GiLE

GLOBAL INSTITUTE FOR LIFELONG EMPOWERMENT

Journal of Skills Development

GiLE Journal of Skills Development

Aims and Scope

The GiLE Foundation has established the GiLE Journal of Skills Development (GJSD) as an open-access publication to promote research and ongoing dialogue relating to personal skills development and lifelong learning. It thereby contributes to the mission of the GiLE Foundation **to support young people** specifically.

GJSD therefore aims to be a valuable, open-access (**CC BY 4.0**) resource for all those who aim to equip rising talent for a future that is likely to involve ongoing skills development, upskilling and reskilling. All of our published content can be utilised by researchers, corporate learning and development practitioners, and those seeking to pursue their own personal and professional development.

GJSD encourages submissions from everyone (e.g. students, researchers, educators, trainers, and policymakers) whose work relates to skills development. Contributions are welcomed from **any discipline** (e.g. agriculture, business, education, healthcare, natural sciences, etc) if they are appropriately linked to the focus area of the journal.

Although a scientific journal, GJSD also features '**Food for Thought**' and '**Guest Column**' sections where academics and those with a non-academic background may contribute to dialogue with our readership. Consequently, GJSD welcomes data-based essays and case studies from the worlds of both **education and work** that relate to leadership training for young people, support for new **innovators and entrepreneurs**, and **training that upskills** recent graduates, apprentices and other inexperienced hires.

A section called '**Policy and Social Challenges**' invites submissions from students, graduates, employers, career counsellors, academics, and anyone involved in policy decision-making. We encourage submissions to identify and discuss an existing policy or social challenge and offer potential solutions or new directions to address this challenge.

GJSD especially welcomes research articles from **Eraly-Career Researchers**, i.e., Masters's and PhD students, postdoctoral researchers and young professionals. Authors who submit their papers specifically to this section can expect a targeted evaluation with more supportive feedback to motivate young people, and that improves the quality of their papers.

Editorial

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Food for Thought

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Book Review

Dear Readers,

It is with great excitement that we present to you the third volume of the GiLE Journal of Skill Development (GJSD). Volume 3 Issue 1 features a rich tapestry of perspectives, with authors exploring the complexities of the employability landscape, the challenges faced by graduates entering the workforce, the immense potential for personal and social change through the acquisition of life skills, and the key traits and qualities that contribute to effective leadership.

This volume starts with the **Guest Column** section in which *Dr Anita Pierog* introduces the integrated CRAFT leadership model which is a practical tool that can enhance leadership development and help leaders of today and tomorrow become more efficient. The model emphasizes the importance of cultivating these five qualities in oneself and in one's team, in order to navigate the challenges of leadership and achieve organizational success. The new methodology that was developed by a Hungarian executive coach, Beáta Kalamár has been successful in both multinational and SME environments and is also the subject of this issue's book review.

In the **Food for Thought** section, we are happy to present two articles from renowned and emerging experts in the field. Our editorial team has carefully curated two articles that showcase the latest thinking from both seasoned and up-and-coming scholars in the field. The first is co-authored by *Dr William Donald* and an early career researcher, *Dr Nimmi P. Mohandas.* Their article highlights that the COVID-19 pandemic negatively impacted university students and recent graduates in the UK, causing lower well-being and hindering preparations for the university-to-work transition. As a solution, they advocate participation in "serious leisure", which can improve self-perceived employability and workplace well-being. In the second article, *Mr Ian Fellow* – an early career academic transitioning from industry – argues that employability must be viewed as a desirable outcome of higher education. He further suggests that critical educators have the chance to make a positive impact in this regard through the cultivation of desirable graduate attributes and employability skills.

The Issue continues with four **Research Articles**. The GiLE Foundation strives to provide a platform for Early-Career Researchers as well as for established researchers who are happy to collaborate and publish their work together with emerging researchers in the field including Masters and PhD students.

Dr Mauro Giacomazzi, *Mr Edimond Serwanga* and *Ms Gillian Atuheire* demonstrates the effectiveness of a professional development model for improving teachers' instructional design skills to nurture critical thinking in the classroom.

Dr Lucilla Crosta, Ms Valentina Banda, and *Mr Emin Bakay* studied the development of soft and digital skills in university students from seven institutions in Europe. The results showed a shortage of 21st Century Skills in young graduates and a mismatch between the value placed on these skills and the training provided by universities.

Dr Md. Mamunur Rashid, *Mr M. M. Abdullah Al Mamun Sony*, and *Mr Sadman Joa Aninda* discuss the need for individuals to be aware of and prepared for multidimensional threats and risks and highlight the role of academic institutions in teaching emergency response and crisis management.

Ms Monika Kristl Volfova focuses on the impact of the COVID-19 pandemic on the readiness of enterprises for employee training using ICT. The article compares medium-sized enterprises from the Visegrad Four countries.

Volume 3. Issue 1. concludes with a **Book Review**. The author, *Dr Károly Polcz*, recommends the book titled CRAFT Leadership for anyone seeking to develop or improve their five leadership qualities (Courage, Resilience, Agility, Focus, and Team) and become a future-proof leader. The book views leadership in a broad perspective, recognizing that everyone is a leader in their own life and needs the skills to navigate our world.

I hope that the papers in this volume will inspire and challenge our readers to think critically about the role of personal skill development in shaping a better future for all. I encourage everyone to take to heart the words of the Roman poet Horace, who urged us *'Sapere aude'* - to dare to know and seek wisdom. By doing so, we can continue to advance our understanding of personal skill development and make meaningful contributions to our communities and the world at large.

On behalf of the Editorial Team of the GiLE Journal of Skill Development, I would like to extend our sincere gratitude to all of the authors who have contributed to this volume, and to our readers who continue to support and encourage us in our mission.

I wish you all happy reading, and I look forward to your submissions to Vol. 3 No. 2 in 2023.

With warm regards,

Dr habil. Judit Beke

Judit Beke is the Editor-in-Chief, Co-Creator of the GiLE Foundation

GiLE Journal of Skills Development

Instead of Competencies, Leadership Qualities are a New Direction in Leadership Development

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Abstract

The last few years have significantly transformed our thinking about leadership. The Covid-19 pandemic and the effects of the increasing VUCA world have a great influence on what makes a leader and thus his/her organization successful. For leaders, the most important thing is to develop the mindset that leadership is their profession, and they need to develop it every day. In this study, I present the basis of a new methodology developed in practice, which no longer focuses on competencies but rather brings leadership qualities to the public consciousness. CRAFT leadership qualities are creativity, resilience, agility, focus, and trust. Transforming challenges require self-aware leaders who are highly trained in the five CRAFT leadership qualities. CRAFT leadership, as a complex system-wide model, can make a significant contribution to this leadership development. These qualities help present and future professionals to become durable and high-quality.

Keywords: leadership qualities, leader development, self-improvement

1. Introduction

"The only way to improve an organisation is to grow and improve the leaders." (Maxwell, 2013, p. 44). We live in a VUCA (Volatility, Uncertainty, Complex, Ambiguity) world, and we have to learn how to appropriately navigate it. Every day, the VUCA world presents a new challenge to society as a whole. This environment has countless consequences, however, from the point of view of the topic, it primarily prevents the possibility of creating long-term plans; thus generating a need for redesign, hindering decision-making processes, increasing the chance of making bad decisions, changing the corporate culture, and overloading, not only the employee, but the whole organization. This means there is a constant need for decision-making and redesign every day.

According to Franzen-Waschke (2022) experienced and emerging leaders need the right mindset and ability to adapt to different working environments and employee needs.

The development of leadership theory concepts has now allowed a complex approach to leadership to be taken (Uhl-Bien et al, 2007; Rosenhead et al., 2019). According to the new leadership paradigm (Bryman, 1992), leader development is a constructive development process (Kegan, 1994; Joiner & Josephs, 2007), a lifelong construction that begins not at the time of taking the leadership position, but much earlier. Anyone can become an excellent leader; with continuous self-development and awareness gained through his/her experience, the individual develops increasing maturity. Research shows that for leaders to be seen as authentic and garner support, they need to be aware not only of who they are as individuals but also who they are as members of the community they strive to lead (Steffens et al., 2021). Mentoring is one of the commonly applied methods of developing leaders in a work environment (Horváth-Csikós & Cseh Papp, 2021). The leadership qualities presented in this article encompass a set of competencies that will enable the leaders of both the present and the future to become successful, timeless leaders.

2. Leadership qualities - CRAFT Leadership

Such a new, practically proven tool and opportunity in leadership development is provided by the CRAFT Leadership model, which is a well-integrated complex approach to leadership, requiring systemic thinking of both the system of the individual and the system of the organization. In practice, it was developed by Beáta Kalamár (2022) who is a Leadership Expert and Executive Coach. The model has been developed over more than 20 years of professional experience, continuously improved over the years, and applied in both the multinational and SME sectors. CRAFT is necessary as high-quality leaders will be required in the coming decades. CRAFT is an acronym for creativity, resilience, agility, focus, and trust, each represents a leader quality. A single quality includes countless competencies, qualities, and personality traits. Knowledge, skills, attitudes, and skill development are important, but the real difference in high-quality leadership is the impact of leaders. What they say or don't say, what they do or don't do, and how it affects results, people, the organization, and key stakeholders. CRAFT Leadership is an integrated model (Figure 1). In practice, it is sometimes difficult to distinguish between qualities, as they appear together in real life and influence each other. It all starts with the REAL LEADER, who has a high level of self-awareness and characterizes himself/herself by stepping out of the frames, identity, and value orientation. If the individual is aware of this, they can start to deal with the 5 leadership qualities, where they are in the development process, what they are worth and what they need to improve. CRAFT is an acronym for creativity, resilience, agility, focus, and trust.

FIGURE 1. CRAFT LEADERSHIP MODEL

Source: Kalamár, 2022

C – CREATIVITY: It is not the creativity of the individual, but the creativity of the company and how this can be increased. The leader should be supported so that his/her colleagues can develop their creativity. Its constituent elements are cultivating curiosity, enduring discomfort, and being persistently disciplined this is called creativity cocktail.

R – RESILIENCE: Flexibility and resilience are essential features of the modern leader if he/she wants to thrive and survive. "… resilience is the ability to recognize when you need to stand like a rock, and when you need to swim with the current and act with confidence and ease (Kalamár, 2022, p. 82)."

A – AGILITY: Agility requires quick thinking, proactive behaviour, and a clear vision of the future if the leader is to prepare himself and his company for rapid and forward-looking changes in the future. What is different in this approach is that it is not the teaching of agile methodologies, but the development of agile thinking, the basis of which is explained by neuroagility.

F – FOCUS: Leadership typically focuses on 3 key areas: strategy, development, and operation. Self-awareness is crucial here: conscious efforts must be made to know how to allocate your time and energy. As a leader, the majority of time will have to be devoted to the strategy (a forceful 50%), this will be the priority area. 30% of time will go to the development area and only 20% to the operation. As a leader, his/her job is to facilitate complex problem-solving and for employees to do the work. Organizational problem-solving is the responsibility of the leader, but to do this, he/she needs to recognize organizational patterns and problems. To do this, they need to step back, in order to observe, evaluate and respond to phenomena at an organizational level. They need to be able to focus on the big picture.

T – TRUST: Today, there is a global loss of confidence. The issue of trust is complicated by the complexity of the business environment, the speed of change, and the need to respond quickly to the changing needs of the market. Trust is the glue that holds our lives together, the motivation for teamwork, and the bonding agent in our relationships. Trust is one of the most important things on the agenda of successful leaders. Trust promotes cooperation, loyalty, and ultimately results. We can conclude that trust is needed more than ever in today's fast-changing, dynamic business environment (Covey, 2006). Development of trust quality is taking place in several areas, the two most important of which are self-confidence and trust in others.

3. Conclusion

These five qualities are the basis of leadership development, the alpha and omega of which is the basis of the self-identified, self-aware leader. The most important development is the leadership mindset, which is often not what the company implements. Development, self-development, and learning must be implemented in this profession every day. CRAFT leadership, as a complex system-wide model, can make a significant contribution to this leadership development. Qualities help present and future professionals to become durable and high-quality.

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GiLE Journal of Skills Development

How Seriously Do You Take Your Leisure?

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1. Setting the Scene

Approximately three-quarters of university students and recent graduates in the United Kingdom report having lower levels of self-perceived subjective well-being than when the COVID-19 pandemic began (Donald & Jackson, 2022). Additionally, the pandemic exacerbated the challenges universities face in fostering social mobility and preparing their students for sustainable careers (Donald & Ford, 2022). The pandemic also caused significant disruption to learning and opportunities to gain work experience, meaning that graduates entering the labour market are some of the least prepared to undertake the university-to-work transition (Dougherty et al., 2022). Moreover, university career advisors are struggling to meet the demands of students and recent graduates for career counselling support (Buckholtz & Donald, 2022). Subsequently, we need to consider pragmatic ways to address these challenges within the constraints of the resources available to students. We propose that one such option is to encourage students and graduates to participate in Serious Leisure.

2. Defining Serious Leisure

The field of leisure studies distinguishes between Casual Leisure and Serious Leisure (Stebbins, 1992). Casual Leisure is undertaken primarily for enjoyment and pleasure, whereby the benefits are short-lived. Examples include watching television, reading a book, or attending a concert. In contrast, Stebbins (1992, p. 3) defines Serious Leisure as

> the systematic pursuit of an amateur, hobbyist, or volunteer activity that participants find so substantial and interesting that, in the typical case, they launch themselves on a career centred on acquiring and expressing its special skills, knowledge and experience.

Serious Leisure adheres to the broader construct of Leisure since it can help to restore personal resources and temporarily guard against the depletion of additional resources due to education, work, and life demands.

3. Potential Benefits of Serious Leisure

Nimmi and Donald (2022) explored the impacts of participating in Serious Leisure by looking at graduates in India. They found that participating in Serious Leisure was positively associated with self-perceived employability and workplace well-being. Furthermore, these associations were stronger when graduates' stress levels were high. In other words, graduates can use Serious Leisure as a way to (a) improve their self-perceived employability, (b) enhance their workplace well-being, and (c) manage high levels of stress. Their recommendation was for employers to provide opportunities for graduate employees to participate in Serious Leisure activities to enhance their career sustainability and the organisation's productivity.

These findings are fascinating since students report reduced mental and physical health, struggles with academic studies, and concerns about their competitiveness in the labour market (Donald & Jackson, 2022). We propose the need for future research, specifically looking at university students to see if the benefits for graduates can be replicated. If so, universities should encourage students to participate in Serious Leisure activities to improve their health and well-being, manage stress levels associated with their studies, and enhance their self-perceived employability in preparation for their transition into the labour market. Participation in Serious Leisure would also align with calls for university students to engage in lifewide learning achieved via various experiences at any given time (Cole & Donald, 2022).

4. Conclusion

We propose that university students consider taking their leisure pursuits more seriously. University career services may wish to encourage their students to undertake Serious Leisure and explain the potential benefits. Further empirical research is, however, required.

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GiLE Journal of Skills Development

Critical Educators Should Embrace the Employability Agenda

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Abstract

Graduate employability, as a desirable outcome of higher education, is a concept that is widely opposed by educators who practice critical pedagogy. Employability, it is argued, reinforces capitalist expectations, exemplifying the anti-democratic hollowing out of education over the last four decades. The central argument of this essay is that employability is not a concept that educators can ignore. Indeed, inherent in the development of desirable graduate attributes and employability skills, there are opportunities for critical educators to support students in the development of their social awareness and sense of civic autonomy. This essay will further argue that educators who seek to opt out of the employability agenda are failing to live up to their own values of seeking a truly equal partnership of learning with their students.

Keywords: critical pedagogy, employability, graduate attributes, praxis

1. Introduction: What is the challenge?

Employability is an ill-defined topic in the academic literature. Romgens et al. (2020) argue that the central feature of the most influential definitions is that employability is central to a person's perceived ability to successfully sustain employment over the course of their career. For educators in the critical tradition of Freire, Boal, Giroux, and others, the concept of employability as a desirable outcome of higher education is seen as being in opposition to academic goals (Rees, 2021). In this short essay, I will argue that critical educators should embrace the opportunities in the space that employability occupies in the higher education landscape because competence and character development lend themselves as readily to the development of critical social engagement as to professional efficacy.

Although the phrase was never used by him, the concept of critical pedagogy is understood to be substantively derived from the work of Brazilian educator Paolo Freire. For Freire, students' experience of education is inextricably linked to the oppressive societal structures in which they find themselves, and educators must therefore engage with issues of social power to illuminate the inequity of their students' material conditions. Through dialogue and reflective analysis,

educators and their students engage in a reciprocal exchange of ideas in the development of critical social consciousness (*conscientização*).

2. What is employability and how have critical educators responded to it?

Employability, in much of the literature, is viewed through the lens of one's skills (Bridgstock, 2009; Hillage & Pollard, 1998; Knight & Yorke, 2002), but increasingly the focus has been shifted to a broader view which proposes the acquisition of additional resources that will enable graduates to respond effectively to the shifting demands of a knowledge economy-driven labour market (Cole & Donald, 2022; Nimmi et al., 2021). This narrative has sought to take account of the 'supply side factors' of employability (macroeconomic circumstances, the volume of labour demand, incentivised investment, geographical considerations) which are significant factors in an individual's ability to find appropriate employment opportunities irrespective of their perceived level of employability (Clarke, 2017).

For critical educators, giving increasing prominence to employability as an intended outcome undermines the emancipatory potential of higher education, disconnecting academia from "larger civic issues and social problems" (Giroux, 2014, p. 17). Maïa Pal (2022) argues that rather than being peripheral to the neoliberal agenda, employability is central to its transformation of higher education and, by extension, wider society. That the wholesale and uncritical adoption of market ideology would serve to reify the language and norms of late-capitalist exploitation is an issue that must not be taken lightly – but is not the point of being a critical educator that we do not do *anything* uncritically?

Giroux argues that education has come to be seen as "job training" and certainly, there is merit to this argument. Despite the wealth of literature that cautions against this, governments tend to measure a graduate's employability through the blunt tools of money earned or employment held. As Clarke (2018), Cole & Donald (2022), and Nimmi et al. (2021) among others have shown, a person's employability goes far beyond their ability to secure well-paid employment, and their ability to secure well-paid employment is dependent upon so many more factors than their employability. Consequently, I agree with Giroux that we need to reframe education as something that goes far beyond ensuring work readiness, but I do not believe that it is possible for faculty to flout the employability agenda in pursuit of this goal. Maïa Pal (2022) makes the excellent point that ignoring employability is simply not an option for most educators anyway. To be blunt, decades of neoliberal reforms and increasing academic precarity make it practically impossible for educators to not accommodate employability in their teaching.

3. Why is the exclusion of employability by critical educators problematic?

Irrespective of the impracticality of simply ignoring employability, I would argue strongly that opting out on students' behalf is a thoroughly *un*critical position to adopt. Deciding on behalf of students what concepts they should be allowed to engage with and placing boundaries upon how much of the reality of their situation they may be permitted access to strikes me as thoroughly undemocratic and disempowering. In Rules for Radicals, his seminal text on community organising (after all, what else is faculty but a community?), Alinsky (1971) contends that one must "make the enemy live up to their own book of rules" (p. 129). Peter McLaren (2017) exhorts faculty to "recognize and attempt to transform those undemocratic and oppressive features of hegemonic control that often structure everyday classroom existence" (p.

64). It is my contention that educators should exploit what Sutton (2015) calls the "small spaces of praxis" (p. 45) that exist within the employability agenda. In seeking to engage students in developing their own understanding of their lived conditions and of the social forces that shape and limit their existence, educators are facilitating students' development of an enhanced awareness of their own capabilities and values. In this way, students can reach an understanding of the ways in which their futures (including their employability) are determined by a combination of their selves and their material circumstances and can make more enlightened choices in postgraduate life as a consequence.

4. Making the case for engagement with employability

For what is employability? Theorists have argued that it is a combination of desirable skills and attributes such as self-sufficiency (Hillage & Pollard, 1998), metacognition (Knight & Yorke, 2002), personal adaptability (Fugate et al., 2004), and self-efficacy (Dacre Pool & Sewell, 2007). This limited range of examples from a wealth of scholarship serves to make a very simple point: employability is often used as shorthand for skills and attributes that will enable students and graduates to understand and successfully navigate life beyond university, both in and out of work. It strikes me that developing these attributes in an informed and transparent manner that engages with structural inequalities and labour market volatility, may also give radical graduates the tools to reimagine a fairer society and build transformative communities. Embracing the employability agenda would move the critical response to employability from a position of rhetorical hostility and pragmatic compliance and reposition it as an intellectually coherent, radically transformative pedagogy. This critical approach to employability is entirely congruent with the more recent conceptualisations of employability that move beyond 'skills for jobs' and embrace a more diverse range of outcomes (Clarke, 2018; Cole & Donald, 2022).

