

PREPARING STUDENT'S COMPETENCIES TO FACE THE CHALLENGES OF THE VUCA (VOLATILITY, UNCERTAINTY, COMPEXITY, AMBIGUITY) ERA

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ABSTRACT

This qualitative study aims to identify the competencies required by students to navigate the VUCA (Volatility, Uncertainty, Complexity, Ambiguity) era. The research was conducted through in-depth interviews with students and lecturers from public and private universities in Jakarta. The data collection method involved in-depth interviews to gather comprehensive insights into the competencies deemed essential for students. The data analysis was carried out using thematic analysis techniques, which facilitated the identification of recurring themes and patterns in the responses. The findings reveal eight key competencies that are critical for students in the VUCA environment: Leadership, Digital Literacy, Communication, Emotional Intelligence, Entrepreneurship, Global Citizenship, Problem Solving, and Team-working. Leadership is highlighted as the ability to inspire and motivate others, while Digital Literacy is seen as fundamental for understanding and utilizing evolving technologies. Communication skills, both verbal and non-verbal, along with Emotional Intelligence, are essential for building effective relationships and managing emotions in uncertain situations. Entrepreneurship is crucial for fostering innovation and managing risks, whereas Global Citizenship is important for understanding cross-cultural perspectives and social responsibility. Problem Solving and Team-working are identified as vital for facilitating collaboration and developing solutions to complex problems. The study underscores the interconnectedness of these competencies and their collective importance in equipping students to address the challenges of the VUCA era. By providing a detailed understanding of these competencies, this research contributes valuable insights into the skills that students need to succeed in a rapidly changing and uncertain world.

Keywords: Student's Competencies; Volatility; Uncertainty; Compelxity; Ambiguity.

INTRODUCTION

The VUCA era, an acronym for Volatility, Uncertainty, Complexity, and Ambiguity, encapsulates the characteristics of the modern era marked by rapid and unpredictable changes. In the global, economic, and social context, Volatility represents high levels of fluctuation, with significant events and sudden changes that can swiftly alter situations. Uncertainty reflects the uncertainty impacting decision-making, where factors such as political changes, the global economy, and technological advancements create conditions that are difficult to predict. Complexity signifies the increasing complexity in interactions and relationships, both within and between organizations, as a result of globalization, technology, and increasingly interconnected market dynamics. Ambiguity refers to the lack of clarity or clear understanding, where some situations can have diverse interpretations and information is not always complete (Chen, 2024; Potsangbam, 2017; Priyanto, 2023), (Sari, 2023).

In the world of education, the VUCA era introduces significant challenges. The education system must adapt quickly to meet the demands of this changing environment. Curricula must be adjusted to meet future needs, integrating skills required by the ever-evolving job market, such as digital literacy, creative skills, and

problem-solving abilities (Sari & Alfiyan, 2023)(Iskhakbayeva, 2024). Educators face an increasingly complex task, requiring the ability to design learning experiences that are adaptive, responsive, and relevant to the latest developments. Active learning methods, project-based approaches, and practical experiences are key in preparing students to navigate the VUCA era.

The importance of innovation in education is becoming increasingly urgent. Innovation in teaching and curriculum is necessary to enable students to develop creativity, critical thinking, and the ability to adapt to a dynamic environment. Integrating technology into the learning process is also crucial, allowing access to information, distance learning, and the use of digital tools that support collaborative and interactive learning (Wang & Contino, 2024)(Mer & Viridi, 2024). Moreover, the VUCA era demands a paradigm shift in educational leadership. Educational leaders need to adopt a responsive and adaptive mindset, lead with wisdom in the face of uncertainty, and promote innovation at the organizational level. Being prepared to face rapid changes and providing an environment that supports the development of both staff and students are key elements of successful educational leadership.

