system. Traditional teaching methods that prioritize memorization over active engagement and analytical thinking can stifle the development of creative skills. Large class sizes, rigid assessment methods, and a focus on grades rather than the learning process may contribute to a culture that discourages risk-taking and innovative thought. Additionally, disciplinary boundaries and specialized knowledge within specific fields might limit students' exposure to interdisciplinary perspectives (Gao et al., 2021).

The 4Cs can be cited as the most emphasized learning competency: creativity, critical thinking, collaboration, and communication (Ahmadi & Besançon, 2017). The importance and necessity of creativity for present education are very clear considering that it is already being included under the main learning skill. Given the interconnected nature of these skills, improving one may result in the improvement of others while in a classroom setting. For instance, a more dynamic and interactive learning environment can be achieved by encouraging

communication and collaboration through creative means.

The 4Cs and other "soft skills" are quickly making their way into today's curriculum. Communication, problem solving, critical thinking - these talents are worth their weight in gold, though they haven't always pulled down such high values at the workplace. According to Andersen et al. (2020), in the twenty-first century, soft skills have emerged to be fundamental for professional as well as personal fulfillment. The same perspective also finds semblance of truth with the revelations from the World Bank that outline the significance of the impact of soft skills on the global employment market.

As stated by Andersen et al. (2020), soft skills play a crucial role in personal and societal development, with creativity and critical thinking, effective communication, workplace productivity, and social harmony being among the key attributes. Of particular significance are creativity and critical thinking, essential for navigating contemporary challenges and fostering problem-solving capabilities.

The educational focus on soft skills, including creativity, reflects a broader societal value placed on these competencies. In a rapidly changing economic and enterprise landscape, creativity is prized as an essential human skill. Their development is not only beneficial but necessary for students to thrive in university education and beyond.

The influence of environmental and social factors on the development of creativity is varied and complex (Burnard, 2006). These factors can significantly impact the creative capacities of different groups and settings. However, the infusion of creative elements into education can substantially enhance its quality and outcomes (Eteläpelto & Lahti, 2008).

The impetus for this research emerges from the recognition that enhancing wisdom among university graduates is not only desirable but essential. The Sri Lanka University Education Commission of 1948-1949 echoed this sentiment, advocating for an education that enriches both the mind and the soul, thereby underscoring the importance of developing fundamental thinking skills (Marak,2020). This research aims to contribute to the body of knowledge by examining how creativity can be more effectively integrated into the university curriculum to foster these competencies among students.

The Sri Lankan university educational system faces the challenge of aligning with the imperatives of future economic development, where knowledge, skills, and talents are pivotal (Weligamage & Siengthai, 2003). Innovation and adaptability are the engines of growth and development, necessitating an educational

approach that promotes these qualities. Marak & Momin (2020) emphasizes the role of university education in developing creativity and thinking skills, yet observe that the current educational climate in Sri Lanka does not adequately support the cultivation of creativity. This gap highlights the urgent need for educational strategies that prioritize and enhance creativity as a fundamental 21st century skill.

Papaleontiou-Louca et al. (2014) advocate for the recognition of creativity and critical thinking as cornerstones of higher education, essential for preparing individuals for a dynamic and uncertain professional future.

Senadheera (1999) argues that the prevalent examination system, which places a premium on memory over the acquisition of wisdom, is to blame for the decline of creativity in higher education.

Published research as a whole suggests that there is a widespread problem with how universities teach students to think creatively and critically.

The World Bank's recent focus on the monetary costs associated with Sri Lanka's innovation gap is a rallying cry for policymakers to take action. According to the data, encouraging creative thinking should be a top goal for every country's economy, not just schools. Economic resilience and competitiveness in the global market are increasingly being linked to the capacity for critical and innovative thought (Chandrasekara & Kappagoda, 2019).

The centrality of university education in the production of human capital assets imbued with intellectual value is incontrovertible. (Ariyawansa, 2008, p. 94) underscores the expectation for graduates to possess a suite of skills including analytical creativity, critical thinking, mathematical knowledge, problem-solving, and literacy, which are deemed essential for employability. The emphasis on such skills is not arbitrary but stems from their recognized role in driving innovation and economic growth.