To be reassured that this critical approach to employability would be capable of implementation in a neoliberal higher education sector, let us turn away from the academic literature and look more closely at what capitalism demands of our students when it uses the phrase employability. Recent publications from industry bodies demand that graduates demonstrate the capacity for critical thinking and problem-solving (Chartered Management Institute, 2021), problem-solving, resilience and communication (Quacquarelli Symonds, 2019), problem-solving and teamwork (Chartered Institute of Professional Development, 2022). To address the employability agenda and enable students to develop the attributes that the labour market requires, capitalism demands that university education should develop students with the capacity to develop robust responses to challenging problems.

5. Practical suggestions for embracing employability as a critical educator.

Freire (1970) wrote that "The truly committed must reject the banking concept [of education] in its entirety" (p. 34), and this has been taken to mean that employability must be rejected, as must all neoliberal impositions. But this is a flawed interpretation, for the banking model of education refers to the pedagogic *process* of dispensing knowledge to passive learners and not to the *outcomes* of their education. In the same passage, Freire continues, "they must abandon the goal of deposit-making and replace it with 'problem-posing' education" (p. 34). The problem-posing pedagogy that Freire calls for requires collaborative sense-making of personal aspirations, structural barriers, and hegemonic constructs. These are radical uses of the desired

graduate attributes of critical thinking, problem-solving, resilience, communication, and teamwork. Critical educators can legitimately respond to the demands of capitalism by framing their liberatory pedagogy and consciousness-raising in the language of employability: teamwork, resilience, communication, and problem-solving.

Critical educators who are given the task of developing students' employability should embrace the opportunity to explicitly outline those expectations (this is what the graduate labour market expects), explore with students the context in which they are required to make sense of and demonstrate those expectations (these are the capitals that this requires) and support students in developing their informed personal responses (including whether to opt-in or opt-out and how best to perform the role that serves their own interests).

6. Conclusions

Critical educators should not segregate their students from the employability agenda as though they were parents shielding a child's eyes to avoid having awkward conversations. A genuine partnership between academics and students is not built by placing limitations upon what information a learner can be trusted with. Employability and, indeed, the expectations of the graduate labour market are inescapable realities. They are the students' lived sociocultural conditions, and it is incumbent on us all as critical educators to support learners to fully understand these realities and thereby make conscious and informed choices in negotiating the world that awaits them.

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Transforming Teachers' Instructional Design for Enhancing Critical Thinking in Ugandan Schools: Assessment through Rubric

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Abstract

The needs of our society are quickly evolving and soft or transferable skills are key to lifelong learning and the creation of an adaptable and resilient workforce. There is an ever-growing demand for individuals who can process data, evaluate concepts, and develop arguments; the development of critical thinking skills is crucial. This study shows the effectiveness of a professional development model that aimed at improving teachers' instructional design skills for nurturing critical thinking in the classroom. The study adopted a quantitative research approach in order to identify and assess the transformation in teachers' pedagogical practices while developing lesson plans designed to elicit and nurture critical thinking among their learners. This study focused on a sample of 16 teachers at a secondary school in Central Uganda. The researcher purposefully selected the teachers, who specialised in three different subjects: English (5), mathematics (5), and history (6). The teachers who participated in the study were on average 32 years old and had 8 years of teaching experience. To evaluate the effectiveness of the lesson plans that the participants designed, the researcher developed a contextualised rubric that was then validated by experts to assess the teachers' improvements in designing lessons for critical thinking enhancement. The findings confirmed that after the training intervention, the teachers showed a greater ability to differentiate between cognitive process and mere rote learning, helping them to elicit critical thinking in their students. At the end of the process, the lesson plans designed were clearer and more coherent, incorporating activities that could improve the learners' critical-thinking skills. This study provides an important contribution in terms of how to promote contextually appropriate and innovative pedagogical strategies.

Keywords: critical thinking; instructional design; teacher education; rubric; Uganda

1. Introduction

The needs of our society are quickly evolving and soft or transferable skills are key to lifelong learning and the creation of an adaptable and resilient workforce. There is an ever-growing demand for individuals who can process data, evaluate concepts, and develop arguments; that is, for individuals who possess the level of social understanding and critical-mindedness needed to make intelligent judgements about private and public issues (Fong et al., 2017; Gellin, 2003; Pascarella et al., 2004; Pascarella & Terenzini, 2009; Tsui, 2003). Critical-thinking skills are needed in all contexts and cultures. A well-functioning society is not only one in which people feel that their views can be freely expressed and are adequately represented, but also one in which those views are informed by reliable information, the critical appraisal of ideas, creative thinking, and open debate (Moseley et al., 2005).

Educating learners to improve their critical thinking skills is vital for the learners themselves and for society in general (Dunne, 2019; Ennis, 1964, 1984, 1992, 2013, 2018; Facione, 1990; Paul et al., 1989; Pun, 2013; Siegel, 2004, 1989). There is a growing opinion that the ability to be a critical thinker is a desirable human competence which should be fostered in schools. Critical thinking is vital for solving complex problems and facing challenging issues, and it is necessary for informed decision making and higher-order thinking in all domains of human action (Elder, 2012).

The challenges facing all societies in the 21st-century call for a shift in the quality of educational experiences that schools offer students. There is an urgent need to move beyond viewing learners as passive consumers of received knowledge and find pedagogical strategies that inspire them to actively seek out and carefully examine all knowledge claims (Halpern, 2001; Marin & Halpern, 2011). Students must learn that knowledge claims must be questioned, personally verified, and not blindly accepted (Beattie et al., 1997; Dunne, 2019; Niu et al., 2013). Educating students to be critical thinkers is vital for the students themselves and for society in general (Dunne, 2019; Ennis, 1964, 1984, 1992, 2013, 2018; Facione, 1990; Paul et al., 1989; Pun, 2013; Siegel, 2004, 1989).

This perception in Western countries of a dearth of critical-thinking skills in the workforce is reflected in sub-Saharan countries including Uganda (Giacomazzi, Fontana, et al., 2022). While different bodies and organisations, such as the Uganda National Examinations Board (UNEB), have tried to assess student learning outcomes at the secondary school level, the assessments have not given a complete picture of the learning outcomes especially in the area of higher order thinking skills (Mitana et al., 2019, 2021). At the same time, educators lack strategies to enhance critical thinking at the classroom level (Ministry of Education and Sports, 2020).

2. Review of the Literature

2.1. Teaching Critical Thinking in Sub-Saharan Africa

A recent systematic literature review (Giacomazzi, Fontana, et al., 2022), highlighted a dearth of contextualised studies that show how critical-thinking skills can be nurtured in the sub-Saharan cultural contexts. The vast majority of the studies presented in this systematic review clearly focus on methods and strategies for teaching critical thinking that build on the Western tradition without adapting to the local cultures.

Only Grosser and Lombard (2008) in South Africa and Madondo (2018) in Zimbabwe identify the unique features of the Ubuntu culture as an essential factor that should be considered when implementing pedagogical strategies that foster critical thinking in the African context. For instance, the Ubuntu culture's communitarian and altruistic perspective is cited as a possible hindrance to fostering such skills (Madondo, 2018) since aspects of Ubuntu culture are deemed contrary to the individualistic

Western worldview. Moreover, the way Westerners deal with conflicts and their rhetorical manner of participating in discussions are quite the opposite of an educational approach that promotes conflict avoidance and discourages adversarial argumentation (Grosser & Lombard, 2008). This also accords with the communitarian approach to life that encourages shared accountability and collective interdependence instead of an individualistic way of finding solutions to problems (Grosser & Lombard, 2008). African cultures express the value that the good of the individual is always in relation to the good of the society in which one lives. African culture is built on relationships and relies on an experience-based approach to building knowledge rather than an approach based on abstract logic and intellectual inferences (Grosser & Lombard, 2008).

These findings resonate in a recent study (Giacomazzi, 2021) that highlighted the specific characteristics and nuances that the concept of critical thinking has in the Ugandan culture. This grounded theory study has highlighted how critical thinking is associated with wisdom and aims to enhance the good of the person and society. As in the studies by Grosser and Lombard (2008) and Madondo (2018), the communitarian aspect strongly emerged in the Ugandan context, and the tendency to avoid conflict is another important factor to consider when planning for the nurturing of critical-thinking skills in formal school settings.

Teaching critical thinking in the Ugandan context might be even more challenging when classroom instruction reflects a dominative pattern wherein the teacher does most of the talking, explaining, and directing with little or no learner involvement (Mitana et al., 2021). This raises questions about the appropriateness of the current forms of teacher education and continuous professional development for teachers, lecturers, and educators (Giacomazzi, 2022). Reforms that envision upgrades to curricula without proper support for teachers and for the whole system will likely have little impact on the classroom environment and on students (Schendel, 2015).

2.2. Teaching Teachers

Teaching how to teach critical thinking in the Ugandan context is even more challenging when we consider that the in-service teachers, despite their academic experience, have never been exposed to methods that foster higher-order thinking skills, and they do not have a clear understanding of such constructs as critical-thinking skills (Giacomazzi, Fontana, et al., 2022; Onen, 2019). Thus, understanding how to teach Ugandan teachers how to nurture critical-thinking skills in their classrooms becomes an urgent and challenging endeavour.

Given the paucity of contextualised methods for teaching teachers about critical thinking, it is meaningful to draw lessons from Western literature. Teaching critical thinking is more effective when educators model critical thinking and deliberately incorporate elements of critical thinking in their lessons (Elder, 2012; Walsh & Paul, 1986). Regardless of the subject being taught, teachers should inspire learner curiosity and wonder through questioning and other strategies implemented for content delivery and acquisition (Facione, 1990; Hager & Kaye, 1992).

The assumption is that emphasizing critical thinking programmes for teacher education will have a waterfall effect on learners in schools who need to be prepared for academic and life challenges (Applegate & Applegate, 2004; Elder & Paul, 1994). In the late 1980s, Walsh and Paul (1986) had already decried one of the main challenges to teaching teachers to become critical thinkers: teacher education was replicating the outdated teaching strategies implemented at primary and secondary levels with heavy emphases on content and a lack of focus on strategies to foster critical thinking.

Several challenges teachers face must be addressed to ensure their maximum participation in implementing a critical thinking-augmented curriculum. The first of these is linked to shifting teachers'

attitude and mentality from traditional practices to learner-centred pedagogies (Woolfolk, 1998; Woolfolk Hoy et al., 2013); abandoning these acquired methods that teachers have relied on for decades requires a monumental effort. To achieve this goal, training institutions need to engage teacher trainees in the pedagogy of critical thinking in addition to embedding critical-thinking skills in course content.

For pre-service and in-service education, teaching critical thinking should be infused into the preparation programme at all levels and in every course unit. Prospective teachers must be exposed to methodologies that effectively incorporate strategies that foster critical-thinking skills (Elder, 2012; Paul & Elder, 2002). Teacher mentors should be skilled in teaching critical thinking, and teachers should be supported in their discovery of how critical thinking can be incorporated into lessons, while classroom visits should be promoted to showcase how colleagues are implementing effective strategies (Aspfors & Fransson, 2015; Paul & Elder, 2005; Walsh & Paul, 1986). Professional learning communities have proven to be an effective way of fostering teacher collaboration and improving teacher focus on learner-centred approaches; teacher collaboration influences the use of instructional practices that can foster reflection and analysis (Hipp et al., 2008).

2.3. Designing for Critical Thinking in the Classroom

Defining critical thinking and its dimensions is extremely useful as an entry point to the subject matter, but it is still insufficient. In an educational context, it is important to navigate the debate connected to the enhancement of critical-thinking skills. The debate swings between two views: those of the domain specifist and the generalist (Lipman, 1988; McPeck, 1990; Miller & Halpern, 2014; van Gelder, 2015). Supporters of the former view claim that critical thinkers need substantial domain-specific knowledge in order to be critical in specific disciplines (McPeck, 1990; Willingham, 2008). Conversely, generalists maintain that general critical-thinking skills are applicable across fields of enquiry (Gelder, 2005; Halpern, 1993, 2014; Lipman, 1988). Findings from meta-analysis studies (Abrami et al., 2008, 2015) reveal that the mixed approach produced the greatest effects out of all approaches to teaching critical thinking, while the immersion approach yielded the smallest. Moderate effects characterized both the general approach and the infusion approach. The smallest effects that were found in the immersion method were such because critical-thinking skills were not an explicit course objective. This is a significant finding for the design of courses, and it highlights the importance of making critical-thinking requirements clear and explicit.

Educators must act to make critical-thinking objectives explicit in courses and to include them in both pre-service and in-service training and faculty development. Researchers noticed that the programmes had a greater impact when instructors received specific training in preparation for teaching critical-thinking skills or when the administration extensively observed instructors' critical-thinking teaching practices. Conversely, impacts were smaller when there were no such efforts in terms of professional development or course design and implementation. This suggests that better outcomes can be obtained through active, purposeful training and teacher support at the pre-service and in-service levels. The results also demonstrate that peer collaboration seems to provide some advantage in developing critical-thinking skills; however, this effect is minor compared with other instructional study features (Garrison, 2016; Perkins & Murphy, 2006).

Given the complexity of critical-thinking skills, their development and enhancement require deliberate planning and attention. This calls for the purposeful designing of instruction for critical thinking, including the planning for a structural environment that aims at fostering these skills and appropriate choices related to the teaching-learning practice (Ngudgratoke, 2018; Shaughnessy, 2012).

Designing lessons to foster critical thinking presents several challenging aspects. One of the most relevant challenges is the process of striking a balance and promoting consistency among the various components of the design and plan for the learning process (van den Akker, 2007). According to Walker (2003) the three main elements in the planning process are: purpose, content, and organization of learning. These elements are further developed by Van den Akker (2007), who proposed a model that comprises ten main elements: rationale or vision (why are students learning?); aims and objectives (what objectives are they trying to achieve?); content (what are they learning?); learning activities (how are they learning?); teacher role (how is the teacher facilitating the learning?); materials and resources (with what are they learning?); grouping (with whom?); location (where?); time (when?); and assessment (how to track the leaning progress?). According to this model, the rationale describes the main mission of the plan, and it constitutes the most relevant focus in the whole designing process; it gives coherence and consistency to the other nine components. In the spider web model that the author developed, the components are held together by web of relationships that, nevertheless, are weak as the threads of a web. This is mostly to underscore the complexity of the interconnection among the various components of the instructional design process. Therefore, decisions related to assessment, for example, affect the way the teacher will operationalize the objectives and the specific learning activities.

The literature review, while presenting the importance of critical thinking for improved learning and life outcomes of every learner, also highlights the gap in sub-Saharan Africa on how critical thinking is conceptualised, nurtured, and assessed. This article suggests that to foster critical thinking at the classroom level, it is not only relevant to have a curriculum that values and underscores the contribution of critical thinking to the learning process, but it also advocates for a comprehensive instructional design model that could help teachers find effective ways of transferring these skills to the learners. This study shows a professional development model's effectiveness in improving teachers' instructional design skills for nurturing critical thinking in the classroom.

2.4. Operational Definition of Critical Thinking

The researcher elaborated the definition of critical thinking used in this study by analysing the results of a grounded theory study implemented in Uganda (Giacomazzi, 2021) and comparing them with foundational theories offered in the literature (Ennis, 2018; Facione, 1990, 2009). After also obtaining input from international experts in critical thinking and local educationists, the definition reads:

> Critical thinking is skilful, comprehensive, self-reflective thinking involved in knowing and seeking to understand the deep meaning of things based on a reasonable ('good') judgement that relies on appropriate criteria and is sensitive to context. As such, critical thinking facilitates solving problems, formulating inferences, pondering consequences, and making decisions. It promotes awareness about the self, others and the world.

3. Background of the Study

This research study was implemented in a secondary school in Kampala (Uganda) suburbs in 2021. The school serves children from two of the most densely populated slums in the capital. This intervention is intertwined with the recent reform introduced by Uganda's Ministry of Education and Sports. In 2019, the National Curriculum Development Centre (NCDC) issued a new Lower Secondary School Framework, introducing a competency-based secondary school education curriculum (NCDC, 2019). It was notably the most important reform of the secondary school education system since the introduction of formal education by the British at the start of the previous century.

The school administration asked the research team (consisting of a principal investigator and 6 research assistants) to develop a professional development programme in collaboration with the school

administrator to help the teachers design lesson plans to enhance students' critical thinking. The professional development methodology is detailed in Giacomazzi, Zecca, et al. (2022), and its implementation steps are summarised in the following Figure 1.

FIGURE 1. OUTLINE OF THE PROFESSIONAL DEVELOPMENT PROCESS FOR TEACHERS'
IMPLEMENTATION OF THE NEW COMPETENCY-BASED CURRICULUM
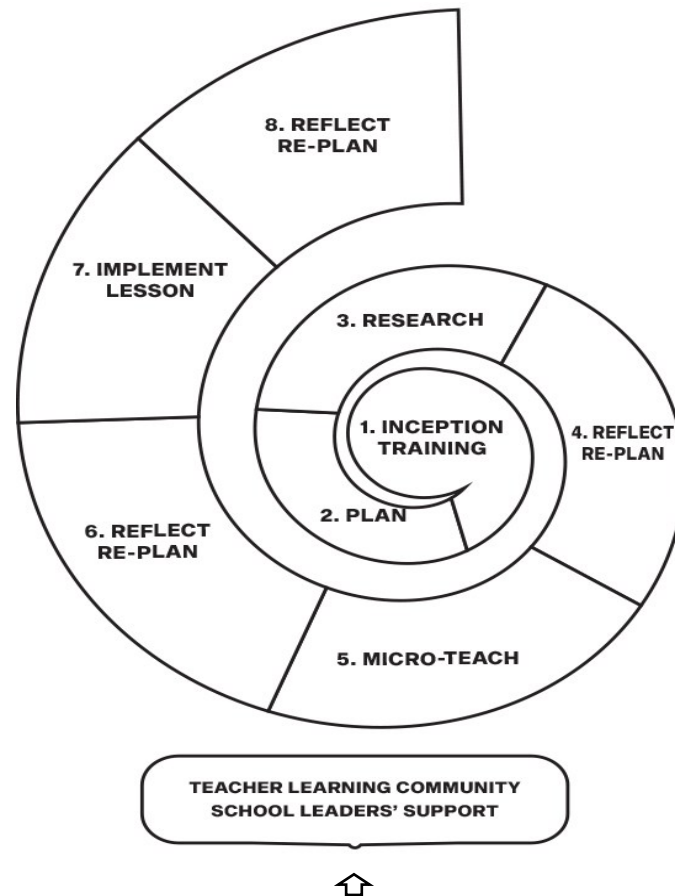
Source: Own compilation, 2023

The professional development process started with a brief introduction to the competency-based curriculum (step 1), followed by a day and a half of training to introduce the teachers to approaches that foster critical thinking among students. Next, the teachers were introduced to the taxonomy of critical thinking and to the lesson plan template.

After this introductory session, the teachers in subject-specific groups developed and discussed the lesson plans they prepared (steps 2 and 3). Then, the teachers metacognitively reflected on what they had learnt from the feedback received from the community of teachers and facilitators on their lesson plans (step 4). This stage was followed by a microteaching session (step 5) after which the teachers were asked to identify the strengths and weaknesses of their lesson plans and improve on the presented lesson plans (step 6). Finally, the teachers implemented the lessons in their classrooms (step 7) and were invited to modify their lesson plans if needed (step 8).

In this process, the teacher community and the school leadership played a crucial role in facilitating the iterative and reflective process of designing and redesigning the lessons.

To investigate the model's effectiveness, an in-depth qualitative study (Giacomazzi, Zecca, et al., 2022) documented the perceived effectiveness of this approach capturing the views of the teachers, administrators, and students who participated. This study instead documents the impact by measuring—through an expert-validated tool—the improvement of teachers' instructional design competencies.

4. Research Objective and Question

The main objective of this study was to assess the effectiveness of a professional development methodology that aimed at enhancing the teachers' skills in designing lesson plans for the development of domain-specific critical thinking within the various subjects.

This study seeks to answer the following research question: How effective is the proposed professional development methodology at improving teachers' instructional design to enhance learners' critical-thinking skills?

5. Research Design and Methods

This study adopted a quantitative research approach to identify and assess the transformation in teachers' pedagogical practices while developing lesson plans designed to provoke and nurture critical thinking among their learners.