The importance of lifelong learning skills is also becoming more prominent in the VUCA era. Students must be equipped with the ability to continually learn and adapt throughout their lives. This includes the development of critical thinking, problem-solving abilities, and creativity as integral parts of the educational process. Additionally, education should aim to build practical and relevant career skills, preparing students to face the challenges of the ever-changing job market [5],[8]. In facing the VUCA era, education must also adopt a multicultural approach. The complexity of the global environment requires a deep understanding of culture and cross-cultural cooperation. Successful education should help students develop the understanding, tolerance, and collaborative skills needed to function in an increasingly connected global society. The use of technology in the VUCA era becomes increasingly crucial (Puji et al., 2022; Syafrony, 2023). Distance education, digital collaboration tools, and supportive learning technologies provide solutions to address uncertainty and deliver flexible learning. The integration of technology can also enhance educational accessibility, overcome geographical barriers, and ensure equality in education.

However, the VUCA era also brings new challenges related to mental and emotional well-being (Khan, 2021; Muhammad Rofiuddin et al., 2023). The high levels of stress and uncertainty can negatively impact the well-being of students and educational staff. Therefore, educational programs should incorporate a holistic approach to support the balance and mental health of students, creating an environment that fosters positive emotional and social development. Amidst all the complexities and challenges faced in the VUCA era, education must serve as a driver of positive change and future leaders prepared to face global dynamics. Successful education in the VUCA era requires collaboration among teachers, students, educational leaders, and government to create a learning environment that facilitates skill development, critical thinking, and readiness for an unpredictable future (Mamula Nikolić & Milovanović, 2021; Pultoo & OJORAH, 2020), (Brown & Duignan, 2021). The presence of the pentahelix concept in the education sector is greatly needed to provide creative space for the realization of a comprehensive tripartite education. Synergy within the pentahelix consists of Academic, Entrepreneurs, Community, Government, and Media(Aziz et al., 2022).

RESEARCH METHODS

This research employs a descriptive qualitative design to gain a deep understanding of the competencies required by students in the VUCA era. The study combines in-depth interviews with students and lecturers as the primary data collection technique. Research respondents consist of senior students from various study programs and lecturers with experience teaching and mentoring students at both public and private universities in Jakarta. Respondents were purposively sampled to ensure they have relevant experience and understanding of the competencies needed by students to face the VUCA era. The researcher prepared interview guidelines consisting of open-ended questions based on established dimensions and indicators. In-depth interviews were conducted face-to-face or via online platforms (Zoom) to accommodate access limitations. Each interview lasted 45-60 minutes and was recorded with respondents' permission to ensure data accuracy.

To enhance data validity, interviews were conducted with various sources (students and lecturers) from both public and private universities. Interview results from both respondent groups were compared and analyzed to identify similarities and differences in their perspectives. Data collected from in-depth interviews were analyzed using thematic analysis techniques. Data analysis steps included transcription, coding, categorization, and interpretation. To ensure data validity and reliability, this research applied source triangulation by involving diverse respondents from different backgrounds. Additionally, the researcher conducted member checking by giving respondents the opportunity to review and provide feedback on interview transcripts and initial findings.

The indicators used in developing the research instrument are based on a framework of several competencies essential in the 21st century, including Leadership, Digital Literacy, Communication, Emotional Intelligence, Entrepreneurship, Global Citizenship, Problem Solving, Team-working (Makrufi et al., 2023; Turner, 2021). As for the dimensions and indicators of each competency, they are as follows:

Table 1. Dimensions and Indicators of Competencies Required in the VUCA Era

Competency	Dimension	Indicator
<i>Leadership</i>	Visionary Leadership; Inspirational Motivation; Decision Making; Accountability.	1. Ability to inspire and motivate teams; 2. Ability to make appropriate decisions; 3. Ability to establish a clear vision and direction; 4. Responsibility and accountability for team actions and outcomes.
<i>Digital Literacy</i>	Information Literacy; Media Literacy; Technology Literacy.	1. Ability to search, evaluate, and use digital information; 2. Ability to understand and analyze digital media; 3. Ability to use digital tools and technology effectively.
<i>Communication</i>	Verbal Communication; Non-verbal; Communication; Written Communication; Listening Skills.	1. Ability to communicate information clearly orally 2. Ability to understand and use body language 3. Ability to write clearly and effectively 4. Ability to listen to and understand others
<i>Emotional</i>	Self-awareness;	1. Self-awareness of emotions and feelings