The partnership for 21st century learners' identification of the 4Cs—creativity, critical thinking, communication, and collaboration—further accentuates the importance of these competencies. These skills are not merely academic requisites but are crucial for navigating the complexities of modern life and the professional sphere. The university, therefore, bears the responsibility of equipping students with these tools, which are indispensable for their future productivity and societal contribution.

The urgency of fostering creativity and critical thinking within the Sri Lankan university system is thus a matter of national concern. Alfantookh & Bakry (2013) reveal that the global higher education

sector has recognized the development of these skills as a fundamental objective, reflecting a universal challenge and response to the demands of the 21st century.

In light of these findings, it is imperative to cultivate creativity as a fundamental life skill for graduates in the 21st century. This skill is not only vital for academic and professional success but are also essential for the social, economic, and cultural advancement of the nation.

This research examines the existing status of the skills in creativity and critical thinking among university graduands and presents policy implications aimed at enhancing the proficiency of these skills among students.

In summary, creativity is not static concepts but dynamic skills that are applicable across a wide spectrum of human activities. Their relevance and application in today's economic and entrepreneurial contexts are undeniable, as they are integral to the cultivation of a skilled and adaptable workforce. As such, they are essential components of higher education, deserving focused attention and deliberate development strategies to prepare students for the complexities of the contemporary world.

Furthermore, the research situates the university as a pivotal institution in the cultivation of creativity and critical thinking, skills that are indispensable for individual and societal progress. The findings underscore the need for systemic changes in educational practices and curricula to address the current deficiencies. As higher education stands at the crossroads of tradition and innovation, it must embrace the challenge of preparing students not only for the job market but for a lifetime of creative and critical engagement with the world. The future of higher education, and indeed the future of society, depends on our ability to foster these essential skills in the next generation of leaders, thinkers, and innovators.

LITERATURE REVIEW

An essential component of any research project, a literature review entails a thorough examination of the academic works published on a given subject. It offers a synopsis of the existing body of knowledge on the topic, elaborating on fundamental concepts and ideas. Machi & McEvoy (2009) emphasize the value of a literature review in providing the necessary background for understanding the research problem within the context of current studies. It offers a rationale for the perspective taken in the current study and helps elucidate the various dimensions of the issue under investigation.

Conducting a literature review demonstrates that one has thoroughly researched the topic and understands it well.

Moreover, the literature review aids in formulating strong research questions.

Creativity is a complex idea that is fundamental to human thought. Being able to think outside the box, question convention, and come up with fresh concepts is essential (Kaufmann, 2003). This skill is vital to the advancement of many disciplines, including the arts and humanities, hard sciences, the economy, mathematics, and technology. Creativity displayed by those working in various industries is often closely related to their progress and development, which in turn improves the quality and efficiency of life in many ways (Dacey, 1999, p. 14).

The significance of creativity in attaining both personal and professional objectives is underscored in the literature analysis. The ability to develop and enhance one's skills via deliberate practice has been acknowledged as a talent. However, it was G.P. Guilford (1967) who later articulated that creativity is an innate strength in individuals (Dellas & Gaier, 1970). This was further elaborated through his divergent thinking theory, which has become a foundational concept for many researchers studying creativity.

Rawlinson & Jarvis (2008) emphasize that in Guilford's intelligence theory, divergent thinking is a key component of creativity, pivotal to innovation and the development of original ideas and solutions.

The concept of creativity has been explored and defined by various scholars across different fields. Boden (2004), for instance, categorizes creativity into three distinct types, each representing different methods of generating novel ideas:

(a) Combinational Creativity: Involving new combinations of familiar ideas.

(b) Exploratory Creativity: Involving the generation of new ideas through the exploration of structured concepts.

(c) Transformational Creativity: Involving the alteration of existing structures in order to produce novel ones..

In actuality, creativity is a complex and dynamic process rather than a fixed occurrence. The principal purpose of this entity is to generate novel creations.

CREATIVITY IN HIGHER EDUCATION

The skills and the scholarly atmosphere provided to creators are very important for creativity in higher education. Therefore, creativity is essential to empower students and make them employable (Livingston, 2010).

In higher education, the university student should be provided a psychologically secure and free environment, a free classroom environment to bring out his creativity. Unlike traditional learning, teaching learning in the 21st century must give students the opportunity to unleash their creative minds (Kleiman, 2008). Therefore, the student who receives the education required for the 21st century will be able to creatively solve any problems he/she may face at work or in life in the future.