5.1. Sampling

This study focused on a sample of 16 teachers at a secondary school in Kira, Wakiso District, Central Uganda. The school administrators and the lead researcher had a long-standing working relationship and collaboration to enhance the teaching faculty's professionalism continuously. The site selection was based on convenience (Patton, 1990). The researcher, in agreement with the school administrators, purposefully selected (Creswell, 2007) the teachers, who specialised in three different subjects: English (5), mathematics (5), and history (6). The goal was to represent both the subject areas of arts and sciences. Moreover, English and mathematics are considered foundational subjects in the secondary school curriculum. History was added, since in the past the teachers of this subject had attempted some pedagogical experimentation and wanted to continue to expand this work.

The teachers who participated in the study were on average 32 years old (range 24–41) and had 8 years of teaching experience (range 2–17).

5.2. Data Collection: Tool Validation Process

Two tools were developed and adopted in this study to investigate the proposed research question. The first is the lesson plan template, which was used to design critical-thinking lessons. The template was developed in collaboration with the teachers and as part of the research process. It included the following: identification of key objectives; curricular skills and values targeted by the lesson; description of actions to be implemented by the teachers during the lesson; actions to be completed by the students during the lesson; specific knowledge, skills, and values the students would develop as a result of the lesson; the expected output of each student activity; and the assessment strategy to be used for the evaluation of student output. Participants were required to include materials and appropriate extensions to be used in the lesson.

To evaluate the effectiveness of the lesson plan designed by the participants, a contextualised rubric was developed and validated by experts to assess the teachers' improvements in designing for critical-thinking enhancement. The lesson plan evaluation rubric was developed in collaboration with a team of five subject-matter experts. A bottom-up approach was adopted to construct a rubric closely aligned

with the aspects of the critical thinking enhancement fostered by the teacher professional development process. The development of the rubric went through the following stages:

- *Stage 1: Clustering*. The experts divided themselves into three groups of two based on their specialisation subjects (i.e., English, mathematics, and history). The lesson plans to be evaluated (69 in total) were clustered into four groups; the subject-matter experts identified the groups based on the quality of the various lesson plans. The only criterion for this initial clustering was the extent to which the lesson plan contributed to developing critical-thinking skills in learners. Ultimately, the lesson plans with activities that could contribute little to the development of critical-thinking skills (high-level cognitive skills) or that contributed primarily to the development of low-level cognitive skills were placed in group 4 (lowest level of quality), and those that could contribute much to the development of critical-thinking skills were placed in group 1 (highest level of quality). Next, the experts reread all lesson plans in each group to identify the main characteristics of the various elements in the lesson plan that could describe the quality of the plans. The elements they considered included: preliminary information (theme, topic, competence, learning outcomes, generic skills, values, crosscutting issues, and the key learning outcomes); activity aim; learning materials; activities; outputs; knowledge, skills and values; and assessment strategies.
- *Stage 2: Aligning the characteristics for each group*. After categorizing the lesson plans and identifying the characteristics that described the elements at the subject level, the experts engaged in a discussion that aimed at reaching a consensus that would result in a harmonious description that unified the characteristics of the elements. During the alignment, lesson plan evaluation rubrics collected from the literature (Goldston et al., 2010; Jacobs et al., 2008; Subramaniam, 2005; Zhou & Xu, 2017) were reviewed for comparison and to ensure consideration of all key aspects. The final list of elements included: preliminary information; learning materials; activity aim; activities; knowledge, skills, and values; outputs; and assessment strategies.
- *Stage 3: Defining indicator categories, descriptors, and the performance-rating scale*. In Stage 2, the characteristics of the groups were clustered into three broad categories as follows: setting learning outcomes, designing coherent instruction, and designing student assessment. Furthermore, the researcher identified ten indicators for preliminary information; learning materials; activity aim; activities; knowledge, skills, and values; outputs; and assessment strategies, as shown in Table 1.

TABLE 1. CATEGORIES AND NUMBER OF INDICATORS IN THE RUBRIC

Category	Element in the lesson plan	Indicators
Setting learning outcomes	Preliminary information	1: Alignment of outcomes with current standards
Designing coherent instruction	Learning materials	1: Relevance of learning materials
	Activity aim	1: Alignment of activity aim with the lesson
	Activities	1: Clarity of activities 2: Achievement of critical-thinking skills
	Knowledge, skills, and values	1: Coherence of knowledge, skills, and values 2: Form of knowledge statement, skills, and values
	Outputs	1: Coherence of outputs
Designing student assessment	Assessment strategies	1: Presence of formative assessment strategies 2: Form of the assessment strategies
Total number of indicators		**10**

The team established the following performance-rating scale for each of the indicators in the rubric: 1 = Unsatisfactory, 2 = Developing, 3 = Acceptable, and 4 = Exemplary. The descriptors for each indicator on the above scale were based on the aligned characteristics of the four groups from Stage 2. This stage resulted in the lesson plan evaluation rubric's first draft (Version 1).

The aim of the validation process was to check the clarity, coherence, and relevance of the items or indicators included in Version 1 of the rubric. Generally speaking, validity has to do with whether the data are in fact about what they are believed or purported to be about (Mertler, 2008).

5.3. Evidence of Validity Based on Test Content

As part of the process of evaluating the rubric, evidence of validity based on test content was investigated (Polit & Beck, 2006). The validity index is derived from ratings of at least five experts on the subject matter, based on a 4-point relevance scale (Lynn, 1986).

This phase involved five experts who were selected based on the following criteria: (a) professionals who had engaged in classroom instruction with at least five years' experience; and (b) researchers who had experience both in the development of tools and rubrics and as classroom instructors. The experts were asked to rate the items/indicators in the draft rubric on the aspects of relevance (from 1 = not relevant to 4 = highly relevant), clarity (from 1 = not clear to 4 = very clear), and coherence (from 1 = not coherent to 4 = highly coherent). Furthermore, comments were solicited from the experts to identify indicators/ aspects that needed clarification or revision.

Then, for each item j, the Item-level Content Validity Index $(I\text{-}CVI_j)$ was computed as the number of experts who rated it either 3 or 4, divided by the total number of experts. Hence, an item was judged as having excellent content validity if it had a minimum $(I\text{-}CVI_j)$ score of 0.78.

The researcher acknowledges that other content validation approaches, such as divergent and concurrent validation, were not explored. However, the expert judgement provides an opportunity for receiving high-quality responses and extensive information on the subject matter (Fernández-Gómez et al., 2020).

5.4. Rubric and Item/Indicator Adjustment

The rubric was revised based on the findings from the content validity testing with experts. Several items/indicators were adjusted based on the feedback, ensuring that all indicator descriptors were clear, coherent, and relevant. This resulted in Version 2 of the rubric that was used to evaluate the quality of teachers' lesson plans.

5.5. Ethical Considerations

Informed consent was obtained from all stakeholders participating in the research. Identifying information such as names, addresses, and phone numbers was collected. This information was not reported in this study even when the participants had agreed to be identified.

5.6. Limitations of the Study

Some challenges and limitations impacted this study. The COVID-19 pandemic did not only limit the frequency of physical interactions between the researchers and the study participants due to the lockdown restrictions but also delayed classroom lesson plan implementation. However, online Zoom and Google Meet interactions were utilised to continue the interaction.

The results presented in the findings session do not fully explain the transformational journey the teachers who participated in this study experienced. For this reason, a qualitative study through professional development action research was conducted to better frame the changes that took place in the school thanks to the coaching sessions (for more details on this, Giacomazzi, Zecca, et al., 2022).

Though the amount of data collected in this process was huge, the research's main limitation was the involvement of only 16 teachers of three different subjects. The iterative learning process in the course of the 7 months of coaching and the 2 months of classroom lesson implementation led to the collection of lesson plans and qualitative data that mostly represented the specific context of a private, urban school serving the low-income population of Wakiso district. The experience of the research team, composed of teacher professional development facilitators in Uganda, helped in recognising the unique aspects of the environment in which the study was implemented, such as the active participation of the school administration, and this was considered while drawing conclusions and recommendations.

Another limitation is linked to the participation of the researchers in collecting lesson plans and developing the rubric for measuring the effectiveness and coherence of the lesson plans. The possible subjectivity of the experts in rating the rubric might also have affected the rubric development process. To mitigate this, two rounds of expert feedback were implemented; lesson plans were selected randomly for rating and the raters did not know whether the lesson plans were at their initial or final stage.

6. Presentation of the Findings

The participants were introduced to a method for enhancing critical thinking that highlighted the inclusion of critical-thinking skills into classroom instruction. The lesson plans they developed continued to evolve based on the comments and feedback from the facilitators and fellow teachers during discussions, reflections, and microteaching sessions that were conducted after their introduction to the method.

The quality of the teachers' lesson plans was assessed using the validated rubric that addressed 10 indicators under three broad categories: preliminary information, designing clear instruction, and designing student assessment. The evaluation was conducted through the following steps: (1) scoring of the lesson plans by two independent raters. The scoring was done by subject-matter experts based on a

4-point scale: 1 = unsatisfactory, 2 = developing, 3 = acceptable, and 4 = exemplary; and (2) raters' iterative discussions and reconciliation of the ratings. This facilitated agreement on indicators with divergent scores.

The first step in the evaluation of lesson plans was to establish consensus among the respective subject raters on how they applied the rubric. For each subject, the pair of raters were asked to independently score the same lesson plans, one at a time, after which inter-rater agreement was measured. This was based on the percent agreement between the raters on the 10 indicators of the rubric—whereby agreement between the raters was scored 1 and no agreement was scored 0. The level of agreement was the percentage of indicators the raters agreed on, as shown below in Table 2.

TABLE 2. INTER-RATER RELIABILITY SCORES

Indicator	English					Mathematics					History				
	E1	E2	E3	E4	E5	M1	M2	M3	M4	M5	H1	H2	H3	H4	H5
Alignment of outcomes with current standards	0	1	1	1	1	1	0	1	1	1	0	1	1	1	1
Relevance of learning materials	1	0	1	1	1	0	0	1	1	1	1	0	1	1	1
Alignment of activity aim with the lesson	0	1	0	1	1	0	1	0	1	1	0	1	0	1	1
Clarity of activities	0	1	1	1	1	0	1	0	1	1	0	1	1	1	1
Achievement of critical-thinking skills	0	1	0	1	1	1	0	1	1	0	0	1	0	1	1
Coherence of knowledge, skills, and values	1	0	1	0	1	1	0	1	0	1	1	0	1	0	1
Form of knowledge statement, skills, and values	0	0	1	1	0	0	1	1	0	1	0	0	1	1	1
Coherence of outputs	0	0	0	1	1	0	1	1	1	1	0	0	0	1	1
Presence of formative assessment strategies	0	0	0	1	1	0	1	1	1	0	0	1	1	1	1
Form of the assessment strategies	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1
Percent agreement	**20**	**50**	**60**	**90**	**90**	**40**	**60**	**70**	**80**	**80**	**20**	**60**	**70**	**90**	**100**

Source: Own compilation, 2023

Once a general agreement between the raters reached at least 80 percent, the raters independently scored the lesson plans and—throughout the entire exercise, they consulted each other if they were not certain of the appropriate score to reach a common understanding.

The teachers participating in the research developed a total of 69 lesson plans that included the first, intermediate, and final versions for 20 different topics. However, in order to establish the extent to which the quality of the lesson plans improved, only the first and final versions of each lesson plan were considered. Ultimately, the first and the final versions of 20 different topics (English = 6, mathematics = 6, history = 8) were evaluated.

During the analysis, a total score was computed for the developed first and final versions. Higher scores for the final versions than the first versions of the lesson plans indicated improved quality of the respective lesson plans. The raters did not know whether the version they were scoring was the initial version of the lesson plan or the final one.

Overall, an improvement in the quality of the successive versions of the lesson plans was observed, with final versions scoring higher than first versions. The final versions of the lesson plans had an average score of 31.9 (SD = 3.9) out of a possible 40 points, while the first versions had an average score of 21.8 (SD = 5.6) out of 40 points.

TABLE 3. IMPROVEMENT IN THE QUALITY OF LESSON PLANS BY SUBJECT

Subjects	First versions	Final versions	p-value	Cohen's d
	Mean (SD)	Mean (SD)		
English (*n=6*)	22.5 (3.7)	31.2 (2.6)	0.0055*	2.709215
History (*n=8*)	23.0 (7.5)	34.0 (3.8)	0.0011*	1.877835
Mathematics (*n=6*)	19.2 (4.2)	29.2 (3.3)	0.0026*	2.6758
Total (*n=20*)	21.8 (5.6)	31.9 (3.9)	0.0000*	2.074609
Difference is statistically significant at 0.05 level				

Source: Own compilation, 2023

Based on Table 3 above, the average improvement in the quality of the lesson plans from the first to the final versions across the three subjects were statistically significant at 0.05 level. Furthermore, the average quality of the final version of the lesson plans was at least 1.9 standard deviations greater than the average quality of the corresponding first version lesson plans across all subjects.

As seen in **Error! Reference source not found.** below, there was an improvement in the quality of the lesson plans for all 6 English topics from the first to the final versions:

FIGURE 2. SCORES FOR FIRST AND FINAL VERSIONS OF LESSON PLANS – ENGLISH
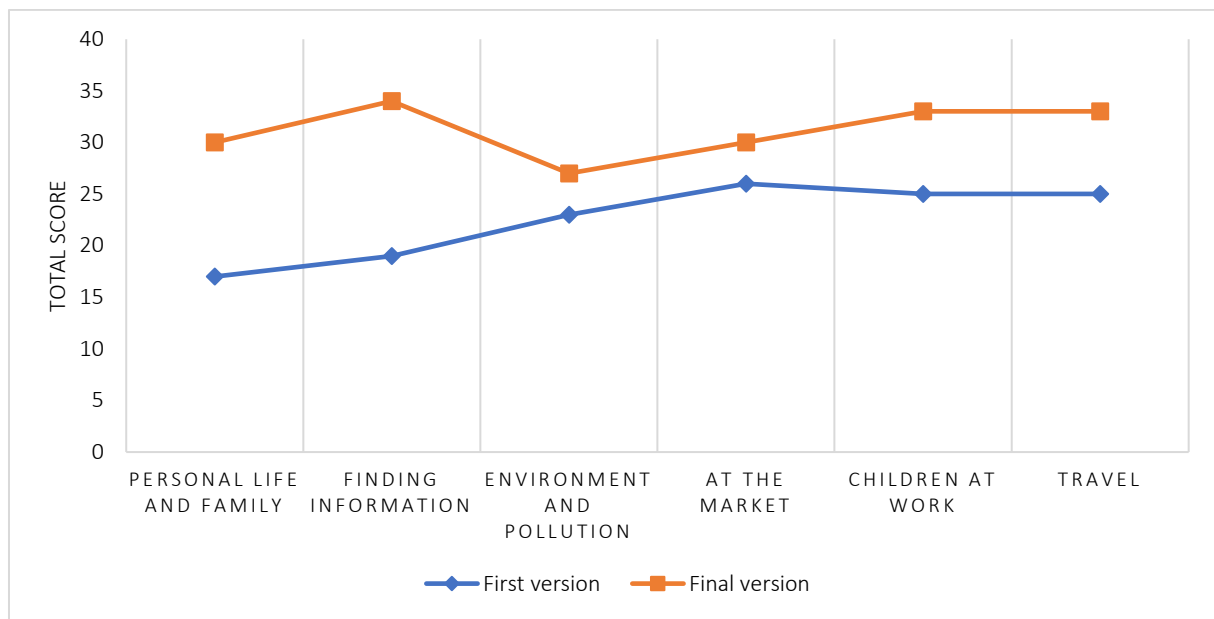
A big difference from the first to final versions was observed for *Personal Life and Family* and *Finding Information*, the first two topics the teachers decided to work on when designing the lesson plans. Looking at the figure above, one may notice the general improvement of the lesson plans' first versions during the training intervention.

Similarly, Figure 3 below shows how the first versions of the history lesson plans that the participants designed improved from a level of 16 points to 32 points in the last lesson plan that was designed on the topic *Local and External Trade*. It is also possible to see that the difference in scores between the first version and last version of the same lesson plan is vast at the start of the process (i.e., *Origin of Man* from 15 to 35 and Migration from 14 to 34) and smaller for the lesson plans designed at the end of the process (i.e., *Culture and Ethnic Groups* from 30 to 33, and *Local and External Trade* from 32 to 38).

FIGURE 3. SCORES FOR FIRST AND FINAL VERSIONS OF LESSON PLANS – HISTORY

FIGURE 3. SCORES FOR FIRST AND FINAL VERSIONS OF LESSON PLANS – HISTORY
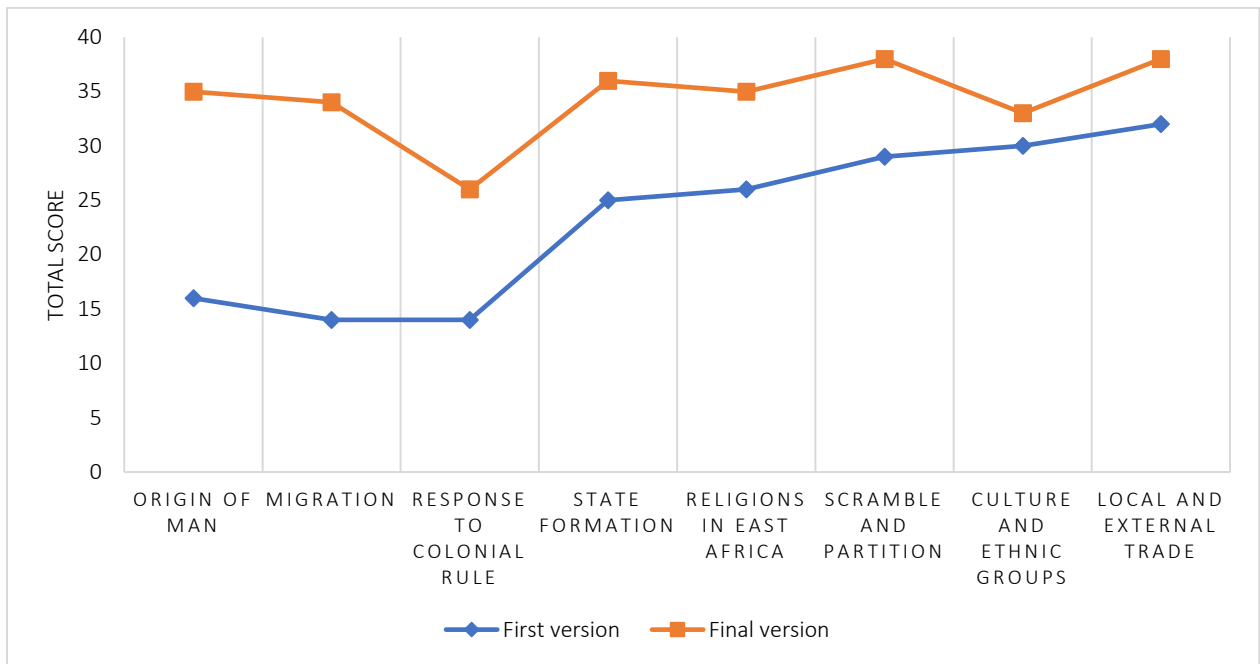
The same pattern is presented in Figure 4, which represents the progress in scoring for the lessons designed by the mathematics teachers; the first versions of the lesson plans on the topics of *Fractions*, *Working with Integers*, and *Number Bases* had quite low scores due to their poor quality. The first versions of the lessons improved throughout the programme.

FIGURE 4. SCORES FOR FIRST AND FINAL VERSIONS OF LESSON PLANS – MATHEMATICS
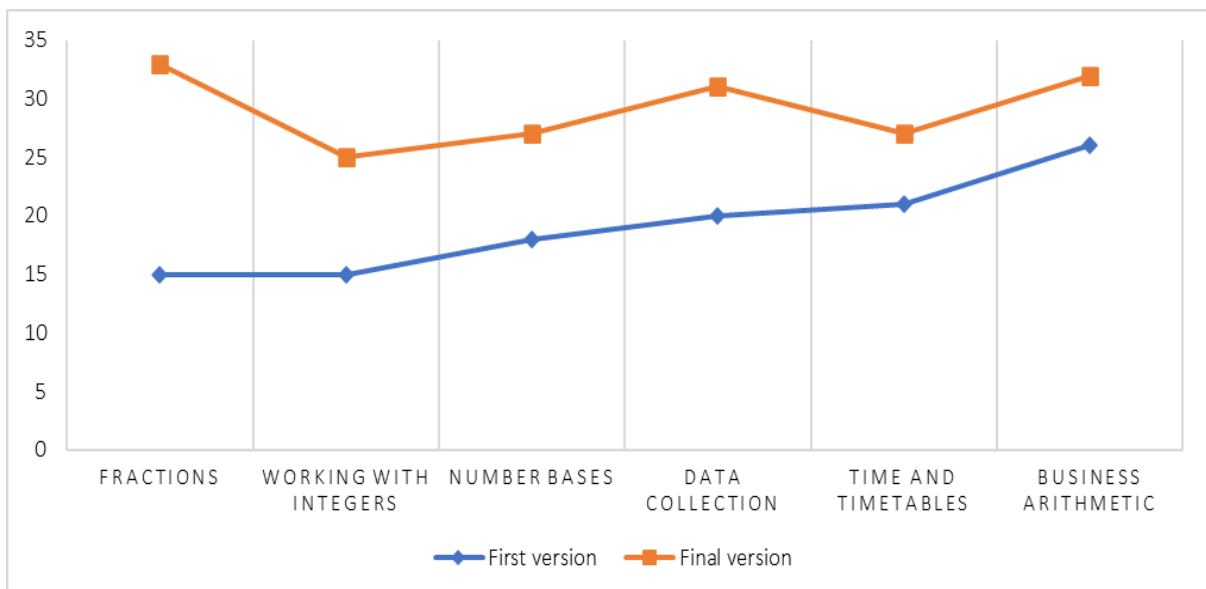
6.1. First Versions of the Lesson Plans

Across the three subjects, the first-version lesson plans for these topics had very low scores mostly because of their poor quality in terms of alignment of outcomes with curriculum standards; alignment of activity aims with the lesson expected outcomes; clarity of activities and coherence of outputs; description of knowledge, skills, and values; achievement of critical thinking; and assessment strategies.