Competency	Dimension	Indicator
<i>Intelligence</i>	Self-regulation; Social Skills; Empathy.	2. Ability to manage own emotions 3. Ability to build and maintain social relationships 4. Ability to understand and empathize with others' feelings
<i>Entrepreneurship</i>	Innovation; Risk Management; Business Planning; Financial Literacy.	1. Ability to generate innovative ideas 2. Ability to manage business risks 3. Ability to plan and manage business 4. Ability to understand and manage business finances
<i>Global Citizenship</i>	Cultural Awareness; Social Responsibility; Ethical Understanding; Global Issues Awareness.	1. Awareness of culture and cultural differences 2. Social responsibility towards the community 3. Understanding of global ethics 4. Awareness of global issues and challenges facing the world
<i>Problem Solving</i>	Problem Identification; Solution Generation; Decision Making; Implementation; and Evaluation.	1. Ability to identify problems accurately 2. Ability to generate creative solutions 3. Ability to make appropriate decisions based on analysis 4. Ability to implement and evaluate selected solutions
<i>Team-working</i>	Collaboration; Conflict Resolution; Role Understanding; Communication.	1. Ability to collaborate with team members 2. Ability to resolve conflicts effectively 3. Understanding of each team member's role 4. Ability to communicate effectively within the team

RESULTS AND DISCUSSION

In facing the VUCA era, students are required to possess various competencies that support them in tackling complex and dynamic challenges. The results of interviews with students and lecturers provide deep insights into the competencies considered essential and how these skills can be developed.

Table 2. Summary of Interview Results with Students and Lecturers

Competency	Dimension	Indicator	Students	Lecturers
Leadership	Visionary Leadership	Ability to set a clear vision and direction	Students feel the need to understand clear direction and goals in every project and organization.	Lecturers emphasize the importance of a strong vision for leading teams and achieving shared goals.
	Inspirational Motivation	Ability to inspire and motivate teams	Students want to learn how to motivate their peers in group tasks.	Lecturers teach that inspirational leadership is key to building team motivation.
	Decision Making	Ability to make sound decisions	Students often feel uncertain about making important decisions.	Lecturers suggest case study exercises to enhance decision-making skills.

Competency	Dimension	Indicator	Students	Lecturers
Digital Literacy	Accountability	Responsibility and accountability for team actions and outcomes	Students feel the need to be more accountable for their roles within teams.	Lecturers stress the importance of accountability in every task and project.
	Information Literacy	Ability to search, evaluate, and use digital information	Students want to be more adept at finding and validating online information.	Lecturers emphasize the importance of information literacy in the digital age.
	Media Literacy	Ability to understand and analyze digital media	Students want a better understanding of the impact of social media and other digital content.	Lecturers teach critical thinking towards digital media and received information.
	Technology Literacy	Ability to effectively use digital tools and technology	Students feel the need to be more skilled in using current software and technology tools.	Lecturers provide training and workshops on using the latest technology.
Communication	Verbal Communication	Ability to convey information clearly verbally	Students feel the need to improve public speaking skills.	Lecturers encourage presentation practice and discussions to improve speaking skills.
	Non-verbal Communication	Ability to understand and use body language	Students want a better understanding of how body language affects communication.	Lecturers emphasize the importance of body language in effective communication.
	Written Communication	Ability to write clearly and effectively	Students feel the need to improve writing skills for reports and essays.	Lecturers assign writing tasks to enhance writing skills.
	Listening Skills	Ability to listen and understand others	Students want to be more adept at listening actively during discussions and meetings.	Lecturers teach the importance of active listening in communication.
Emotional Intelligence	Self-awareness	Self-awareness of emotions and feelings	Students want to better recognize and understand their own emotions.	Lecturers emphasize the importance of self-awareness in managing emotions.
	Self-regulation	Ability to manage own emotions	Students feel the need to learn how to manage stress and pressure.	Lecturers provide advice on stress management and emotional control techniques.
	Social Skills	Ability to build and maintain social	Students want to be more skilled in building networks	Lecturers stress the importance of social skills in a professional