Thapa et al. (2021) stated that the significance of creativity as an essential individual skill has increased in recent years. He further mentioned that it is essential to develop creative skills in students studying in primary and secondary educational institutes as part of their formal education. There, Thapa et al. (2021) indicate that the development of creativity skills in university graduates in higher education is also very important and essential for the development of a country.

In Sri Lanka, the pedagogical approach has been criticized for lagging behind global standards, with a noted lack of encouragement for students to be creative or adaptable (Abeyasekara & Arunatilake, 2018). Prof. Lakshman Dissanayake, in a keynote speech at the University of Colombo in 2013, highlighted the inherent innovative and creative nature of humans. He went on to emphasize this fact that in a knowledge-based economy, knowledge goes beyond traditional repositories and rests as tacit information in working individuals. He further called for a higher education system that enhances creativity and critical thinking skills, cautioning that emphasis on the system exams in the country based on knowledge had denied students the chance to develop these essential qualities with potential negative impacts on national development.

In summary, creativity is nothing but imagining and doing something new and useful with that imagination. This quality is known as the essential element for success and happiness in life. Creativity is a multifaceted cognitive process that holds significant importance in the realm of human existence. In order to possess the aptitude for creative thinking, it is important to acquire knowledge regarding the fundamental techniques of creative thought and develop a genuine comprehension of the creative process. By employing this methodology, researchers can get intriguing findings. Considering all

these definitions and opinions, creativity is found to be an essential skill that needs to be developed in today's education. Therefore, it is very important for higher education. This is because by developing creative skills in graduands, innovations can take place.

Addressing the deficiency in higher education research, particularly within the Sri Lankan context, is imperative for nurturing a more competitive and adaptable workforce. Existing educational structures often fail to accommodate and nurture creative thinking, as evidenced by the incongruity between creativity and established curricula. Traditional assessment methods prevalent in universities, such as multiple-choice and essay questions, further reinforce this gap in fostering creativity. To rectify this, it is recommended to integrate diverse assessment techniques, including quizzes, into grading systems. These approaches should prioritize not only final outcomes but also the cultivation of creative learning processes, thus enhancing the overall quality assurance across university courses. In Sri Lanka, the education system often fails to nurture creative thinking, as noted by Perera (2019). Creative individuals may find their inclinations at odds with the established curriculum. Universities in the country predominantly rely on traditional assessment methods, such as multiple-choice and essay questions, to gauge student performance, as highlighted by Irugalbandara, English, and Campbell (2021). To address this issue, Chandrasekara and Kappagoda (2019) suggest incorporating quizzes into the grading system alongside other assessment techniques. These changes should not only focus on improving final grades but also aim to foster creative learning processes, aligning with the recommendations of various scholars to enhance the overall quality assurance system in university education.

This study addresses the research gap concerning the insufficient integration of creativity skills within the Sri Lankan university education system, despite their recognized importance for fostering innovation and adaptability in the 21st-century economy. Despite scholarly acknowledgements of their necessity, the current educational climate in Sri Lanka lacks adequate support for nurturing creativity and critical thinking among students. This gap reflects a disconnect between the acknowledged significance of creativity skills and their implementation within educational practices, hindering both individual student development and national economic progress.

OBJECTIVES

The study is structured around four principal research objectives, which are designed to dissect and understand the multifaceted nature of creativity within the context of Sri

Lankan university education. These objectives are:

1. To delineate the constructs of creativity within the Sri Lankan university education context.

2. To assess the current proficiency level of creativity among university students in Sri Lanka.

3. To investigate the impediments that graduands encounter in honing their creative ability within the university setting, employing qualitative research methods to explore the various elements and components contributing to these impediments.

4. To propose strategies for enhancing creativity skills among university graduands..

RESEARCH QUESTIONS

The research questions, formulated on the basis of the theoretical framework, are as follows:

1. What is the prevailing state of creativity skills among university students in Sri Lanka, as measured against established educational benchmarks?

2. What are the systemic and institutional barriers that impede the enhancement of creativity and critical thinking skills in Sri Lankan university education? How do these barriers manifest in the educational context, and what specific factors contribute to their persistence?