TABLE 4. IMPROVEMENT IN THE QUALITY OF LESSON PLANS BY INDICATOR AND SUBJECT

		Alignment of outcomes with current standards	Relevance of learning materials	Alignment of activity aim with the lesson	Clarity of activities	Achievement of high-level skills	Coherence of knowledge, skills, and values	Form of knowledge statement, skills, and values	Coherence of outputs	Presence of formative assessment strategies	Form of the assessment strategies
English (n=6)	First versions Mean (SD)	2.3(1.0)	1.5(1.2)	2.3(0.5)	2.3(1.5)	1.3(0.5)	2.2(0.4)	3.0(0.9)	2.3(1.5)	2.3(1.5)	2.8(1.5)
	Final versions Mean (SD)	3.0(1.1)	2.2(1.5)	3.3(0.5)	3.8(0.4)	2.7(0.5)	3.3(0.5)	3.7(0.5)	3.0(0.0)	2.3(1.5)	4.0(0.0)
	p-value	0.2354	0.2354	0.0117*	0.0756	0.0015*	0.0009*	0.0250*	0.1019		0.1099
	Cohen's d	0.6262	0.4924	1.9365	1.3599	2.5820	2.5064	0.9129	1.1547		1.1209
History (n=8)	First versions Mean (SD)	3(1.1)	1.5(0.5)	2.3(0.7)	2.4(1.5)	2.3(0.9)	2.3(0.7)	2.5(1.3)	2.5(1.1)	2.1(0.8)	2.5(1.3)
	Final versions Mean (SD)	3.8(0.5)	2.8(1.2)	3.5(0.5)	4.0(0.0)	2.9(0.6)	3.4(0.7)	3.8(0.7)	3.6(0.7)	2.9(0.6)	3.9(0.4)
	p-value	0.0796	0.0112*	0.0053*	0.0185*	0.0492*	0.0016*	0.0190*	0.0148*	0.0479*	0.0136*
	Cohen's d	0.9105	1.3792	1.9943	1.5260	0.8081	1.5500	1.1880	1.2215	1.0080	1.4338
Mathematics (n=6)	First versions Mean (SD)	2.7(1.0)	1.8(1.3)	2.3(0.5)	2.3(0.8)	2.0(1.3)	1.7(0.5)	1.2(0.4)	1.8(0.8)	1.7(0.8)	1.7(1.0)
	Final versions Mean (SD)	3.5(0.8)	3.7(0.5)	3.3(0.5)	2.8(1.2)	2.7(2.1)	2.7(0.5)	2.5(0.8)	2.7(0.8)	3.0(0.0)	2.3(1.2)
	p-value	0.0925	0.0121*	0.0409*	0.0756	0.0250*	0.0409*	0.0103*	0.0422*	0.0103*	0.1019
	Cohen's d	0.8867	1.8182	1.9365	0.4959	1.1547	1.9365	2.0255	1.0612	2.3094	0.5923
Overall (n=20)	First versions Mean (SD)	2.7(1.0)	1.6(1.0)	2.3(0.6)	2.4(1.3)	1.9(0.8)	2.1(0.6)	2.3(1.2)	2.3(0.9)	2.1(0.8)	2.4(1.3)
	Final versions Mean (SD)	3.5(0.8)	2.9(1.2)	3.4(0.5)	3.6(0.8)	2.8(0.6)	3.2(0.7)	3.4(0.9)	3.2(0.7)	2.8(0.6)	3.5(1.0)
	p-value	0.0039*	0.0001*	0.0000*	0.0006*	0.0000*	0.0000*	0.0000*	0.0001*	0.0018*	0.0005*
	Cohen's d	0.8030	1.1198	2.0445	1.1703	1.2508	1.7223	1.0426	1.0818	1.0559	0.9449
*Difference is statistically significant at 0.05 level											

Overall, all the indicator level mean scores for the final versions lesson plans were statistically significantly higher than the mean scores of corresponding first-version lesson plans. Furthermore, the average indicator level quality of the final version of the lesson plans was at least 0.8 standard deviations greater than the average quality of the corresponding first-version lesson plans across all the indicators, which points to a large difference in the mean scores.

Alignment of outcomes with curriculum standards: In the first versions, there was a mismatch between what was outlined under this section and what was stated in the curriculum. In this section, teachers were expected to select and transfer what was applicable to the developed lesson, exactly as stated in the curriculum. Some of the generic skills, values, and crosscutting issues stated in this section could not be developed during the lesson. The teachers were simply stating everything in the curriculum instead of selecting those aspects that the planned activities could develop. This was one of the easiest and fastest elements to change. The teachers simply needed to learn how to read the new curriculum and how to report the indications that it contained in the lesson plan format. The process, though repetitive, helped the teachers become better acquainted with the terminology used in the curriculum and become more deliberate in the choice of what they aim at developing in the lesson.

Activities and outputs: The activities described in the successive steps of the lesson plan lacked a clear progression from one step to the next, and the teacher's instructions were sometimes not clear. Furthermore, the output or product expected from an activity done by learners was at times not stated, and when it was stated, it was not actually an output, but, for example, the learning material used by the teacher, as seen in the following example:

FIGURE 5. LESSON PLAN: MATHEMATICS – EXCERPT

Teacher's activity	Students' activity
- The teacher asks learners to give the fraction that represents 4 parts that he/she has provided and so on.	The learners partition the card and they fill each part with a fraction it represents.
- The teacher asks learners to state the types of fractions they know and give examples.	The learners use the parts of the cards to figure out and respond to the teacher's questions.
- The teacher asks the learners to state the difference between proper and improper fractions.	The learners state the types of fractions
- The teacher gives learners (*in their groups of five*) e.g. 6,7, etc. pieces of chalk to share among themselves equally and asks them to tell what each has acquired.	and use the previous responses to distinguish between proper and improper fractions
- The teacher asks the learners to tell the relationship between the fraction e.g. 6/5 and what each of them has acquired (*this is to bring out the concept of a mixed fraction*)	The learners share the pieces of chalk and tell what they have acquired. Learners give the relationship between the improper and the mixed fraction

Source: Own compilation, 2023

In addition, a clear link between the consecutive steps of the lesson was lacking in all these three lesson plans. It was observed that some of the steps could have been taken either before or after the others.

Knowledge, skills, and values: At the start of the process, the planned activities primarily fostered low-level cognitive skills. Where high-level cognitive skills were identified, the activities were not designed in a way that could foster the development of such skills.

Critical-Thinking Skills: The activities mostly fostered the development of low-level cognitive skills such as reading, writing, or listening, among others.

FIGURE 6. LESSON PLAN: MATHEMATICS – EXCERPT

Teacher's activity:	Students' activity:	Knowledge, value and skills:

● The teacher calls on 4 learners (john, Philip, Grace, and Dorcus) to step onto the designed learning area at the starting point and do actions as instructed ((i)all of you move 4steps forward, (ii)2steps backwards, (iii)John and Grace move 4steps backwards and tell your positions) **(Annex 1B)**
● The teacher draws and explains the steps made by the 4 learners on the black board and he also asks the learners to individually represent the tasks on a paper as illustrated on the board
	● The 4 learners listen to the instructions as given by the teacher, perform the tasks as the rest are observing and following the steps made.
	● The learners draw the steps made on the paper as also illustrated on the board in relation to the instructions given
		● **Skill;**(following instructions, listening and observation)
		● **Values;** Humility
		● **Knowledge:** (use of standard dimensions)
		  ● **Values:** (Humility)
		  ● **Skill: (**Listening and following instructions, observation,**)**
		● **Skill:** (Drawing and labeling)

Source: Own compilation, 2023

Assessment strategies: These were either not stated or the assessment strategies identified could not assess all of the stated knowledge, skills, and values.

Often the Assessment strategies were not written in the *-ing* form. This might seem unusual, but the decision to express the strategies in this form was linked to the teachers' awareness of the importance of conceiving the assessment strategies as continuous and as having a formative purpose. In their context, classroom assessment is mostly reduced to exam tests with merely summative purposes.

6.2. Final Versions of the Lesson Plans

Regarding quality, the final versions of the lesson plans were all considered to be at an acceptable level. Almost all key aspects in these plans were constructed in a way that met the set standards. Considering, for example, the lesson plans on the topic of *Origin of man* for history, the outcomes were aligned with curriculum standards.

FIGURE 7. LESSON PLAN: HISTORY – EXCERPT

Theme: Understanding our past
Topic: The origin of man
Competency: The learner understands the theories about the origin of man using a series of accounts
Learning Outcome: The learner should be able to;
Understand traditional East African beliefs about the origin of man *(Identifying the main characters in the stories about creation; Making a connection between her/him and the creation stories)*
Generic Skills: *1. Critical thinking and problem solving; 2. Communication*
Values *1. Respect for humanity and environment; 2. Social harmony*
Cross-cutting Issues: *1. Life skills; 2. Mixed abilities and involvement; 3. Citizenship and patriotism*
Key learning outcomes: *1. Self-assured individuals; 2. Positive contributors to society*
Pre-Requisite Knowledge: *Traditional stories on the origin of man - according to their tribes*

Source: Own compilation, 2023

In this plan, the generic skills, values, and crosscutting issues identified applied to the lesson and could be developed by the planned activities. As seen in the excerpt below, students are involved in a mixed group in which each of them takes a turn reading origin stories of their own tribe. This activity directly relates with the skill of communication as well as the value of respect. The proposed activities were directly linked with the knowledge, skills, and values the lessons were intended to develop among the learners. There was a clear link between the different activities in the lesson. For example, there was a clear progress from the activities done before the lesson to those conducted in the planned lesson, as seen below. Furthermore, the outputs or products at each step of the lesson were clearly stated, and aligned with what the students were actually doing at that particular stage.

FIGURE 8. LESSON PLAN: HISTORY – EXCERPT

Activities before lesson

i. The teacher asks the students to inquire from their parents / relatives / elders / tribe mates... information regarding the origin of man (creation story) according to their tribe.
ii. Teacher researches about the origin of man according to different tribes.

Teacher's activity	Students' activity	Knowledge, skills and value	Output
Takes a glance at the stories in the students' books on the origin of man according to their tribes.	Present the books for checking	**Knowledge** Stories about the origin of man from different tribes	The stories in the books of the students on the origin of man according to their own tribes (from research)
Asks students to get into groups according to their tribes to first read to each other their stories on the origin of man and then harmonise them with the teacher's guidance	Get into groups according to their tribes to first read to each other their stories on the origin of man and then harmonise them with the teacher's guidance	**Knowledge** Origin of man according to each one's tribe **Skills** Collaborating with colleagues Reading fluently Listening attentively **Values** Respect for humanity Open mindedness	A harmonized document on the origin of man according to each tribe

Source: Own compilation, 2023

According to the lesson plans, the teacher's role throughout the entire lesson was primarily to facilitate learning through learner-engaging activities that enhanced guided discovery at every step of the lesson. The teacher planned clear instructions for each and every activity and asked guiding questions that involved the learners in a process that could enhance their critical-thinking skills.

Overall, the quality of the teachers' lesson plans improved after teachers were introduced to and taken through the critical thinking coaching process. The final versions of their lesson plans across all topics in all three subjects (English, history, and mathematics) scored higher in quality than the initial versions. Moreover, the gap between the first version of the lesson plan and the final version was considerably reduced over the course of the coaching process.

7. Discussion of the Findings

The findings indicated that, though designing for teaching had always been a school requirement, lesson planning activities prior to the intervention were done just for formality. Lesson planning was utilised for compliance with rules, but it was not student-centred in its conceptualisation or in its implementation. There was no clear objective to be achieved, and the learning outcomes were mostly related to the factual knowledge to be passed to the students. The literature shows that while planning for their lessons, teachers tend to focus on the content and strategies before considering the objectives of their lessons; they might think about the available resources, but they rarely consider assessment strategies in the lesson (Ball et al., 2007). It is common practice for teachers to plan for their students without considering

their characteristics, without considering the needs or the preferences of the learners themselves, and (consequently) without involving them in the design process (Könings et al., 2010). As frequently happens in Uganda, the demands of the school administrators are often at the forefront of teachers' planning decisions (Ball et al., 2007). The professional development process presented in this study helped the teachers rethink how they planned for instruction; the coaching sessions helped them make deliberate decisions in their lesson planning. They also realised how important it is for the learners to be aware of the objectives of the lesson; this helped them reflect, in their lesson designs, on what exactly they wanted to achieve at every step of the learning process. Subsequently, the choice of the activities to be implemented was developed around the objective and needed to be appropriate to the goal, starting from the actual needs and challenges the students face.

The lesson plan template co-constructed with the teachers allowed them to have a focused objective and purpose for their instructional planning. This template and consistent instructional coaching support helped the teachers to be consistent in their planning and coherent in their development of activities.

8. Conclusions and Recommendations

The study confirmed that providing a professional development programme that focuses on instructional planning strategies and coaching is beneficial for improving teachers' instructional design and classroom instruction.

The teachers showed a greater ability to differentiate between the cognitive process and mere rote learning, helping them to elicit student thinking and to remain open to students' discoveries and ideas. This increased attention to the students also led the teachers to research lesson preparation; the desire to reach out to each and every student led to increased attention toward finding the most appropriate tools and instruments for facilitating learners' participation and understanding. The teachers of the three subject matters (i.e., English, history, and mathematics) have also broadened their instructional efforts by focusing on developing concepts and skills in learners rather than focusing solely on the transfer of factual knowledge.

At the end of the process, the lesson plans were clearer and more coherent, incorporating activities that could improve the learners' critical-thinking skills. The shift from focusing on factual knowledge to helping students become responsible for their own knowledge was documented in the evaluation of the lesson plans. The process, moreover, gave the teachers the ability to break up complex competencies into smaller subskills, and it helped them to develop simple performance tasks for the learners that could build the learners' knowledge, skills, and values, as indicated by the new competency-based curriculum (NCDC, 2019). In addition, the lesson plan template became a useful tool for the teachers; it allowed them to have a comprehensive approach toward the whole thematic unit. In this model, the teachers not only focus on the small objectives of a short lesson but also on the bigger picture, establishing aims for the unit that are focused on the students' challenges and on the essential questions that should lead the whole development of the lesson.

The study findings have vital implications for educational reforms in Uganda. In the newly reformed lower secondary curriculum (NCDC, 2019) and Uganda's Vision 2040, the learner is for the first time placed at the centre of the educational journey, with the aim of fostering deep learning and the competencies that will help students thrive in life and in the job market. One of the crucial components of this reform is to create an education system that endows learners with the cognitive skills that will enable them to become active and productive citizens and work for the good of themselves and their communities. This vision relies mostly on nurturing problem-solving and critical-thinking skills, as

learners need to interpret and use existing evidence to make decisions or contemplate possible solutions to problems.

However, the introduction of a new competency-based curriculum—which is in line with the education strategies of other East African countries—should pose questions on the origin of the conceptual frameworks underpinning the curricula reforms. The generic skills framework proposed by the new curriculum is based on Western conceptualizations and models. Even though what inspired the reform in Uganda was a market research study (Cambridge Education, 2012) that highlighted local market needs for higher-order thinking skills including critical thinking, problem solving, and creativity (among others), there is no clear evidence of a contextualisation process or of understanding of how these skills might be related to the local environment. This has a direct impact on the implementation of the reform and on the achievements of learning outcomes. Is the reform a step toward achieving a delinked (Mignolo & Escobar, 2013) education system that, while looking at the future, aims at rediscovering the uniqueness of the East African local cultures? Is the system prepared for this epochal change? Are we confident that the educational system and the main stakeholders are open to or capable of change? Perhaps education, even if it improved, could not make a difference given the societal conditions outside the direct sphere of influence of the educational sector. This reminds us of the Greek word metanoia, which means a radical shift of mind. This is what needs to accompany every educational reform or change (Fullan, 1994b, 1994a). Without such a metanoia, "the insurmountable basic problem is the juxtaposition of a continuous change theme with a continuous conservative system" (Fullan, 1994a, p. 3). This top-down reform could now be coupled with a more bottom-up approach through which the teachers and school leaders can find their way and navigate through the challenges that this reform poses. The question of how this can be incentivised is still relevant, and this study offered what could be a viable possible solution to the challenge.

Thus, at the system level, government agencies and institutions of higher learning could assist in the process of cultural change by supporting innovative pedagogy and critical-thinking enhancement as a key component of educational quality in schools. Providing regular, continuous professional development training, as already stated in the new Uganda National Teacher Policy (Ministry of Education and Sports, 2019), would be a first step, particularly given that the vast majority of teachers in Uganda have not had any personal experience with pedagogical innovations that may impact critical thinking.

A recent study also highlighted the gaps of the Ugandan pre-service teacher education curricula (Ministry of Education and Sports, 2020) and underscored the importance of focusing on critical thinking and life-skills enhancement at the pre-service level of teacher formation. This professional development model could thus serve as a tool for implementing new pedagogical approaches at the tertiary and university levels.

At the regional level, achieving the Sustainable Development Goals by 2030 (at least for sub-Saharan Africa), requires resilient efforts in facilitating education systems that produce graduate learners who are well-equipped for 21st-century living and working. The education systems in East Africa are integrating values and life skills, but at varied levels. Kenya is already implementing a curriculum that has integrated 8 values and 7 core (21st century) skills. Uganda, as mentioned, has integrated life skills in both policy and curriculum. Tanzania is revisiting and revising the National Life Skills framework and has even developed tools and a detailed strategy for formative assessment of selected life skills at primary and secondary levels.

Implementing this study in only one secondary school in Uganda poses questions of generalizability. This coaching model for teacher professional development could be implemented in other schools in the

context and with more teachers involved in the process. A quantitative approach could also be implemented to measure the impact of the model on teachers' and learners' critical-thinking skills.

Further research on teacher knowledge, especially teacher pedagogical knowledge specifically linked to nurturing critical thinking and other higher-order thinking skills, would be beneficial for crafting teacher education programmes that recognize the essential role that these aspects play in generating a system that aims at improved outcomes for all learners (Kadir, 2017). Going beyond the Ugandan context, the study methodology could be successfully implemented in other countries. Adapting the methodology for use in other African contexts could provide insight into the concept of critical thinking elsewhere in the region and expand the understanding of how the region's education systems may be helping or hindering the development of critical thinking in their student populations.

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Declaration Statements

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21st Century Skills Development Among Young Graduates: A European Perspective

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Abstract

This paper presents the results of the project "21st Century Skills: Changing the Approach to Teaching in Higher Education", which was funded by the Erasmus+ programme between 2019 and 2021. The study involved seven institutions coming from different parts of Europe; mainly these were universities, but there was also one not-for-profit organisation, and one SME. Past and present-day initiatives and studies relating to the development of soft and digital skills among university students are investigated, with particular regard being paid to their perspective when they first have to face the job market. The study design is threefold, involving firstly desk research, where major documents were collected in Bulgaria, Spain, Turkey, Czech Republic, and Italy; then market research, where a sample of corporate professionals and university representatives were interviewed in order to gather additional information relating to the level of development of these skills among young graduates and employees; and lastly, a comparison between two questionnaires filled in by students before and after completing the courses established by the project. Research stages one and two are briefly introduced, with the main focus of the paper being on stage three and a discussion in which the results from various European countries are compared. The results reveal that some European countries prioritise some skills more than others. In addition, in the examined countries, it can be seen that 21st Century Skills are still not widely developed by young graduates and there is a mismatch between the value attributed to the improvement of competencies and the actual content of training provided by European universities. In summary, employers and academics have provided key information relating to the most needed skills in the market today. In addition, they have testified that attention should be paid to university projects, such as internship programmes and advanced English courses in order to better prepare young people for the marketplace. Furthermore, students should be more involved in activities aimed at improving

their level of 21st Century Skills, with courses specifically designed to address this need and make them more aware of their current skill level and the abilities they are expected to have. Currently, these courses are rarely organised by Higher Education institutions and even when they are, they are not always effective.