Competency	Dimension	Indicator	Students	Lecturers
		relationships	and social relationships.	environment.
	Empathy	Ability to understand and empathize with others	Students want to better understand perspectives and feelings of others.	Lecturers teach the importance of empathy in working with others.
Entrepreneurship	Innovation	Ability to generate innovative ideas	Students want to learn how to think creatively and innovatively.	Lecturers encourage exploration of innovative ideas and projects.
	Risk Management	Ability to manage risks in business	Students feel the need to better understand how to manage risks in projects and business.	Lecturers teach the importance of risk analysis in business planning.
	Business Planning	Ability to plan and manage businesses	Students want to be more skilled in creating effective business plans.	Lecturers assign business planning tasks to improve these skills.
	Financial Literacy	Understanding and managing business finances	Students feel the need to better understand financial management and accounting.	Lecturers provide basic training in finance and accounting principles.
Global Citizenship	Cultural Awareness	Awareness of cultures and cultural differences	Students want to better understand cultures and customs from different countries.	Lecturers emphasize cultural awareness in the era of globalization.
	Social Responsibility	Social responsibility towards communities	Students want to be more involved in social and humanitarian activities.	Lecturers encourage participation in social activities and volunteering.
	Ethical Understanding	Understanding of global ethics	Students feel the need to better understand ethics in a global context.	Lecturers teach the importance of ethics in business and professional life.
	Global Issues Awareness	Awareness of global issues and challenges facing the world	Students want to better understand global issues like climate change and human rights.	Lecturers provide education on global issues and their impacts.
Problem Solving	Problem Identification	Ability to accurately identify problems	Students feel the need to be more skilled in identifying major problems in a situation.	Lecturers emphasize the importance of problem analysis in problem-solving.
	Solution Generation	Ability to generate creative	Students want to learn how to think out-of-the-box to	Lecturers encourage brainstorming and other creativity techniques.

Competency	Dimension	Indicator	Students	Lecturers
		solutions	find solutions.	
	Decision Making	Ability to make sound decisions based on analysis	Students often feel unsure about choosing the best solution.	Lecturers provide case studies to train decision-making skills.
	Implementation and Evaluation	Ability to implement and evaluate selected solutions	Students feel the need to be more skilled in evaluating the outcomes of implemented solutions.	Lecturers stress the importance of evaluation in the problem-solving process.
Team-working	Collaboration	Ability to collaborate with team members	Students want to be more skilled in working collaboratively in teams.	Lecturers emphasize the importance of collaboration in achieving shared goals.
	Conflict Resolution	Ability to effectively resolve conflicts	Students often find it challenging to handle conflicts within teams.	Lecturers provide strategies and techniques for resolving conflicts.
	Role Understanding	Understanding of roles of team members	Students want to better understand their roles and responsibilities within teams.	Lecturers stress the importance of role understanding in team effectiveness.
	Communication	Ability to communicate effectively within teams	Students feel the need to be more skilled in communicating with team members.	Lecturers encourage communication practice and group discussions to improve these skills.

Leadership is seen as one of the key competencies that students need to develop. Visionary and inspirational leadership is considered crucial by both students and lecturers. Students feel the need to establish a clear vision and motivate their teams, while lecturers emphasize the importance of strong leadership in achieving shared goals. The theory of transformational leadership, which focuses on inspiration and motivation, is highly relevant here, as leaders who can inspire are more effective in managing teams facing uncertainty and change. Digital Literacy is also an essential competency. The digital era demands skills in effectively searching for, evaluating, and using digital information. Students feel the need to be more adept at using technology and understanding digital media. Lecturers emphasize the importance of digital literacy as a foundation for adapting to rapid technological advancements. The theory of digital literacy underscores the importance of technology and media skills in understanding and interacting with the continually evolving digital world.