3. What recommendations can be advanced to effectively embed and nurture creativity and critical thinking skills in university graduates?

These objectives and questions aim to guide a structured inquiry into the efficacy of current educational practices and to identify actionable pathways for reform that align with global educational standards and the demands of the contemporary job market.

METHODOLOGY

The study employed a Descriptive survey design, integrating both qualitative and quantitative research approaches to facilitate a comprehensive data collection process (Bryman, 2006). The descriptive survey method is a quantitative research approach that entails gathering data to provide a detailed description of the features of a population or phenomena (Nassaji, 2015). This study aims to evaluate the present levels of creativity skills among university students in Sri Lanka. This approach is very efficient for collecting data from a sizable sample, enabling the

generalization of findings to a wider population.

The sampling technique adopted for the selection of participants was stratified random sampling, ensuring a representative cross-section of the university population in Sri Lanka.

The population was segmented into one distinct strata for the purpose of this research:

Undergraduate students from the first and third years across the faculties of Arts, Science, Engineering, and Management Studies in four selected universities, with a sample size of 250 students. This stratification allows for a comparative analysis of creativity and critical thinking skills across different stages of university education and various disciplines.

The tools for data collection included structured questionnaires, crafted to quantitatively assess the prevalence and perception of creativity skills.

Selection of Universities for Study Population

For this study, which seeks to investigate the growth of creativity ability in Sri Lankan university students, it was crucial to carefully choose which universities to include. From the total of 17 national universities in Sri Lanka (UGC, 2020), a selection was made consisting of four institutions: the University of Colombo, the University of Sri Jayewardenepura, the University of Peradeniya, and the University of Rajarata. The selection was made based on multiple criteria that are in line with the research aims.

In summary, the deliberate and strategic selection of these four universities out of the seventeen national universities in Sri Lanka aimed to ensure a comprehensive, diverse, and representative study. This choice not only aligns with the research objectives but also bolsters the study's credibility and enhances the applicability of its findings within the broader context of Sri Lankan higher education.

The focus on first and third students across these streams was intentional. First-year students represent the initial phase of university education, where foundational skills are being developed, while third-year students have advanced in their academic journey, allowing for an assessment of the progression and further development of creativity and critical thinking skills. This approach ensures a comprehensive understanding of how these skills evolve throughout the university experience.

In summary, the selection of these specific faculties and streams from the four universities offers a balanced and representative view of the development of creativity and critical thinking skills across diverse academic disciplines in Sri Lanka. This strategic choice ensures that the

study's findings are relevant and applicable to a wide range of academic contexts within the Sri Lankan higher education system.

Population of the Study

University Graduands: The student population includes first and third year students from Humanities and Social Sciences, Arts, Science, Engineering and Management various disciplines, providing a diverse sample that reflects the broader student body in Sri Lankan universities. The selection of these specific years is strategic, capturing the initial and more advanced stages of university education. The Table 1.1 shows details of the student population::

Table 1.1 University Graduands Distribution (2020/2021)

Sr. No.	University	Discipline	No of Student		Total Students
			1st Year	3rd Year	
01.	**University of Colombo**	Arts	848	749	1597
		Science	296	385	681
02.	**University of Sri Jayewardenepura**	Humanities & Social Sciences	1026	937	1963
03.	**University of Peradeniya**	Engineering	453	419	872
04.	**University of Rajarata**	Management Studies	513	471	984
	Total		**3136**	**2961**	**6097**

Source: Data obtained from the Dean's offices of the sampled universities

SAMPLE OF THE STUDY

University Graduands:

The sample of university students is drawn from four major universities in Sri Lanka, covering various disciplines. The total sample size for university graduands is set at 250, with an equal number of first and third year students to capture the development of creativity and critical thinking skills at different stages of university education.

RATIONALE FOR SAMPLE SIZE SELECTION

The sample size of 250 was determined based on the need to achieve a balance between statistical power and practical considerations of data collection. This size is

sufficient to provide a 95% confidence level with a margin of error of approximately 6%, which is considered acceptable for educational research. This confidence level and margin of error ensure that the findings can be generalized to the larger population of university students in Sri Lanka with a high degree of certainty.

The Table 1.2 illustrates the final distribution of the sample among the universities and disciplines, reflecting the study's aim to achieve a balanced and comprehensive overview of creativity and critical thinking skills development across different stages of university education.