Keywords: 21st century skills, soft skills, higher education, young graduates, employees, employers

1. Introduction

The first part of this paper concerns the desk research of the 21st Century Skills: Changing Approach to Teaching in Higher Education (CATCH21) project funded by the Erasmus+ programme. The project partners undertook an in-depth analysis in their respective countries, namely Bulgaria, Spain, Turkey, Czech Republic, and Italy, pertaining to the literature available on 21st Century Skills development.

A prior note should be made regarding the terms 'skill' and 'competence', terms that are related to each other, but that refer to different concepts. Skill refers to the ability to solve problems, to perform tasks, and to overcome complex functions by using context-based sufficient and quality knowledge (Rychen & Salganik, 2003). These can be at the cognitive level, such as logical and creative thinking, or the technical level, such as manual dexterity and the use of tools (Ananiadou & Claro, 2009). Competence, however, is an intricate component of knowledge, skills, attitudes, and values. The field of competence is the observation of relevant knowledge, skills, attitudes, and values as a whole in a particular area. These four fields can be related to educational, business, personal, or professional fields. Competence is not limited to cognitive elements and it does not only cover the use of theory and concepts as well as subject area knowledge, but also technical skills, personal qualities, and ethical values (Ananiadou & Claro, 2009).

In general, 21st Century Skills refer to the skill sets that individuals living in the Information Age need to have and continuously develop to be competent and qualified (Cohen, et al., 2017; Hamarat, 2019). Over the years even though different conceptual frameworks for understanding 21st Century Skills have been used, there are some skills that are a constant part of this definition and they are: creativity, critical thinking, problem solving, communication, collaboration, information and process management, effective use of technology, career and life skills, and cultural awareness (Beers, 2011, cited in Cansoy, 2018). An OECD (2019) report and other studies (Feraco et al., 2022; Ferreira & Robertson, 2022; Ramos et al., 2023) stress how socio-emotional and cognitive skills like critical thinking and empathy, for example, will become key skills for the future while more technical skills will evolve.

General findings in relation to studies on 21st Century skills will be discussed in the literature review section, with a particular focus on observations relevant to each of the partner countries in the project.

In order to identify the main soft skills of the 21st Century, the project partners undertook a study whose main objective was to investigate the twin perspectives of both recent graduates and professionals on this issue and to understand their role in the labour market. More specifically, the main aim was to answer the following research question:

'What competencies and skills do business representatives seek for hiring university graduates, and why?'

Finally, data collected in the pre- and post-questionnaire on the usefulness of training soft skills will be discussed.

2. Review of Literature

In this section we will briefly summarise the results of the desk research for each partner country in order to contextualise the situation in relation to 21st Century skills in Europe.

In Bulgaria, the state educational standards for student achievement by general school subjects were initially developed in 2000 as outcome-based learning standards, describing the knowledge, skills, and attitudes that students should achieve at the end of each educational stage and level. Following the development of the European Key Competences for Lifelong Learning in 2006, the Ministry of Education and Science (MES) of the Republic of Bulgaria undertook systemic efforts to adjust and coordinate the state educational standards for student achievement along these lines. The effort to redesign the standards was successfully finished in 2015, encompassing the standards for 20 school subjects in total for all general education stages and levels, after grades 4, 8, and 12. The standards were put in force with "Ordinance № 5 from 30.11.2015 for the general education study" (MES, 2015). The unified structure of the standards includes (1) the areas of subject-specific competences, (2) the expected learning outcomes for each subject-specific competence, and (3) linking the learning outcomes to certain European Key Competences for Lifelong Learning (the 8 European Key Competences + 1). The additional 9th key competence, added to the 8 European Key Competences in the standards is named 'Skills for supporting sustainable development and healthy way of life and sport'.

Moving now on to the second country, Spain, it is clear that education there has had a turbulent history which still strongly influences the norms and structure of the system. In the new democratic society, tertiary education had to face new challenges. The first one was an increasing number of university students, with the universalisation of education. In 1972-1973, there were 404,000 first-year students, while in 1999-2000 there were 1,583,000, which resulted in large classes and a general overcrowding of the Spanish higher education system (OECD, 1998). The second important factor was the new Spanish constitution, which approved 17 autonomous communities independence from the central government in Madrid. This meant the beginning of a decentralisation process that took place in all the ministries including the Ministry of Education (MEC). From then on, every autonomous community would manage educational resources, regional departments of education, curricula and its implementation, as well as budgets separately. Once all of the competencies were transferred to the autonomous communities, the number of universities tripled in Spain. However, this was not until the 1990s, when private universities were created (Peach, 2001). Some of the actions to support the educational innovation plan were plans for internationalising public and private universities. The Programa Campus de Excelencia Internacional aims to promote the internationalisation and quality of Spanish higher education institutions as well as help Spanish students to acquire global competences (Horta, 2009; Silla, 2010). The creation of a new Ministry of Innovation is helping to promote new strategies. In the case of Spain, nowadays there is a lack of research relating to 21st Century Skills. Almerich et al. (2018) mention that very little research has been developed in Spain. However, there are some studies about employment and TICs in education. The current university law states that there should be a report to apply a verification of official

degree certificates (Real Decreto 1393/2007, October 29th). There are indeed international forces and trends pushing for a big change in education in general, including higher education. European higher education institutions have started with the Bologna Process, one of the most important reforms in order to internationalise and educate global citizens, who are able to compete in an interconnected global market (Sierra, 2013). However, from a 21st Century Skills implementation perspective it seems clear that Spain lacks development.

When the literature of Turkey is examined, it becomes obvious that there are not enough studies that can produce reliable scientific judgments specifically about 21st Century Skills, university students, and the teaching and learning processes pertaining to skills acquisition. Among this material, Celebi and Sevinç (2019) studied teachers' perceptions of competence in 21st Century Skills, and 130 teachers from different branches of the secondary school system participated in the study. According to the results, it was seen that the teachers who participated in the research had high levels of competence in terms of classroom management and self-management, cooperation, communication, using instructional technologies, employing pedagogical information, and conducting all teaching processes flexibly. Meanwhile, Gürültü, et al. (2018) examined whether or not teachers' use of 21st Century Skills differed according to various demographic variables. A total of 364 teachers (208 female and 156 male) from different cities and different branches participated in the study. The results of the analysis revealed that teachers' perception of their use of 21st century teaching skills was high. According to the results, primary teachers received the highest score in the supportive skills and the lowest score in the flexible teaching skills dimensions. It was also found that teachers working in primary school had better use of 21st century teaching skills in the scale and the managerial, techno-pedagogical, flexible teaching and productive skills sub-dimensions. However, most of the studies conducted in Turkey have not gone beyond determining the situation and describing the differences between the groups studied. Similarly, most of the existing documents are related to education and not the workplace. Considering the above knowledge and the research studies made in Turkey as a whole, it can be said that there is a big gap as regards who needs to be taught, by whom, and how to teach 21st Century Skills. All of these can be read as signs that it is necessary to establish a holistic research ecosystem by bringing stakeholders together and starting from a needs analysis.

Several comprehensive books and monographs have been published with reference to the Czech Republic, on the topic of the teaching profession in changing educational requirements. Spilková & Tomková (2010) wrote the book titled 'Teacher quality and professional standard: research intent: the teaching profession in changing educational needs teacher education'. The book covers topics like the teaching profession, pedagogical skills, and educational research in the 21st century in the Czech Republic (Spilková & Tomková, 2010). The book was preceded by extensive empirical research and an analysis of key reform trends in primary education in the first decade of the 21st century. The results showed how the conception of school, the goals of individual educational areas, and the everyday life of the school have changed. Attention is also paid to alternative and innovative approaches to education and the evaluation of younger pupils, issues with integrating students with disabilities, etc. (Spilková & Vašutová, 2008; Spilková, 2005).

Furthermore, the publication of Navrátil and Mattioli presents a comprehensive, systemic approach to improving the quality of education in the Czech Republic, which corresponds to 21st century requirements for individual competitiveness under the current conditions of the

global information environment. The content of the publication should become a theoretical and practical guide to all who are or will be involved in solving the current social problems related to the improvement of education (Navrátil & Mattioli, 2013). According to the developments that have occurred in the last two decades, the Czech education system has undergone a number of changes from elementary to high schools and universities, yet a lot of experts and the public as well are calling for fundamental reform (on-line press - denik.cz, 2019). According to the recent findings of the Czech School Inspectorate presented to journalists on 12 December 2018, pupils' achievements in schools do not match what they should know based on the so-called Framework Educational Programmes, which define the content of the curriculum. The curriculum is too extensive and puts a great deal of pressure on teachers and children. In the lessons, there is no time for practising and having fun while teaching. Therefore, the revisions of the educational programmes are currently being prepared by the Ministry of Education, with a focus on changing the content of education (lidovky.cz, 2018).

In the case of Italy, both with regard to the topic of 21st Century Skills and soft skills in general, the country has introduced a series of challenging reforms to improve the performance and responsiveness of the labour market. They also aim to improve the capacity of the education system to develop and identify students' skills, while also encouraging individuals to develop skills outside of school. Recent reforms also promote innovation and digitalisation and are part of a long-term strategic vision that also includes the development and improvement of skills policies that respond to the unique national and regional conditions of the country. In the case of Italy, various stakeholders such as universities are interested in the topic of soft skills development as they play an important role in this sector and sometimes offer targeted training (Cinque, 2016). Hence, several studies show how Italy still lags behind in terms of helping its future workforce to develop 21st Century Skills although the need is undeniable, both at the secondary school and university level. However, some interesting initiatives like those promoted by MIUR addressing the Digital Transformation 4.0 in Schools and by some other more local universities, demonstrate that some initiatives are taking place in order to address this important need. However, it is important to bear in mind that Italian workers are viewed as having low average levels of cognitive skills and are less inclined to use certain cognitive skills that are significant drivers of workers' and companies' performance (OECD, 2018); this constitutes a challenge that our study may attempt to address.

In phase 2 of the study, partners were asked to carry out market research addressed to higher education representatives, including academics and corporate professionals, business leaders and HR managers. Participants had to sign an Informed Consent Form in order to agree to the interview. In the next section, the approach taken towards this stage of the study will be summarised for each country and comparisons will be made. According to the OECD (Anaiadou & Claro, 2009) the skills that will be analysed in this research are defined as follow:

- **Critical Thinking** - analysing complex problems, researching questions that do not have a clear, direct answer, assessing different points of view or sources of information, and drawing proper conclusions based on evidence and reasoning;

- **Collaboration** – the ability to work cooperatively to solve problems or answer questions, the ability to work in groups efficiently and with mutual respect to achieve a common goal, and share the responsibility of finishing the task;

- **Communication** – the skill to organise thoughts, information, and results, and share them efficiently and effectively by different means, as well as orally and in writing;

- **Creativity and Innovation** - refers to people being able to generate and redefine solutions to complex problems or tasks based on synthesis and analysis, and by combining and/or presenting what they have learned in new original forms;

- **Self-Direction** - people being able to take responsibility for their own learning and performance, identifying matters to develop and processes of their own learning, and who are able to review their own work and answer the feedback they receive;

- **Making Global and Local Connections** - the first one refers to people who are able to understand global geopolitical matters, including other countries' geography, culture, language, history, and literature. Local connections refer to people who are able to apply what they learn to local contexts and community matters. Jointly, this skill serves to determine how global matters affect realities in local contexts;

- **Using Technology as a Tool for Learning** - knowing how to manage learning and produce products/results using information and the right communication technologies.

The next section will discuss the materials and methods used for undertaking the market research as phase 2 of the study.

3. Materials and Methods

This section of the paper describes the results of the market research relating to soft skills undertaken in each partner country involving business and university representatives. Several semi-structured interviews have been collected in each country with the aim and purpose of answering the research question, namely: 'What competencies and skills do business representatives seek for hiring university graduates, and why?'

Interviewees were randomly selected inside a sample of companies and academics surrounding the area of each partner institution or who were part of the network of each. Interviewees were asked to express their opinions on seven 21st Century Skills that were identified as critical during the project, and which were also based on the 21st Century Skills and Competences for New Millennium Learners in the OECD Countries paper (Anaiadou & Claro, 2009) as described earlier.

Semi-structured interview protocols were built and agreed on among the partner institutions, since nearly all of them were university academics with experience in research. Interview protocols were set up in order to answer the research question presented above and were piloted among colleagues and a small number of entrepreneurs.

The research took place with the participants' consent which was previously sought and obtained through their signature on a consent form. Hence, participants were informed from the outset about the main aim and purpose of the study and on how their identities would be kept anonymous, while their information would be kept confidential, and used only for the described purpose. They were also informed that they could withdraw from the study at any time without any prior notification.

Results and Discussions

Below is a summary of the interview findings of stage 2 of the study reported per partner country. The interview data have been analysed using a thematic analysis approach (Clarke et al., 2015), the results of which have been published elsewhere (Crosta & Banda, 2022). In this paper, the focus will mainly be on the order of importance the participants gave to the seven skills identified from the OECD report. Only the first three in terms of importance are reported here in the study. The findings reported here in Table 1 provide an answer to the research question.

The Sofia University team conducted an Internet survey and analysis of two of the leading universities in Bulgaria, namely Sofia University 'St. Kliment Ohridski' and the University of National and World Economy (UNWE), investigating the extent to which the 21st Century Key Skills that form the focus of the project are present in their university curricula and courses. In the case of Bulgaria, nine participants took part in the study, seven of whom are CEOs, directors, and managers or managers in Human Resources departments, and two are university lecturers. According to the respondents, almost all of the presented 21st Century Skills were considered equally important when applying for a specific job role or position. However, they reported that most of the courses for skills development are not considered as important in the curriculum. Academic and corporate representatives recommended a transformation based on two levels, with the first level involving practical courses organised by hosting professionals from the business world, and the second level containing group projects and case studies. From this perspective, universities could help students to improve their level of skills with specific training aimed at better preparing them for future workplaces.

In Spain, the interviews were carried out in January 2020 when 19 invitations were sent by email to different experts and companies, explaining the project and inviting them to participate in face-to-face interviews or in online questionnaires. Following the main feedback obtained during this process, it was evident that despite the importance attributed to the development of 21st Century Skills by both academicians and professionals, the study showed that skills are normally assessed in secondary education, while higher education tends to assess students based on content rather than competences, showing that in spite of the value attributed to skills-based learning, this is not reflected in daily practice. A special note was made in relation to the concept of Communication, a key skill that in today's globalised world should be integrated with the knowledge of foreign languages, with English plus others, to become market-ready.

In Turkey, the working group consisted of 11 participants, six of whom were managers in Human Resources departments while the remaining were academics. The content analysis of the interviews shows that the qualifications of graduates were gathered around competences as the main theme, which included the sub-themes knowledge, skills, personal traits, and vocational identity. Although knowledge can be different from one profession to another, all academics and HR managers agreed that all graduates needed to have basic content area knowledge, and knowledge related to basic computer literacy like Microsoft Word, Excel, and Access, and basic subject area computer literacy like AutoCAD and SOLIDWORKS for engineering fields. A critical point made was that internships should start as early as possible, because they help students in building their own professional identity and finding motivation. In fact, according to some respondents, the student participation in internship programmes make

it easier for students to determine their career goals, and to understand the theory-practice relationship.

At the Czech University of Life Sciences Prague, two staff from the Institute of Education and Communication (one academic and one technical staff) selected and contacted 6 HR managers from different Czech or international companies in Prague and set up appointments with them for interviews. According to the results, knowledge was considered by many professionals to be a prerequisite for work success. However, more than a field of education or a university degree in an expected major, managers considered the knowledge associated with a particular position that cannot be obtained by a classical institutional education as most important. The most positive finding of the research was that the HR managers perceive candidates as quite well prepared in terms of their general knowledge and some skills. However, Czech HR managers feel the biggest lack is in self-direction skills to better handle freedom, autonomy, and responsibility. Students, according to managers, should take longer internships in order to acquire the required skills and understand the dynamics that may occur in a company. Thus, the common idea that emerged was that students would benefit from the longer training process and may find a favourable context for growing their soft skills.

In relation to Italian participants, the sample was composed of 5 HR Managers or CEOs of specific companies placed in the North of Italy and by one researcher/academic from Milan. When considering the interview of the researcher/academician three key themes were identified, namely: the introduction of micro-credentials in the university context, the growing importance of ICT skills, and the increasing connection between soft skills and digital skills. The researcher explained how the universities can create single training courses through micro-credentials that could be recognised afterwards altogether as a formal pathway for students, although this has not yet been fully implemented in the Italian university context.

In light of the above, each partner country developed a rating of 21st Century Skills based on their importance for recruitment, which may be summarised as follows in Table 1.

TABLE 1. MOST AND LEAST IMPORTANT SKILLS BASED ON INTERVIEWS

Country	Most important skills		Least important skill
Bulgaria	Collaboration	Communication	Making Global and Local Connections
Spain	Communication	Collaboration	Making Global and Local Connections
Turkey	Communication	Creativity and Innovation	Making Global and Local Connections
Czech Republic	Collaboration	Communication	Making Global and Local Connections
Italy	Critical Thinking	Collaboration	Making Global and Local Connections

Source: own compilation, based on personal interviews, 2020

Table 1 shows that, despite the provenance of respondents, the most important identified skills did not differ based on country, on the contrary there was a common agreement connected to the relevance attributed to Communication and Collaboration, which were marked by the highest scores. Conversely, all the countries identified Making Global and Local Connections as the least important skill, meaning that the majority of interviewees attributed a very low level to this skill. On the other side, it should be noted that countries such as Italy considered 'Critical Thinking' as the most important skills for young workers which was not cited as the most import by the other partner countries. The same was for the 'Creativity' skill reported by Turkey.

A third research step comprises of findings collected from the pre- and post-test questionnaire submitted to undergraduate students before and after the course delivered to them on 21st Century Skills through the project partners. Each University project partner, in their own country except Italy, delivered a course to students in a full online modality through Moodle® LMS, were students attended lectures for 7 Modules, each on one of the soft skills described above. The results of this last research stage are discussed in the following sections.
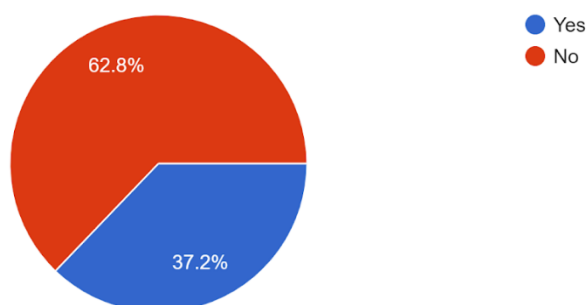
3.1. The pre-test questionnaire findings

The pre-test questionnaire has been submitted to 156 higher education students before attending the project course, in four main countries, namely: Turkey, Spain, Bulgaria, and the Czech Republic. The pre-test module was made available to be filled in by students between April and May 2021 and it was delivered in an anonymous format. The same questionnaire was submitted both before and after the participation in the training. The questionnaire was constructed with the main aim in mind of collecting data in order to understand the perception and effectiveness of the training. The tool was piloted with a few students and teachers who did not participate to the training.

The first question of the list asked students if they had ever been assessed using competences as a framework and, although nearly 63 per cent of them stated that they were not, the remaining 37 per cent declared that they were. Hence, it is clear from Chart 1 that evaluation frameworks based on competences are not yet prevalent in the participants' countries, although some of them may have started to apply this type of framework in Higher Education.