Communication is another key competency. Verbal, non-verbal, and written communication skills are considered important by both students and lecturers. Students feel the need to improve public speaking and effective writing skills, while lecturers encourage communication practice to hone these skills. The theory of interpersonal communication emphasizes that these skills are crucial for building

effective relationships and achieving shared goals in complex and ambiguous environments. Emotional Intelligence (EQ) encompasses self-awareness, emotional management, social skills, and empathy. Students feel the need to recognize and manage their emotions, as well as understand others' feelings. Lecturers emphasize the importance of EQ in building strong social relationships and working effectively in teams. The theory of emotional intelligence states that the ability to manage emotions and understand others' feelings is crucial in facing challenges and working in dynamic environments.

Entrepreneurship focuses on innovation, risk management, business planning, and financial literacy. Students want to learn how to think creatively and innovatively, as well as understand risk and financial management. Lecturers encourage exploring new ideas and provide basic business training. Entrepreneurship theory emphasizes the importance of innovation and risk management in creating and developing new ventures, which is highly relevant in facing the uncertainty and complexity of the VUCA era. Global Citizenship involves cultural awareness, social responsibility, ethical understanding, and awareness of global issues. Students want to understand different cultures and engage in social activities. Lecturers emphasize the importance of global awareness and ethics in facing global challenges. Global citizenship theory emphasizes the importance of cross-cultural understanding and social responsibility in building a fairer and more sustainable world.

Problem Solving includes problem identification, solution generation, decision making, and evaluation. Students feel the need to be more skilled in identifying problems and finding creative solutions. Lecturers teach the importance of problem analysis and solution evaluation. Problem-solving theory emphasizes the importance of analytical and creative skills in overcoming complex and dynamic challenges. Teamworking involves collaboration, conflict resolution, role understanding, and communication within teams. Students want to be more skilled in collaboration and conflict resolution, while lecturers teach the importance of collaboration and role understanding in team effectiveness. Teamwork theory emphasizes the importance of interpersonal and collaborative skills in achieving shared goals, especially in environments full of uncertainty and complexity.

The interview results indicate that both students and lecturers agree on the importance of diverse competencies in facing the VUCA era. These competencies include leadership, digital literacy, communication, emotional intelligence, entrepreneurship, global citizenship, problem-solving, and teamwork. These competencies are interconnected and form a strong foundation for students to tackle complex and dynamic challenges. Effective leadership requires strong communication and emotional intelligence to inspire and motivate teams. Digital literacy is crucial for understanding and leveraging rapidly evolving technology, which in turn supports innovation and entrepreneurship. Understanding global issues and social responsibility leads to better global citizenship, while problem-solving and teamwork skills support collaboration and effectiveness in facing challenges. The theories underlying these competencies provide a strong framework for understanding and developing the necessary skills.

CONCLUSION

Based on the research aimed at identifying the competencies needed by students to face the VUCA era through in-depth interviews with students and lecturers at universities in Jakarta, eight key competencies have been identified. These

competencies include Leadership, Digital Literacy, Communication, Emotional Intelligence, Entrepreneurship, Global Citizenship, Problem Solving, and Team-working. The study highlights the importance of each competency in equipping students to tackle complex and dynamic challenges in the VUCA environment. Leadership is emphasized as the ability to inspire and motivate, while Digital Literacy serves as a crucial foundation for understanding and leveraging evolving technologies. Communication, both verbal and non-verbal, along with Emotional Intelligence, are keys to building effective relationships and managing emotions in uncertain situations. Entrepreneurship is highlighted to stimulate innovation and risk management, whereas Global Citizenship is crucial for understanding cross-cultural perspectives and social responsibility. Problem Solving and Team-working are considered crucial in facilitating collaboration and finding solutions to complex problems. In conclusion, this research provides a deep insight into the competencies that students need to develop to succeed in an ever-changing and uncertain VUCA era.

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