Table 1.2 Sample Distribution for University Graduand

Sr. No.	**University**	**Discipline**	**No of Student**		**Total per University**
			1st Year	**3rd Year**	
01.	**Colombo**	Arts	33	33	66
		Science	14	14	28
02.	**Sri Jayewardenepura**	Humanities & Social Sciences	40	40	80
03.	**Peradeniya**	Engineering	18	18	36
04.	**Rajarata**	Management Studies	20	20	40
	Total		**125**	**125**	**250**

This proportional and stratified approach to sampling not only enhances the study's validity but also ensures that the findings can be generalized to the broader population of university students in Sri Lanka, providing insights into the development of creativity and critical thinking skills at different stages of their education.

The surveys were designed using a combination of closed and open-ended questions. The main purpose of closed questions was to collect quantitative data, enabling statistical study of the frequency and distribution of creativity and critical thinking skills among the student population. Open-ended questions allowed students to freely share their opinions and experiences, providing qualitative insights into their

comprehension and utilization of these skills (Cohen, Manion & Morrison, 2018).

FINDINGS AND CONCLUSION

These sections shall discuss and analyze the key findings in detail, comparing them to existing literature to draw some meaningful conclusions.

The study was inclusive in the sense that it brought together both quantitative and qualitative research approaches to deal with creativity and investigate the status of among university graduands in Sri Lanka.

The qualitative data was gathered through interviews with university academics and subject experts, delving into the integration of creativity and critical thinking in higher education, as well as the associated challenges and opportunities. Some scholars across different faculties collaborated to embed these skills into the curriculum. They stressed the importance of innovative teaching methods and interdisciplinary learning to foster creativity and critical thinking. However, they also highlighted obstacles like limited resources, rigid curricula, and the need for well-trained faculty.

Similar views were shared by other experts, advocating for the inclusion of creativity and critical thinking in higher education curricula. They proposed policy changes to incorporate skill development and suggested systemic alterations in teaching approaches and curriculum design. Extracurricular activities were also deemed essential for skill enhancement, as creativity and critical thinking aren't confined to the classroom.

Analyzing the qualitative findings in the context of nurturing creativity and critical thinking in higher education involves critically examining insights from interviews with university academics and experts, supported by academic references to enhance understanding of the themes and challenges.

The integration of creativity with critical thinking in the curriculum is evident across various faculties, reflecting a holistic educational approach rather than being confined to specific disciplines. For instance, faculties like Engineering and Science employ project-based learning to bridge theoretical knowledge with practical application, fostering technical skills and innovation.

However, academics identified several challenges in promoting creativity and critical thinking among students. Chief among these is the scarcity of time for creating engaging learning environments, alongside curriculum inflexibility that often favors raditional teaching methods, hindering skill development. Motivating students to engage in activities fostering creativity and critical thinking also

poses a challenge, as does the reliance on traditional assessment methods that prioritize memorization over critical thought.

QUANTITATIVE FINDINGS

The demographic information from the study offers important demographic information and perceptions about creativity and critical thinking among the graduands at a university. The demographic data suggested that there was high concentration of undergraduates younger than the other subjects with most of male graduands coming in at age 22 to 25 years old (40.4%) whilst a higher percentage of female student participants came in at the same range (59.6%). This gender percentage is also reflective of the state of affairs with regards to global education participation that has seen women's participation in higher education shoot.

The survey results offer fascinating insights into how university graduates perceive creativity. An overwhelming majority, 86.4%, view creativity as "creating something unprecedented," suggesting a strong assciation between creativity, innovation, and originality. This aligns with contemporary educational ideals, where fostering innovative thinking is recognized as a key aspect of nurturing creativity