CHART 1. USE OF COMPETENCIES AS A FRAMEWORK
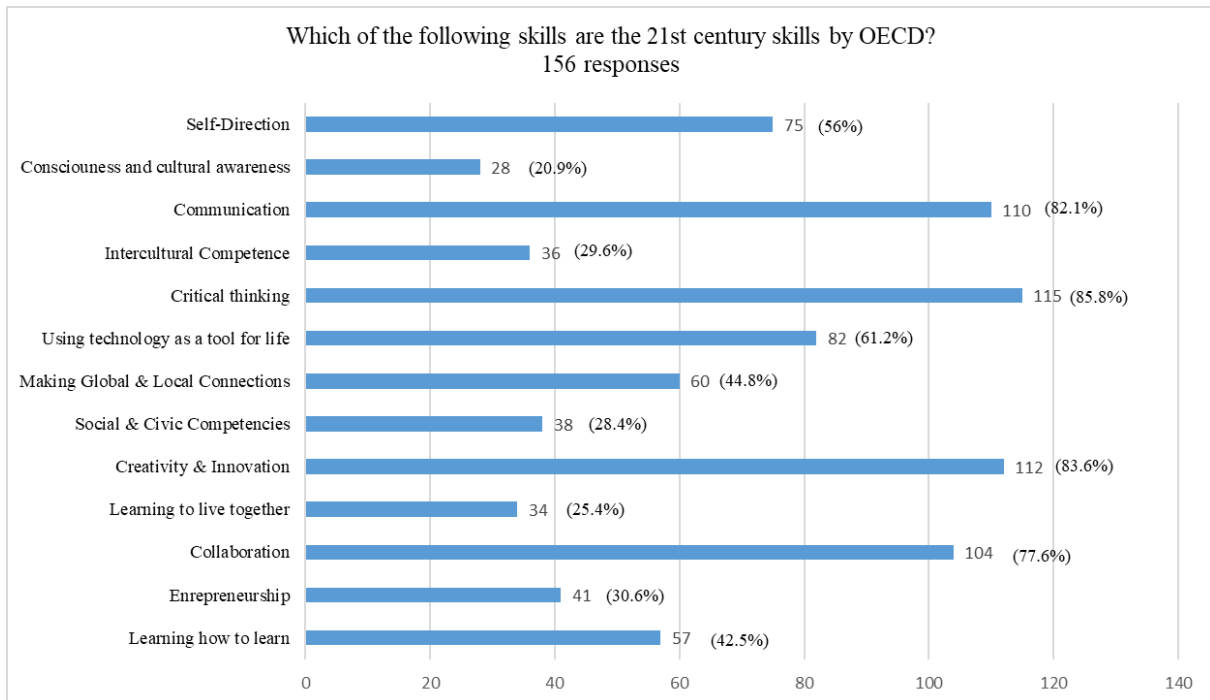

Source: pre-test questionnaire results, based on answers collected via online forms, 2021

Following the results, Chart 2 shows how participants from Turkey, the Czech Republic and Bulgaria, gave special value and importance to skills such as critical thinking, creativity & innovation, and collaboration & communication as key for the OECD and less to consciousness and cultural issues, to learn to live together, social and civic competencies, and to intercultural competencies.

CHART 2. ALIGNMENT OR MISALIGNMENT WITH OECD SKILLS

Source: pre-test questionnaire results, based on answers collected via online forms, 2021

The final section of the report contained the results of a self-assessment made by respondents on 7 key 21st Century Skills, namely collaboration, self-direction, communication, critical thinking, creativity & innovation, using technology as a tool for learning, and making global and local connections. They had to specify their level for each one of the key skills ranging from 0 (no knowledge) to 10 (plenty of knowledge). Taking the above into account, **communication** and **critical thinking** reported similar results.

With reference to collaboration, the most frequent results were 7 and 8 and this underlines a slightly lower level of importance, maybe due to the difficulties that can emerge when working or studying with peers, or maybe due again to cultural issues and differences. These optimistic evaluations slightly decrease when dealing with self-direction and making global and local connections.

A surprising percentage of respondents seemed somewhat insecure about their knowledge of new technologies and their usage for learning. This is unexpected when considering the age of respondents, typically university students who should be more familiar with digital tools.

CHART 3. SKILLS SELF-ASSESSMENT ACCORDING TO COUNTRY
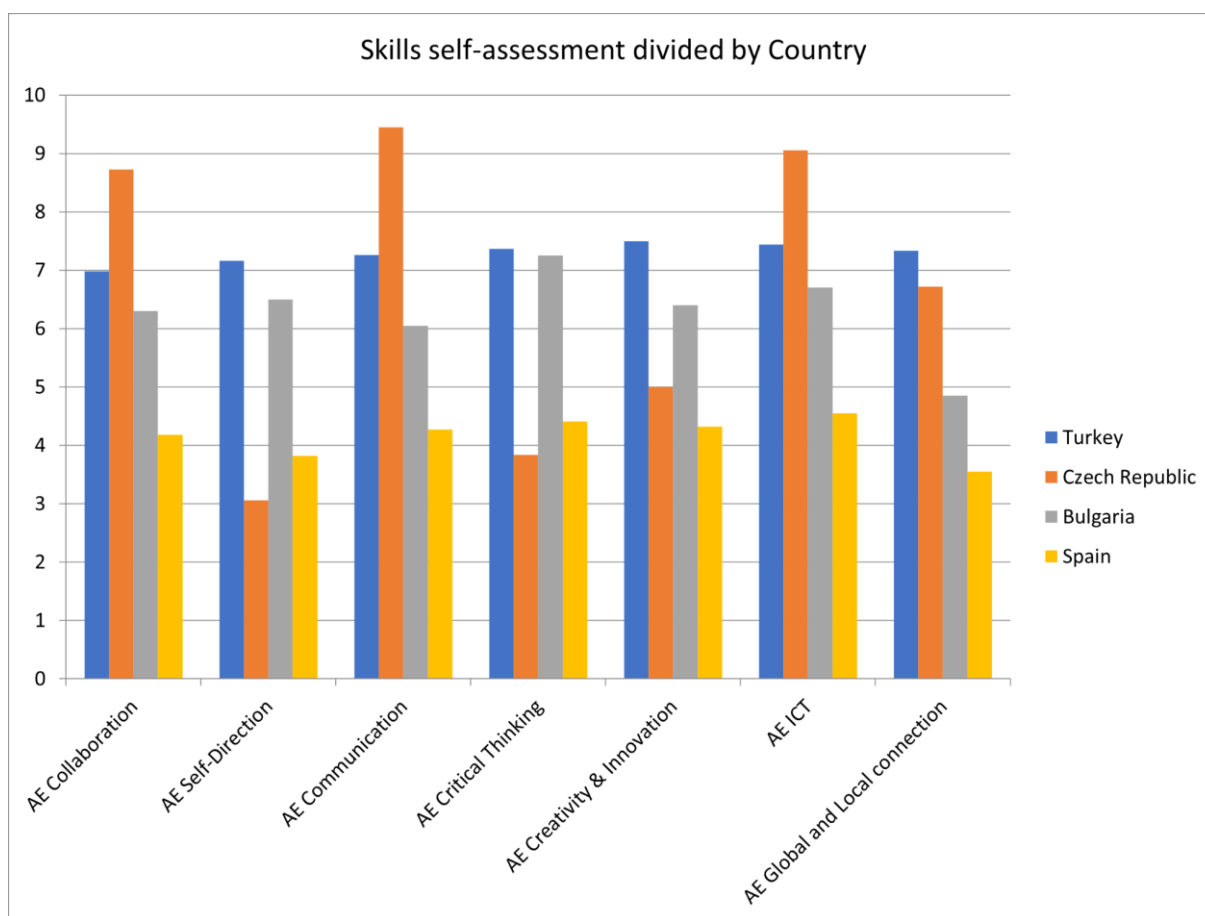
Source: own compilation, based on answers collected via online forms, 2021

In Chart 3, the skills self-assessment is presented according to the country of provenance. It is notable that while for the overall skills, participants from Turkey and Bulgaria self-assessed themselves in a similar way, participants from the Czech Republic and Spain self-assessed themselves in very different ways than participants from the other two countries. We wonder at this stage if this depends on the type of skills training already offered in each different country or if it depends on the type of apprenticeship offered in each country to fresh graduates.

## 4.2. The post-test questionnaire findings

The post-test questionnaire was designed by the whole project partnership and collected 116 answers from higher education students after attending the project pilot course. It is important to underline that not all of the actual attendees completed the form, and this lack of data may have had some effects on the current analysis.

One section of the questionnaire focused on the changes of perspective about conceptions on skills learning before and after the training. When participants were asked if, in their opinion, 21st Century Skills refer to the skill sets that individuals living in the Information Age need to have and continuously develop to be competent and qualified, the majority of respondents, namely 97.4 per cent, were confident that these skills are part of the learning journey of individuals for personal and professional improvement, with an increase of five percentage points compared to the results collected in the pre-test questionnaire and a consequently growing importance given to the learning journey and continuous training.

Students were also asked to express their opinion on the boundaries of 21st Century Skills and where they should be taught and learned, whether inside an educational institution or not: 42.2 per cent of participants agreed that these skills are normally learned outside an educational institution. Compared to the pre-test results, the level of agreement increased by four percentage points after completing the course project, with more participants supporting a training based on 21st Century Skills outside educational institutions.

Finally, in the section on students' self-evaluation, we identified that the skills connected to communication and self-direction reported similar results, with a peak on the top score corresponding to plenty of knowledge.

CHART 4. COLLABORATION SELF-EVALUATION
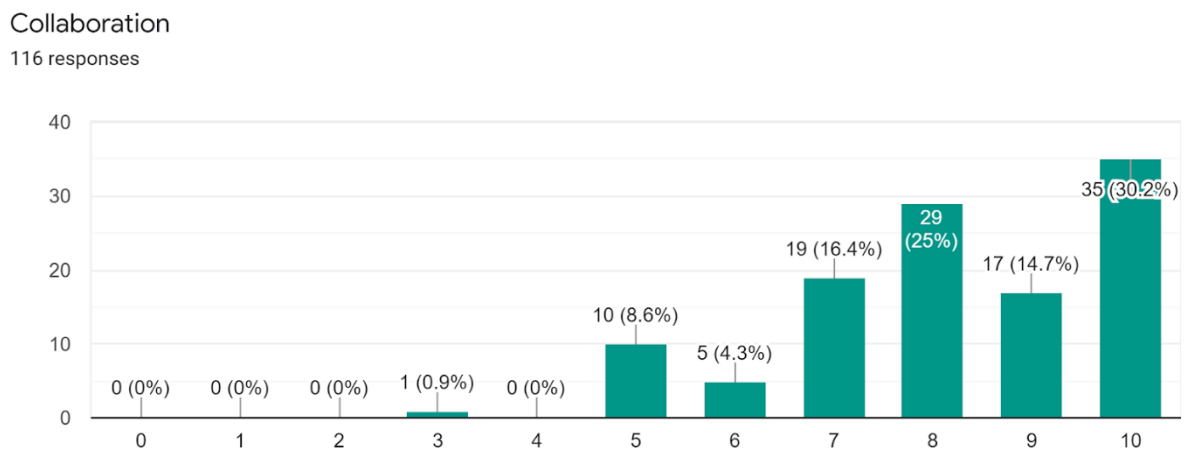
Source: pre-test questionnaire results, based on answers collected via online forms, 2021

With reference to collaboration, as shown in Chart 4, the most frequent results were 8 and 10, which slightly differ from the pre-test, where the main answers were distributed between 7 and 8. These optimistic evaluations increased even more when dealing with critical thinking and creativity & innovation: the two bar charts report less fluctuations, with a gradual growth as values increase. As a consequence, 9 and 10 together respectively form 59 and 42 per cent of the results.

4. The Research Gap

In Table 2, the results of the self-evaluation of the pre- and post-tests are presented. Focusing on the first part of the figure related to the pre-test evaluations, it is difficult to identify a common frequent value among the assessed skills, as the most frequent ones range from 5 to 10. At the same time, the least frequent values are very low, without any skills overcoming the barrier of a value of 2.

TABLE 1. SELF-EVALUATION COMPARISON BETWEEN THE PRE- AND POST-TEST

Skill	Pre-test		Post-test	
	Most frequent value	Least frequent value	Most frequent value	Least frequent value
Collaboration	7 and 8 (16.7%)	1 and 2 (1.3%)	10 (30.2%)	3 (0.9%)
Self-direction	5 (16.7%)	0 (0.6%)	10 (31.9%)	4 (1.7%)
Communication	10 (23.1%)	0, 1 and 2 (0.6%)	10 (32.8%)	3 and 4 (0.9%)
Critical thinking	10 (16.7%)	0 and 1 (0.6%)	9 (32.8%)	4 (1.7%)
Creativity & Innovation	5 (14.7%)	2 (3.2%)	10 (24.1%)	3 (0.9%)
Using technology as a tool for learning	9 (17.3%)	2 (1.3%)	10 (29.3%)	2 (0.9%)
Making global and local connections	5 (14.1%)	1 (1.3%)	7 (22.4%)	2 (0.9%)

Source: own compilation, based on answer collected via online form, 2021

Next to these results, the post-test results are presented. In this case, the common frequent value for the majority of the skills assessed is equal to 10. By analysing the least frequent values, we can notice that they are concentrated around 3 and 4, with an increase compared to the values of the previous module. The growth in both most and least frequent values linked to the questionnaires submitted after the courses may represent a general improvement in the perception of students related to their abilities in transversal skills acquired after the training. Hence, the results of the study show how more training and more activities are needed to support young workers in order to develop their soft and employability skills in the market. Their current lack increase the negative self-perception young people have around these skills and about their meaning and value for the marketplace. However, it is important to note that studies such as Almeida and Morais (2023) reports that developing soft skills among higher engineering courses and integrating them into the traditional curriculum can be challenging and require good practices and experiences.

5. Conclusion

This study was made in an attempt to fill a gap relating to the perception of the importance of soft skills in different European countries as partners of the project.

With regard to the desk research section in the research report, it can be said that 21st Century Skills have started to be included in the curriculum of the countries in recent years and that the national education ministries and universities have taken initiatives in this respect. When the current practices and legal regulations regarding 21st Century Skills in the education systems

of Bulgaria, the Czech Republic, Italy, Spain, and Turkey are considered as a whole, it is evident that these skills are considered important and that the ministries of national education and universities have positive policies regarding the teaching of soft skills. However, it is possible to say that the education systems are lacking in terms of teaching these skills and there is still a long way to go in this regard. It is clear that future studies should focus more on how to teach skills. The CATCH21 project contributes to this field with the online learning platform and teaching materials it has developed in this sense.

When the results of market research conducted in five countries are compared, HR managers and academics seem to agree regarding the skills that students should have. These skills stand out as the most important skills such as communication, cooperation, and critical thinking. This order of importance differs insignificantly from country to country. While critical thinking ranks first in Italy, cooperation and communication occupy first place in other countries. This finding is also consistent with the findings (OECD, 2008; Saleh, 2019) in the current literature. Conversely, all the countries identified Making Global and Local Connections as the least important skill, even though the mean rating of this skill was 7 out of 10 which can also be considered an important skill. The development of skills which interviewees rated as highly important and highly in demand still requires appropriate and effective training materials. These need to be developed for each skill and for each different sector specifically, not generally. In a fast-changing world of work, skills requirements are also evolving and all training materials need continuously to be updated.

During the CATCH21 project a course programme was developed for students according to the research results and courses were implemented in five countries. Pre- and post-tests were applied to the participants of the courses in all the countries to measure the effectiveness and usefulness of the course. The pre- and post-test results show that the students are more confident and capable in terms of 21st Century Skills. In other words, it can be said that the course was successful and effective in improving the 21st Century Skills of students.

Finally, the CATCH21 project developed teaching materials, face-to-face courses and online courses for HEI teachers and students which can be considered a good starting point. Future studies need to focus on the values and attitudes concerning 21st Century Skills as well, besides the skills themselves, to prepare the future workforce. The HEIs also need to develop in parallel with the continuously changing demand of the labour market.

Acknowledgments

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State of Knowledge on Emergency Response and Crisis Management: Evidence of Sample Secondary Students of Bangladesh

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Abstract

In the era of late modernity, individual vulnerability is affected by various threats and risks. Consequently, people need to be aware of these and fit in more than ever before. To help people become competent in this changing world and to prepare for future threats, academic institutions play a vital role. To understand such an academic role, a part of the literature has highlighted how a student can better learn emergency responses (ER) and crisis management (CM). Nevertheless, very little literature has focused on how a developing country's students, particularly teenagers, learn and understand ER and CM. Focusing on such gaps in the literature, this study aims to understand a sample of Bangladeshi secondary students' state of knowledge related to ER and CM. With the help of cluster sampling, the researcher distributed a survey among a sample of 360 students between 9th and 12th standard from two southern districts respectively Khulna and Noakhali, which are also disaster-prone areas of Bangladesh. Adopting Krathwohl's model of knowledge typology, such as factual knowledge, conceptual knowledge, procedural knowledge, and metacognitive knowledge, the researcher collected and evaluated the data with descriptive statistics. The findings of this study show that even though most of the students are familiar with different ER- and CM-related keywords, they have limited deeper knowledge. Furthermore, there was a significant knowledge difference between the genders. Similarly, the lack of training in the academic environment also makes these young students vulnerable to any kind of threat from their surroundings that could affect the districts' weak institutional and legislative structure. The scholarship of this study, which has policymakers and young academics as its possible audience, could assist them in raising the knowledge levels of students by adding new information to textbooks with illustrations and by setting up drills.

Keywords: secondary school, students, education policy, risk mitigation

1. Introduction

Throughout history, humans have often found it a struggle to manage changing environments. Over the past few decades this struggle has increased dramatically due to globalisation, uncertainty, rapid changes in technology and communication, global warming, war, pandemic, hyper-reality, and so on. Observing the volatile nature and unstable characteristics of these changes, Beck et al. (1992) and Morin and Orsini (2014) have theorised that contemporary society is a risk society, as each day there are unknown threats from various dimensions such as the environment, economy, politics, technology, and so on. Some threats are also generated at the individual level, affecting individual relationships and day-to-day behaviour (Giddens, 2020). Giddens (2020) argued these in the following manner,

> "Lifestyle is not a term which has much applicability to traditional cultures, because it implies choice within plurality of possible options, and is 'adopted' rather than 'handed down'. Lifestyle choices and life planning are not just 'in', or constituent of, the day-to-day life of social agents, but form institutional settings which help to shape their actions." (p. 354)

In these circumstances, learning emergency responses (ER), within either short-term or long-term crisis management, is an important skill for every age group in order to be prepared for any impending threats. The World Health Organization (2020) (WHO) defined ER as, "an outline of the behaviours, processes and procedures to be followed when handling sudden or unexpected situations, including exposure to or release of biological agents. The goal of an emergency/incident response is to prevent injuries or infections, reduce damage to equipment or the environment, and accelerate resumption of normal operations" (p. 9). Since an emergency event can take place at any time and any place, a person should always be prepared. Likewise, the WHO (2020) defines hazards as, "An object or situation that has the potential to cause adverse effects when an organism, system or (sub)population is exposed to it…A hazard does not become a "risk" until the likelihood and consequences of that hazard causing harm are taken into account" (p. 9). In short, a hazard is a hazard until it creates vulnerabilities in a person's life and property.

In this context, Cieslik and Pollock (2017) have identified young people as being more vulnerable in today's late modernity because the young citizen is generally comping with a "transition" in terms of "employment, sexuality and household formation". In line with this view, it is assumed that young people, especially adolescents and above, need to be aware of potential ER and learn crisis management (CM) skills because these three social elements are changing quickly. As today's youth, especially teenagers, are the adults of the future they will need to navigate more complex crises when a super-smart society, known as society 5.0, will merge the physical and cyber worlds within their lifetimes (Hasan & Sony, 2023).

However, Giddens (2020) and Hoffmann and Muttarak (2017) believe that educational institutions can be a perfect place for learning and practicing ER and CM to develop a young student's future actions. Hoffmann and Muttarak (2017) explain that "formal education raises the propensity to prepare against disasters". After critically examining such behavioural attributes they concluded, "…[E]ducation improves abstract reasoning and anticipation skills such that the better educated undertake preventive measures without needing to first experience the harmful event and then learn later" (p. 32).

Similarly, Segovia (2010) has argued that education for sustainable development, as promoted by national and international agents over the last couple of years, has been recognised as a key tool in reshaping society, however it will only be effective if there is a genuine shift in students' perspectives. Notwithstanding, such development in student's behaviour always remain uncertain in developing countries like Bangladesh.

Building Segovia's (2010) perspective, it is the belief of the researchers of this current study believe that academic institutions and curriculums can be key actors in teaching emergency responses and disaster preparedness. Additionally, Hasan et al. (2022) stated students with stronger disaster education were more prepared than those who have not received such knowledge in an institutional setting and so they recommended university courses should include disaster education, training, exercises, and simulations. Unlike Hasan et al. (2022), the authors of this study believe that secondary school could be the best learning and practice place for ER and CM, as this is where teenagers spend a significant amount of their time. Besides this, in the context of Bangladesh more than half of the population does not advance to higher education, instead they enter the professional life or create homes. For instance, a significant number of girls marry between the ages of 16-20 in Bangladesh (Carrico et al., 2020; Islam et al., 2016; Uddin, 2021). These indicate a particular vulnerability for this age and sex group in terms of not receiving enough knowledge about ER and CM.