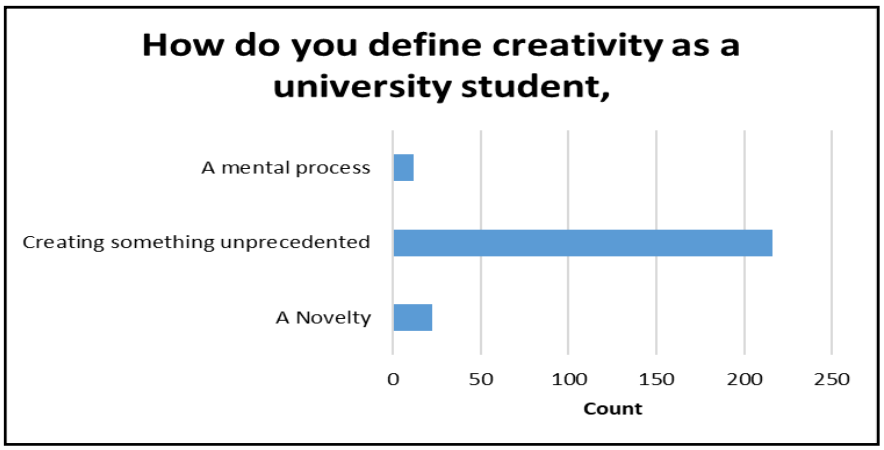

Figure 1.1 Perception of Creativity

The latter could be illustrated by a smaller fraction, 8.8%, who views creativity as "a novelty," indicating some perception of creativity as something new or rare rather than something revolutionary. Such a position can mark differences in vision concerning creativity.

The Chi-Square test results show a highly significant association

between faculty and the understanding of creativity ($p < .000$). Notably, all respondents from the Faculty of Engineering who chose "A Novelty" (15 out of 37) and "A mental process" (12 out of 39) were from the Faculty of Management (refer to Table 5.7). Additionally, respondents from the Arts, Humanities, and Social Sciences, as well as the Science faculties, defined creativity as "creating something unprecedented," with 67 out of 67, 80 out of 80, and 27 out of 27 respondents, respectively sharing this perspective.

The study aimed at establishing the relationship and the applicability of these skills in academics. Though most graduands identified that creativity and critical thinking were important in the part of presentations, very little focus was placed on their use in the part of dissertations. This finding shows likely differences in the integration of these skills into broader academic work.

Further, Chi-Square analysis showed that there were significant relationships between the graduands' academic disciplines and their perceptions towards creativity and critical thinking. This outcome brings out how the background set of skills shaped graduands' perceptions and understandings about the skills. However, the correlation test shows weak negative correlation between perceptions about creativity and critical thinking suggesting that graduands perceive them as different skills.

The Pearson Correlation between the understanding of graduands' creativity and the recognition of graduands' critical thinking skills is -.033 at a significance of .602 (2-tailed). This result indicates a very poor, near-negligible negative correlation between the graduands' perception of creativity and their understanding of critical thinking skills. The significance level being more than .05 ($p = .602$) means that this correlation is statistically not significant (Table 1.3).

Table 1.3 Correlation between Creativity and Critical Thinking

Sr. No.	Variable	Pearson Correlation	Sig. (2-tailed)	N
01.	**As a university student, you know creativity**	1	-	250
02.	**As a university student, critical thinking skills that you recognize as**	-.033	.602	250

This lack of any significant correlation represents the fact that graduands' conceptualizations about creativity do not depict a strong relation of exactly how they conceive critical thinking. In other words, a definition of creativity or an understanding does not identify a student or significantly relate to the understanding of their thinking critically. This could mean that graduands see both of these constructs as two different or separate abilities with their characteristics and applications within the academic context.

The findings came out differentiating independence of both cognitive domains in the minds of university graduands. This distinction could emerge from the way that these skills are taught and emphasized within different disciplines or may reflect a more generalized perception that exists within the educational environment that treats creativity and critical thinking as completely independent or only loosely interconnected skills. This insight can be vital to educators and curriculum developers aiming at harmonizing the integration of these skills into university education.

DISCUSSION OF QUANTITATIVE FINDINGS

Taking heed of this stated purpose, this discussion carries out a critical review of these findings supported by literature to contextualize them within the wider educational ambience.

The demographic distribution of the participants was majorly in terms of age and gender, which thus formed a basis on which the findings would be interpreted. The sampling is heavily towards younger undergraduates as would represent the standard demographic of a university and is critical towards concepts of understanding early-stage development in creative skill. This age distribution was consistent with Halpern's (2014) argument on the foundational growth of cognitive skills being in early adulthood. This

is very interesting within a bigger context because of the involvement of female graduands that reflect world trends in higher learning, probably from gender-based specific educational experiences or the influences of society as identified by Butler et al. (2017).