Bangladesh's National Curriculum and Textbook Board (NCTB) recognises the importance of ER and CM and have published 39 textbooks that feature disaster risk reduction (DRR) for students between pre-primary to grade 12 since 2004. The Ministry of Education stated in January 2014 that 'disaster preparation will be included into 10 more texts with crisis and disaster management process (CDMP) financial and technical support' (Kagawa & Selby, 2014). Although some studies (Ahmad & Numan, 2015; Parvin et al., 2022; Rahman & Missingham, 2018) have highlighted the availability of disaster-related knowledge and topics in the national curricula, Habiba et al. (2013), and Rahman and Missingham (2018) have raised questions about ER and CM related literacy within Bangladeshi school textbooks, and criticised them as being disorganised and lacking logical development. The research strongly recommends updating the curriculum, reorienting, and reorganising textbooks using an interdisciplinary and holistic approach (Habiba et al., 2013). Such literature motivates the authors to understand the current level of Bangladeshi secondary school students' knowledge in terms of ER and CM. This can then inform the policy makers, along with academics, about the existing situation.

Though very few studies have explored this issue, some, like Kamil et al. (2020), have highlighted that most of the students did not know about emergency measures. Kamil et al. (2020) also concluded that every school should have a community-specific safety plan, covering mitigation/prevention, preparation, recovery, and reaction. Though policy was considered in the study of Hasan et al. (2022), few publications emphasise secondary school students' knowledge level. The urgent need to learn what to do during a sudden shock event like a terrorist attack in school or another place was also highlighted by Stene et al. (2019) and Hošková-Mayerová et al. (2021). Similarly, the importance of first-aid training has been shown in a Norwegian context (Bakke et al., 2017), but these areas have not been studied in a Bangladeshi context.

Additionally, some researchers like Ahmed and Braithwaite (2006), Ahmed et al. (2014), Mohiuddin (2019), Daisy et al. (2001), and Jahan et al. (2010) have carried out research in Bangladesh exploring issues like sexual harassment in school, drug addiction, school bullying, fire explosions, and early marriage of school students and their socio-economic impact, but none of the studies have evidence of the current knowledge level of the students regarding ER and CM. In these studies, statistical information about what is ER and how to act in any crisis have also not been clearly indicated. Aiming to address this omission, the researchers designed a study to seek the answer in the context of Bangladesh.

1.1 Review of the education policy of Bangladesh

Prior to understanding the existing student knowledge scenarios, it is important to know how much emphasis has been given to ER- and CM-related literacy in the Bangladesh education policy. Since public policies are the core driver and guiding principle for all settings (Fischer, 2019), for this study, the researchers have reviewed the National Education Policy (2010) of Bangladesh, although the latest education policy will be adopted in Bangladesh by the beginning of 2023. After reviewing the aim and objectives of the policy, two objectives (i.e., 18 and 30) were found partially related to this study.

The objectives are: "… to build students as skilled human resources to fight the challenges of the world threatened by climate change and other natural disasters and to create in them a social awareness about environment" (p. 9) and "… to caution the students and make them aware of the dangers of taking drugs or similar items" (p. 10). Apparently, the contents of the earlier policy (2010) were focused on increasing numbers of participants in school and minimising drop-out rates (Rouf, 2021). Some guidelines like "[S]pecial attention will be given to create residential facilities in the schools of hilly and remote areas" for primary education is a good example of this. Subsequently, special attention to core student needs has remained uninvestigated. Therefore, Habiba et al. (2013) have condemned the academic system as having a lack of logical development about ER and CM. Nonetheless, in the absence of a thorough investigation, such a conclusion cannot be made, and given that the research was conducted roughly ten years ago, it would be reasonable to call for further scrutiny to determine the level of student knowledge within the existing legal guidelines.

2. Methodology

To meet the research objective, of understanding the knowledge level of ER and CM among high school students in Bangladesh, the researcher decided the quantitative methodology would be best to portray the percentage of the respondents according to their level of knowledge. Although a unitarian secondary curriculum governed by the whole of Bangladesh exists, the researchers have assumed that the students may have received special education according to their sex and geographic vulnerability. Therefore, the two most disaster-prone southern districts of Bangladesh, respectively Khulna district and Noakhali district, were selected to collect primary data.

Through the cluster random sampling technique, with the help of a self-administered questionnaire (SAQ), a survey was run between July 2022 and August 2022. 360 secondary students from three secondary schools and three higher secondary schools in each study area completed the questionnaire. Participating in this survey was completely voluntary and before taking part in this survey, oral informed consent was taken from each respondent. The whole

data collection process happened in the presence of two class teachers, one male and the other one female, and each respondent's comfort was the highest priority. It was ensured that for any discomfort in answering the questions, the respondents were free to leave and withdraw their responses at any stage of the survey.

Before the data collection began, the researchers explained each question in the native language (Bengali) of the students. Furthermore, each respondent and teacher were ensured that this study's findings and data would only be used for academic purposes. Subsequently, no personal identification data, like name and residence, were collected from the respondents during the survey.

The average age of the respondents for this study was 16.05 years with 1.436 standard deviations where the percentage of the boys and girls were respectively 47.2 and 52.8 (Table 1). To understand the knowledge level, the participants were asked to complete a series of statements using a Likert scale response. Each scale had five choices: 0) no knowledge; 1) I read it but forget; 2) I know but can't explain; 3) I have some knowledge and can explain it; 4) I have clear knowledge and express it well. The participants were also asked a number of cognitive level questions. The structured SAQs helped respondents complete it without external assistance. These methods helped them to express their actual responses independently.

TABLE 1. RESPONDENTS' DESCRIPTIVE INFORMATION

Percentage distribution of respondent's Age		Percentage distribution of Respondents enrollments	
Age	*Percent*	*Class*	*Percent*
13	0.6	9	37.2
14	16.7	10	21.1
15	25.0	11	33.3
16	12.2	12	8.3
17	29.2	Total	100.0
18	13.9	Percentage distribution of respondent's sex	
19	2.2	*Sex*	*Percent*
20	0.3	Boy	47.2
Total	100.0	Girl	52.8
Mean= 16.05; S.D.= 1.436		Total	100.0

Source: own calculation, 2022

The respondents were asked about some basic emergency training, as well as crisis management and response issues under four broad categories of knowledge, postulated by Krathwohl (2002) which include factual knowledge, conceptual knowledge, procedural knowledge, and metacognitive knowledge (see Table 2). Each category of knowledge also consisted of several important ER and CM related issues. To make it understandable for the respondents the questionnaire was prepared in Bengali and later translated into English, and the data was coded and analysed in the Statistical Package for Social Science SPSS (version 22) software package.

TABLE 2. MAJOR THEMES THE RESPONDENTS WERE ASKED

Factual Knowledge

What is ER?

What is a disaster?

Mood swings

Behavior with opposite sex and autistic children

Conceptual Knowledge

Type of disaster?

The meaning of signals

Emergency services' contact numbers

Procedural knowledge

Responses to different disasters and hazards

Responses to emergency health issues

Responses to a fire incident

Responses to harassment and abuse

Metacognitive Knowledge

Responses to a terrorist attack

Responses to a road accident

Response to bullying and teasing

Source: own compilation, based on Krathwohl (2002)

3. Results

The study's findings, which have been presented in accordance with its objectives, show the percentage distribution of respondents' overall factual knowledge of self-defence, emergency response, and disaster management (see Table 3). The highest percentage of respondents who said they knew anything about disasters and could explain it was 32.2 per cent, while 29.2 per cent said they were aware of it but were unable to describe it.

On the other hand, just 32.5 per cent of students who responded to the survey had a firm understanding of and could articulate the different types of disasters, while 25.0 per cent of other students admitted to having read it but forgotten. However, only 22.8 per cent of respondents who had an opinion on emergency responses had knowledge they could explain. Also, among all respondents, there are 15.0 per cent who have no knowledge about self-defence and 26.7 per cent who have a clear understanding and can articulate it well.

	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What is a disaster?	3.3	19.4	29.2	32.2	15.8	100.0
What are the types of disaster?	11.4	25.0	15.3	15.8	32.5	100.0
What is emergency response/emergency measure?	16.9	19.7	20.6	22.8	20.0	100.0
What are self-defense techniques?	15.0	12.2	19.4	26.7	26.7	100.0

Source: own calculation, 2022

According to conceptual comprehension, Table 4 shows the respondent's level of knowledge of natural catastrophes such as earthquakes, thunderbolts, cyclones, and floods and what steps should be taken. With regard to an abrupt earthquake, the majority of students (44.2%) felt that they had clear information and could articulate it well. Similar to this, 18.3 per cent of students who responded to the survey knew what to do during thunderbolt, but only 28.6 per cent of them could describe it.

TABLE 4. PERCENTAGE DISTRIBUTION OF RESPONDENTS' LEVEL OF KNOWLEDGE ON NATURAL DISASTERS

	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What to do in sudden earthquake?	4.4	10.8	11.4	29.2	44.2	100.0
What to do during thunderbolt?	11.9	14.2	18.3	28.6	26.9	100.0
How many signals are there for cyclone/whirlwind?	25.8	21.9	21.7	14.2	16.4	100.0
What is the meaning of each signal of cyclone?	41.7	23.3	19.2	10.3	5.6	100.0
What should we do during the cyclone?	19.7	22.5	23.9	16.7	17.2	100.0
What should we do during the flood?	3.1	10.0	19.2	29.2	38.6	100.0

Source: own calculation, 2022

The outcome reveals what students think about how many signs there are in a cyclone, about which 25.8 per cent of respondents reported having no information and 21.9 per cent of other respondents having read it but forgotten. Also, the data shows that only 5.6 per cent of respondents have clear knowledge and are able to articulate it adequately, compared to 41.7 per cent who have no idea what each cyclone indicator means.

The greatest response rate (23.9%) of the students knew the answer to the question about what to do during a storm but was unable to describe it. Lastly, 38.6 per cent of the students who responded indicated that they had a clear understanding of what to do in floods and could articulate it clearly, while 19.2 per cent of them were unable to do so.

A maximum of 40.20 per cent of respondents claimed to have clear knowledge and to be well informed about what to do in the event of a fire in their school or neighbourhood, but 48.6 per cent of respondents did not know the fire brigade's phone number (Table 5). This factual knowledge relates to man-made disasters such as fire, terrorist attacks, accidents, and so on.

Also, as the table illustrates, 25.6% of the respondents have some information and can explain, but 23.6% of the respondents have no idea what to do in the event of a terrorist attack at the school (Table 5). A maximum 37.2 per cent of respondents indicated that students have clear information and can articulate it well in response to the topic of how to prevent accidents on a trip (by vehicle, boat, or other means) whereas up to 28.9 per cent of respondents had no understanding of number 333, which is the hotline service for weather information. A maximum of 41.1 per cent of student respondents have clear knowledge of and can articulate it clearly about number 999 which is the 24/7 national emergency services.
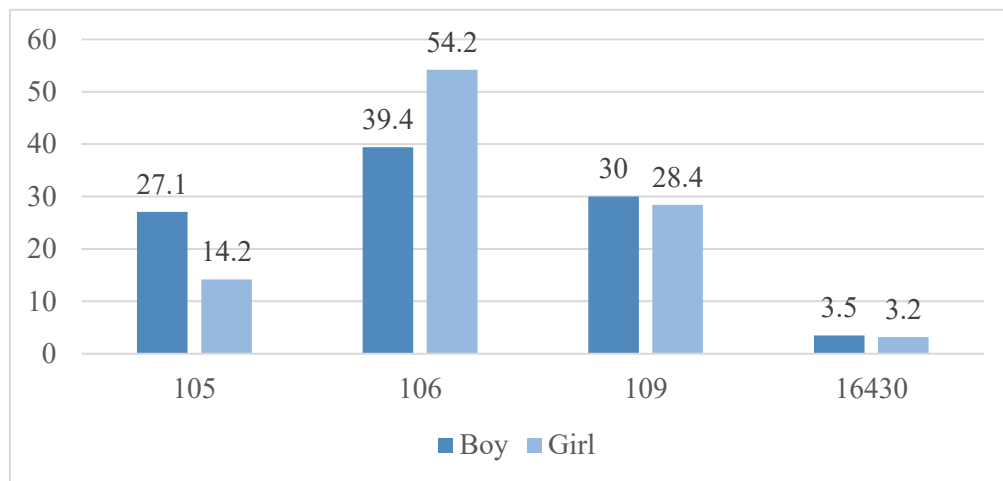
TABLE 5. PERCENTAGE DISTRIBUTION OF RESPONDENTS' LEVEL OF KNOWLEDGE ON HUMAN-CAUSED DISASTERS

	No knowledge	I read it but forget	I know but can't	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What to do if there is a fire in your school or neighborhood?	8.1	6.9	15.3	29.7	40.0	100.0
Do you know the contact number of fire brigade?	48.6	13.1	9.2	10.6	18.6	100.0
What to do if there is any terrorist attack at the school?	23.6	7.2	22.2	25.6	21.4	100.0
What is 999?	17.2	12.5	11.1	18.1	41.1	100.0
What is 333?	28.9	14.7	14.7	13.6	28.1	100.0
How to avoid accidents on the way (car/boat/others)?	5.8	10.8	20.8	25.3	37.2	100.0

Source: own calculation, 2022

This study shows significant limits in another factual knowledge level difference in males and females about the emergency helpline number to prevent women and child abuse. The researchers created hypothetical helpline numbers and presented them alongside the original one 109. The results show that a significant portion of boys (39.4%) and girls (54.2%) picked the wrong number, whereas a small portion of boys (30%) and girls (28.4%) knew the correct one (Figure 1). Additionally, girls were more likely to pick hypothetical numbers than boys.

FIGURE 1. PERCENTAGE DISTRIBUTION OF THE KNOWLEDGE LEVEL OF RESPONDENTS ABOUT WHICH NUMBER THEY CAN CALL TO GET HELP FOR 'WOMEN AND CHILD ABUSE'

Source: own calculation, 2022

Table 6 below shows the percentage distribution of respondents' procedural knowledge scores for certain CM items. If a classmate is bitten by a snake, the majority of the pupils (41.9%) who responded favourably indicated that they had clear understanding and good communication skills. On the other hand, 21.9 per cent of the pupils had no understanding, compared to 57.5 per cent of respondents who had clear information and can articulate it well about swimming.

Furthermore, the table displays the students' opinions regarding what would happen if a classmate falls into water. A maximum of 51.7 per cent of respondents indicated that they had clear knowledge and could express it, while 19.4 per cent indicated that they had some knowledge and could explain it. Similar to this, the majority of students (44.2%) who responded clearly knew what to do and can explain it well if a classmate gets electrocuted, although 18.3% read it but did not remember. Again, while up to 34.2 per cent of respondents had some understanding of, and could explain how to, administer first-aid in the event of an accident, 26.1 per cent had knowledge but were unable to do so.

TABLE 6. PERCENTAGE DISTRIBUTION OF RESPONDENTS' LEVEL OF KNOWLEDGE ON CRISES MANAGEMENT

	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What do you do if your classmate is bitten by a snake?	5.0	6.7	16.4	30.0	41.9	100.0
Do you know how to swim?	21.9	4.7	7.5	8.3	57.5	100.0
What to do if your classmate falls into the water?	7.5	6.4	15.0	19.4	51.7	100.0
What to do if your classmate is electrocuted?	7.2	7.8	18.3	22.5	44.2	100.0
How much do you know about how to take first-aid in case of any accident?	7.5	10.8	26.1	34.2	21.4	100.0

Source: own calculation, 2022

According to the research, just 10.8 per cent of respondents had no information on health emergencies, while up to 38.6 per cent of pupils have clear understanding and can articulate it clearly, along with 25.0 per cent who have some understanding and can explain whether a classmate is ill or has mental health issues (Table 7).

TABLE 7. PERCENTAGE DISTRIBUTION OF RESPONDENT'S LEVEL OF KNOWLEDGE ON HEALTH CRISES

	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What to do if your classmate gets sick or senseless?	10.8	5.8	19.7	25.0	38.6	100.0
What to do if anyone has 'heat stroke' during drought or extreme heat?	47.5	14.2	21.4	10.3	6.7	100.0
Do you know what adolescence is?	3.3	6.7	17.2	20.6	52.2	100.0
What is mood-swing?	16.1	10.8	19.7	24.7	28.6	100.0
What to do if you or your classmate has mood swings?	26.9	10.6	19.7	20.3	22.5	100.0

Source: own calculation, 2022

47.5 per cent of respondents do not know whether "heat stroke" occurs during times of drought or excessive heat. As well, when it comes to opinions on adolescence, approximately 52 per cent have a good understanding and can articulate it clearly, while about 17 per cent were aware

but unable to do so. Also, as seen in the table, 16.1% of respondents do not know anything about mood swings, compared to 28.6 per cent of students who have clear knowledge and can articulate it clearly. Also, only 26.9 per cent of student respondents were able to answer the issue of whether their friend's mood changes (Table 7).

The findings of this poll helped to understand societal concerns since they show that, when asked what to do if they are the targets of Eve teasing, unwanted sexual remarks by a man to a woman, 36.4 per cent of respondents stated they had clear information and could communicate it properly, while 13.1 per cent had no idea (Table 8).

In a similar vein, just 20.6% of respondents had any understanding of what to do if a teacher, staff member, or other student engages in sexual harassment. However, 26.4% of respondents can explain their knowledge (Table 8). The result illustrates that, while 20.6 per cent of students do not know, 24.4 per cent of students have clear knowledge and can communicate it well about prejudice based on race, religion, skin, colour, or health (Table 8).

TABLE 8. PERCENTAGE DISTRIBUTION OF RESPONDENT'S LEVEL OF KNOWLEDGE ABOUT SOCIAL ISSUES/CRISES

	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What to do if you or your classmate is a victim of eve-teasing?	13.1	7.5	15.6	27.5	36.4	100.0
How much do you know about what to do if you or a classmate is being sexually harassed by a teacher/staff/other?	20.6	7.2	19.7	26.4	26.1	100.0
What to do if you or your classmate gets discriminated on the basis of race, religion, skin, color, health?	20.6	11.7	19.7	23.6	24.4	100.0
What to do if any friend or classmate is bullied at school or playground?	25.6	6.1	24.2	23.3	20.8	100.0
Are the evils of drugs or topics of drugs discussed in the institution?	17.8	4.4	15.6	16.9	45.3	100.0
How to deal with your autistic friend?	5.3	3.6	14.2	21.9	55.0	100.0
How to deal with your transgender friend?	13.1	7.5	16.7	20.6	42.2	100.0
How to prevent child marriage of your classmate?	9.2	6.1	13.1	24.2	47.5	100.0

Source: own calculation, 2022

In addition, 25.6 per cent of respondents said they were unsure of what to do if a friend or classmate was being bullied at school or on the playground (Table 8). The majority (45.3 per cent) of students who responded to the question about the negative effects of drugs or themes related to drugs discussed at the institution had a clear understanding and could articulate it clearly, while 17.8 per cent of students had no knowledge. Up to 55.0 per cent of pupils have clear information and can convey it effectively about how to interact with autistic classmates (Table 8). About a transsexual acquaintance 13.1 per cent of students lack knowledge, 20.6 per cent have some understanding and can explain it, and 42.2% of students have clear information and can communicate it effectively (Table 8). The following data demonstrates that 25.3 per cent of respondents have some knowledge and can explain strategies to prevent child marriage to a classmate, while 47.5 per cent of respondents have a clear comprehension and can communicate it clearly (Table 8).

However, up to 65.6 per cent of students disagreed with the statement that their institution was teaching them how to swim in response to the metacognitive knowledge-based questions, while only 4.5 per cent agreed, as seen by the clustered bar in Figure 2.