Some very interesting findings from the study concerned perceptions about creativity and critical analysis. The majority of creativity as "creating something that was not there before" corresponds to innovation and originality, considered by Amabile (1996), modern enhancement of education dominated with innovation and originality - this is new knowledge related to changing notions of creativity in tertiary education closely associated with innovation. This strong association with "developing thinking" reflects, in my estimation, a dearth of a broad understanding of critical thinking as an evolving cognitive process emphasizing analytical and evaluative skills befitting Halpern's (2014) conceptualization of critical thinking.

For instance, the divided opinion of the correlation between creativity and critical thinking with the majority acknowledging of a correlation invocates recognition of their interplay in academic context. This perspective is in accord with educational theories that advocate integrating these skills to develop a comprehensive cognitive development as outlined by National Education Association (2017). An indication of a curriculum focus in higher education, where the particular academic activities are not more relevant and therefore bring out these sets of skills may be seen in the fact that these sets of skills are not poured on dissertations but easily can be found on the application of these sets of skills during presentations.

Results from the Chi-Square test rate graduands' academic disciplines to be significantly associated with creativity. This finding implies impacts of the academic context in terms of conceptualization of these skills, as had already been noted for cognizant skill development in disciplinary contexts by Bensley & Spero (2014).

The few and insignificant findings from the correlation test conducted on graduands' perceptions towards creativity against their understanding in critical thinking, show that these were perceived as different or separate constructs by the graduands. This finding suggests the autonomy of these cognitive disciplines possibly due to how they are then taught and focused upon within the different academic domains. This observation is in concurrence with views by Elder & Paul (2019) on the distinct nature of critical and creative thinking in the discourse on educational settings.

To sum up, the complete interpretation about perception and development of creativity among university graduands in Sri Lanka is provided from the quantitative findings of this study. The findings indicate that, apart from an overview of some general issues regarding these skills, varied and nuanced comprehension of the concept is still in existence based on factors such as demographics, academic disciplines pursued and gender. These insights are very important for the educators and curriculum developers so that they can include these skills in a more cohesive manner into the university education.

SUGGESTIONS AND RECOMMENDATIONS

The following are therefore key recommendations and suggestions on improving the situation pertaining to investigating the current status of skills in creativity among university graduands in Sri Lanka, based on findings established in the study. All these are supposed to help overcome the challenges identified and also tap into the available opportunities within the system of higher education.

Curriculum Reform:

It follows that higher universities ought to fundamentally engage in serious curriculum reform. The reform should be aiming at awareness through deliberate explicit integration of creativity and critical thinking. Teaching of such skills may be introduced in new modules intentionally designed to target these very skills and existing courses may be re-designed by incorporating the elements needed for creative and critical thinking. Secondly, the interdisciplinary learning as well as project-based courses would enable the graduands to apply what they have theorized in placements of actual real-life situations that would further elevate their level of learning.

Pedagogical Innovations:

Interactive and student-centered teaching is important. Problem-based learning, group discussions, and case studies are methods which have student involvement in their course. Apart from this, faculty development programs play a vital role in trying to use new teaching methodologies fostering creativity and critical thinking through universities. Such programs would empower the teachers with skills and tools that may be necessary for the effective inculcation of these skills in their graduands.

Enhancing Techniques of Assessment:

There is an absolute need to move away from the conventional examination-oriented forms of testing to other modes of evaluation. Such approaches should be able to assess the creative and critical thinking skills of a student such as the use of portfolios, and reflective journals, as well as project work.

Continuous assessment strategies that make available feedback anywhere near the time of completing one's assignment or task are more likely to lead to iterative learning and improvement.

Resource Allocationand Infrastructure Development:

The resources and infrastructure that facilitate and support creative as well as critical thinking aspects of an educational institution, the need to pump over more investment related to the same. Such resources would basically include technology-enabled learning environments, tailored collaborative workspaces, and innovation labs. Making several different digital facilities available to help graduants with the cause of creative learning considering supporting them critically analyzing things will also be useful.

Extracurricular and Co-curricular Activities:

Encourage participation in extracurricular and co-curricular activities which enhance creativity and critical thinking. Debates, workshops, competitions, and student projects are such to be brought in place. Involvement in clubs and societies of creative interests or intellectual challenges can also positively contribute to the development of these skills.

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