FIGURE 2. PERCENTAGE DISTRIBUTION OF RESPONDENTS' LEVEL OF KNOWLEDGE ABOUT INSTITUTIONAL INITIATIVES REGARDING CRISIS MANAGEMENT
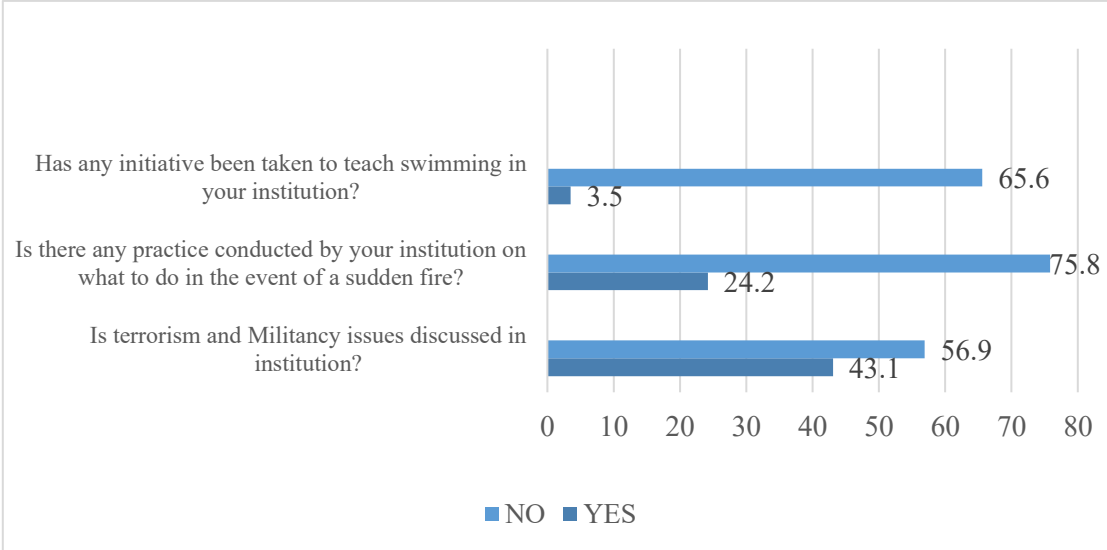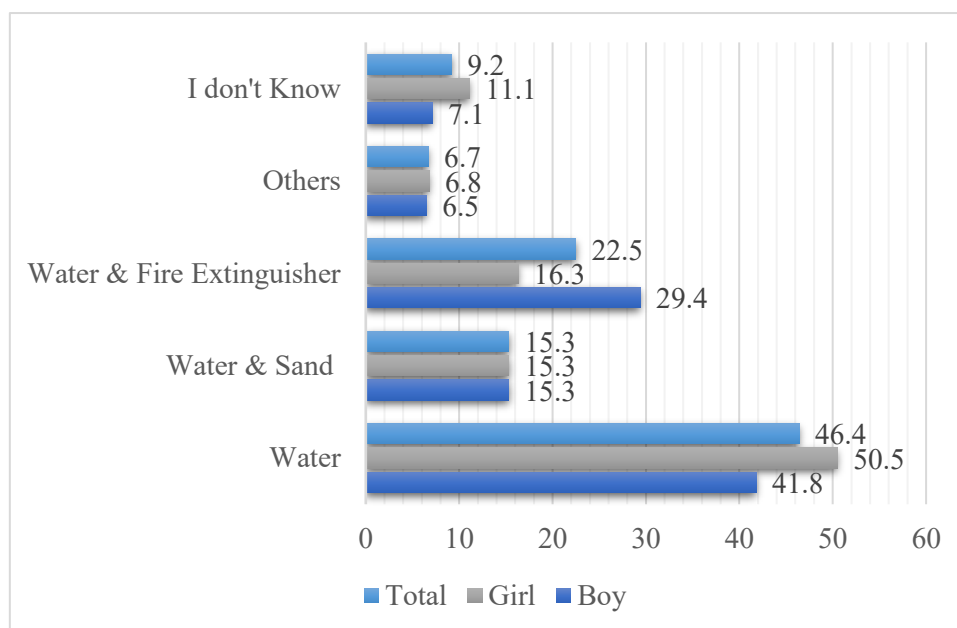

Source: own calculation, 2022

75 per cent of students who responded said their schools do not conduct fire drills. 43.1 per cent and 56.9 per cent of the student respondents indicated that their school did not talk about terrorism and militant issues, respectively.

Likewise, the knowledge of home/school fire extinguishing measures among respondents is shown in Figure 3. Just water was mentioned by 46% of respondents, followed by water and sand (15%), water and a fire extinguisher (23%), others (7%), and not sure (9%) (Figure 3). Regarding to male and female differences, a significantly larger portion of girls (50.5%) than boys (41.8%) chose water as a means of fire control. At the same time, more boys (29.4%) chose water and fire extinguisher than girls (16.3%) as a means of fire control. For water and sand, the same portion of students selected (15.3%) it as a means of fire control.
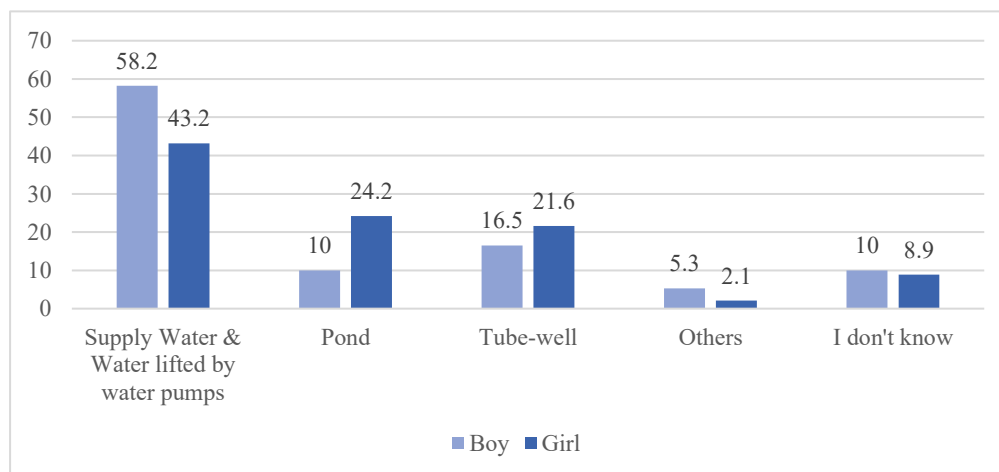
Source: own calculation, 2022

In line with this perception, the respondents' degree of familiarity with water sources for home and school fire extinguishing is shown comparatively in Figure 4. The results show that a significant portion of boys (58.2%) and girls (43.2%) selected supply water and water lifter by pumps as a source of water systems for fire control. Among the others, more girls than boys selected ponds and tube-well as a source of water to control fire incidents.

FIGURE 4. PERCENTAGE DISTRIBUTION OF THE KNOWLEDGE LEVEL OF RESPONDENTS ABOUT SOURCE OF WATER SYSTEMS FOR FIRE EXTINGUISHING AT HOME/EDUCATIONAL INSTITUTIONS

Source: own calculation, 2022

Figure 5 summarises where students initially and frequently learned about ER and CM. More boys (44.7%) were the first to learn about ER and CM from family members than girls (39.5%), whereas girls (42.6%) were the first to learn about ER and CM from school teachers compared to boys (28.2%) (Figure 4). Although a small percentage of boys (10.6%) initially learned about ER and CM through internet media, very few girls (1.6%) have done so. Instead, a nearly equal percentage of girls (9.5%) learned about these issues through reading books. On the other hand, more (37.1%) of the boys heard about ER and CM from their family members than the girls

(24.2%). Notwithstanding, similar to the girls who made up half of the respondents (51.6%), the boys made up a maximum of 34.1 per cent of the respondents who were accustomed to hearing about ER and CM from school teachers.

FIGURE 5. PERCENTAGE DISTRIBUTION OF THE KNOWLEDGE LEVEL OF RESPONDENTS ABOUT WHERE STUDENTS HEARD ABOUT EMERGENCY RESPONSE AND CRISIS MANAGEMENT FIRST AND MOST
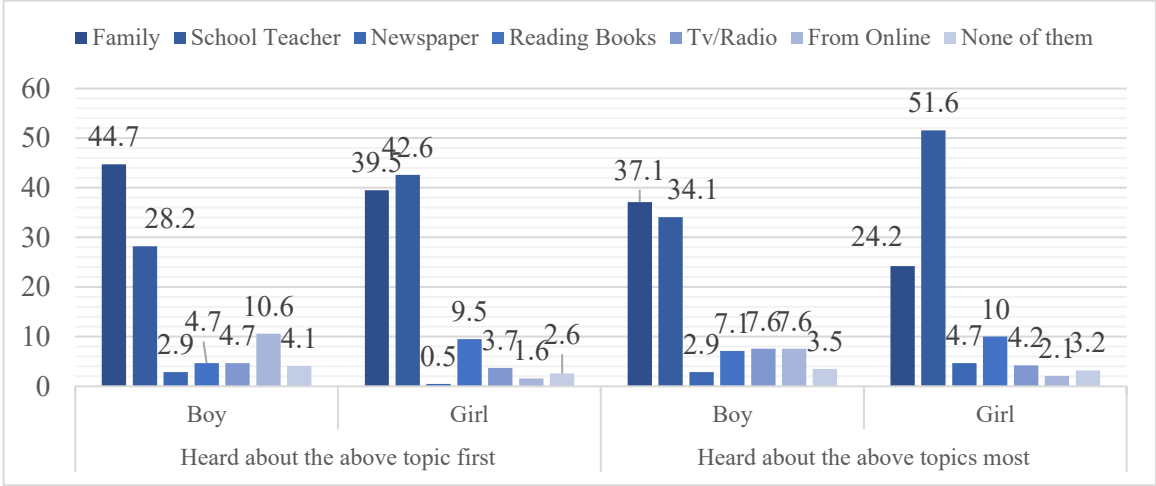
Source: own calculation, 2022

4. Discussion

Institutions can play a crucial role in the urgent need to learn ER and CM in order to successfully adapt to changing environments (Giddens, 2020). Building on this, the present study was developed to critically examine the level of knowledge of a sample of secondary school students in Bangladesh in the field of EM and CM, following the guidelines of Cieslik and Pollock (2017) and Giddens (2020). Every school should have a safety strategy that considers mitigation/prevention, planning, readiness, recovery, and reaction, according to a number of studies that have recently been published, including Kamil et al. (2020). The findings of this study, which support Kamil et al. (2020), also show that the majority of respondents had very little knowledge of emergency procedures, such as what to do in the event of a fire (about 50%), since the highest response rate of about 75% stated that there had never been a fire drill conducted in an academic setting.

Considering the function of institutions, this study discovered that roughly 65 per cent of respondents said they had no help from educational institutions to learn fundamental life-saving skills like swimming. Similarly, when it comes to sudden events like terrorist attacks, which have been highlighted by prior studies (Hoková-Mayerová et al., 2021; Stene et al., 2019), this study has made it evident that neither academic settings nor curricula encouraged teachers to explore these topics. In a similar vein, this study's findings demonstrate that a sizeable percentage of students—between 30 and 40 per cent—do not know the emergency hotline numbers, leaving them very vulnerable. Furthermore, based on male and female differences there is a wide variety of knowledge gaps. For example, more than half of the girl respondents did not know what the national helpline number for women or child abuse was. Bakke et al. (2017) also stressed the significance of first-aid training, although this study showed that students' levels of first-aid knowledge were unclear, highlighting another flaw in the national

curriculum. This study concurs with Bakke et al. (2017) and urges secondary schools to require students to receive ER and CM first-aid training.

Several studies over the past few years—including Ahmed and Braithwaite (2006), Ahmed et al. (2014), Mohiuddin (2019), Daisy et al. (2001), and Jahan et al. (2010)—have highlighted the need for specialised instruction on issues like sexual harassment in schools, drug addiction, bullying in schools, fire explosions, early marriage of school students, and the socioeconomic impacts. Given that the results of this study demonstrate that students have very little knowledge or a clear understanding of the material, it is also recommended that unique content be added to the curriculum and textbook in this direction. These situations could cause great misunderstanding in these young individuals and put them in danger.

Furthermore, this research reveals that although the majority of students have a basic understanding of crisis management, their training has not been entirely comprehensive because there are no simulations. The advice to policymakers would be to include this specific training for students because the education policy lacks a clear directive about the education and training of ER and CM. However, because this study focused on the general scenario of students' level of understanding rather than presenting an in-depth scenario like why the students have poor knowledge in ER and CM or how it could be improved, the researchers feel that an experimental study could be more appropriate to develop useful policy guidelines for this situation. Due to the researchers' time and expertise constraints, gender-specific ER was only briefly examined; therefore, future studies should address this topic.

5. Conclusion

The rapid changes in contemporary environments and societies has led to an increasing amount of vulnerabilities in the general population. Each person needs to be ready for an unexpected event, whether it be environmental, biological, man-made, or hyper-reality, in order to keep up with this changing culture. The ideal place to educate young people, according to scholars, may be academic institutions because they are more vulnerable than any other age group. In line with this idea, national education curriculum often offers a basic direction in shaping the academic environment. To illustrate secondary school students' knowledge and awareness of ER and CM in Bangladesh, this study's researchers set out to create a study with this information in mind. The results, however, demonstrate that because ER and CM have not been given significant attention in the national secondary school curricula, student knowledge levels remain extremely low. A sizable portion of the respondents lacked procedural and metacognitive level understanding for various natural or man-made threats.

Similarly, the majority of students were unable to explain how to stop situations like sexual harassment, child marriage, bullying, and Eve teasing. The level of knowledge also varies based on gender. Therefore, the researchers recommend to policymakers to take the necessary steps to resolve this challenge and minimise the vulnerabilities of young people by emphasising the theoretical and practical scope of learning ER and CM in early academia. Adding, placing, and introducing different ER and CM-related actions in textbooks with pictures and along with a story could be a good form of theoretical education. For vocational learning, specifically, some mandatory drills and mock classes associated with ER and CM could be introduced in the academic setting so that the students can effectively educate themselves. Overall, the scholarship of this study could also help young scholars by exploring the relationship between students' knowledge level and spatial location in a definite time dimension.

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The Impact of COVID-19 on the Readiness of Enterprises for Employee Training Using ICT – A Comparison of the Visegrad Four Countries Covid-19

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Abstract

This paper examines the impact of the COVID-19 pandemic on the readiness of enterprises for employee training using ICT. It first examines Eurostat's secondary data, mainly comparing 2019 and 2022 for medium-sized enterprises (50-249 employees, all sectors excluding the financial sector) from the Visegrad four countries. It then examines two specific Digital Economy and Society Index (DESI) indicators: Human Capital and Integration of Digital Technology. The paper concludes with an analysis of these indicators using the Kruskal-Wallis test to confirm or reject the assumed positive relationship between the indicators, and data about enterprises that provide training in order to develop the ICT skills of their employees. Data on ICT usage in enterprises were collected from Eurostat. Data on the Digital Economy and Society Index were collected for comparative analysis. COVID-19 was found to have had no significant effect on enterprise readiness for employee training with ICT. The results also suggest no positive relationship between ICT employee training and indicators from the DESI index. Learning and development practitioners should take greater account of changing and unpredictable realities, as well as the evolving nature of information and communication technology (ICT). The COVID-19 pandemic may yet help to modernise existing development offerings in organisations and foster a culture of lifelong learning.

Keywords: information and communication technology, employee training, DESI index, digital skills, COVID-19, pandemic

1. Introduction

The rhythm of change, the unpredictability, uncertainty and ambiguity of events, and the increased development of modern technologies are dynamically shaping the work environment and influencing the trends and methods used in employee training.

Expectations are changing, forms of development are evolving, and the need for new tools and training is emerging (Williams, 2020). In addition, employees have for some time been

expected to take greater responsibility for improving existing skills and adding new ones to meet current job requirements, prepare for leadership opportunities, and secure their employability to transfer and adapt within and between organisations as needed (Molloy & Noe, 2010). Moreover, the recruitment of employees belonging to the millennial generation born in the 1980s-2000s - the generation that is technologically literate, determined to succeed quickly and expects quick satisfaction poses new challenges for employers (Pyöriä et al., 2017). In recent years, this challenging situation has been exacerbated by COVID-19 – which has had an unprecedented impact on the labour market – and employee development in companies is a topic more important than ever today. The need for social isolation as a result of the pandemic has permanently stigmatized the training market. It was necessary to move the development landscape from physical training spaces and face-to-face contact to the online environment (LinkedIn Training Report, 2020).

Originally known as the coronavirus, COVID-19 has become a worldwide pandemic (Bayuni, 2020). This situation has created a challenging context for organisations, and particularly the human resource management function. New technologies are proving to be crucial in the fight against the crisis, enabling communication and remote working or online learning on an unprecedented scale. A key advantage of integrating collaborative technologies into the learning environment is that users can have constant access to learning materials (on-demand) from anywhere using various devices (Fake & Dabbagh, 2020). At the national level, human resource development policies and human resource training programs are becoming a catalyst for workforce productivity growth, especially in the Industrial Revolution 4.0, which requires advanced technological knowledge (Man, 2020).

The crisis has also forced people to confront several unresolved issues related to the extent of technological intrusion into professional and private life. Deep transformations in many areas of life are not yet over – they are in process. This also includes human resources in companies. This pandemic has redefined the field of learning and development in organisations (Jingfang & Yates, 2020; Kshirsagar et al., 2020; Raheja, 2021; McRae & Aykens, 2022; Training Magazine, 2019; Training Magazine, 2022).

This paper aims to investigate the impact of COVID-19 on companies' readiness to implement employee training using information and communication technology (ICT) within the Visegrad Four countries, i.e., the Czech Republic, Poland, Hungary and Slovakia. Thus, the research question is whether COVID-19 had a positive impact on these companies' readiness to implement employee training using information and communication technology.

2. Theoretical Background

2.1. Employee Training

Human capital is perceived nowadays as a high-value and in-demand asset which, if properly applied, can stimulate the growth of a company's market value and, in the long term, appears to be much more important than the ownership and use of material resources and financial capital (Nadiv et al., 2017; Somogyi, 2020). Current corporate practice confirms that employees' capabilities, knowledge and skills are becoming key determinants of competitive advantage in global markets, as pointed out by Hammond & Churchill (2018). Organisations consider human resources as a "second source of profit" and have elevated human resource development to a strategic level, and nowadays, training and human resource development have become

important prerequisites for enterprise development (Halbouni et al., 2016). Furthermore, training can serve to increase individual and organisational productivity, one of the main objectives of human resources management (Ozkeser, 2019).

According to Hanaysha (2016), employee training occurs when an individual acquires and develops new skills, knowledge, abilities and attitudes. It is goal-oriented, influences cognition and behaviour and is based on experience. Thanks to Industry 4.0 and its digitalisation, educational content is becoming more accessible to employees and new opportunities are opening up (Saniuk et al., 2021). Digital skills are increasingly being mentioned, particularly in the context of the growing need for skilled workers in the labour market.

2.2. COVID-19 and Information and Communication Technologies

The biggest challenge today is the COVID-19 pandemic and the resulting global economic crisis, dramatically changing people's communication habits through information and communication technologies (Guillermo et al., 2020). While there is no single universal definition of ICT, it generally refers to all devices, network components, applications and systems that together enable people and organisations to communicate in the digital world (Heeks, 2018).

The use of ICTs has become the standard everywhere: at work, in learning and in everyday transactions. In addition, it has particularly far-reaching consequences for workers, as it has most likely accelerated the process of job transformation (Guillermo et al., 2020). The coronavirus pandemic has forced businesses to embrace digital transformation and change how they create, provide and capture value for their customers (Lugtu, 2021). In addition, enterprises face another challenge: the management of big data. If it becomes the starting point of a real industrial revolution based on converging technologies and businesses fail to master it, their competitive position will weaken (European Parliament, 2023).

For their part, to use digital technologies in different situations and for different purposes, employees will need to acquire the relevant competencies: new knowledge and skills that will become an important part of the development and competitiveness of individuals and companies. As the digital transformation processes deepen, the most important issue is an appropriate, flexible education system that enables the development of competencies and new skills. These aspects are closely interlinked: the better equipped a company is with technology and the more appropriate competencies, and skills employees have to use technology, the greater the opportunity to increase the competitiveness of companies and to gain economic, social, environmental and consumer benefits for the country (Bikse et al., 2021). But digital technology does not only have to have a positive impact on the labour market. Econometric models of what jobs, or parts of jobs, could be replaced by digital technologies are being developed, and then it is assumed that these jobs will be affected in this way (Fleming, 2018).

3. Methods

3.1. Aim

The study aims to analyse the impact of COVID-19 on the readiness of medium-sized enterprises in the Visegrad Four countries for employee training using ICT.

The paper will also examine the relationship between ICT training and the digital development of the Visegrad Four economies in 2022. The paper responds to the increasing importance of ICT in employee training.

3.2. Data Source

Secondary data, which will be obtained from the Eurostat database, specifically from the Digital economy and society database, will be analysed and compared in a time context for the survey.

In addition, data from the DESI index will be used, which is a composite index that summarises relevant indicators of Europe's digital performance and tracks developments in the digital competitiveness of EU Member States.

The study will focus on the Visegrad Four countries, i.e., Czech Republic, Poland, Hungary and Slovakia. Only data from these countries' medium-sized enterprises (50-249 employees, excluding the financial sector) will be selected. For descriptive statistics, the period 2017-2022 will be chosen, while only the year 2022 will be chosen to compare the relationship between the selected indicator and the DESI index. The data represent % of medium-sized enterprises for different variables.

The first variable examined is Enterprises provided training to their personnel to develop their ICT skills which is broken down by company size and is measured annually. Second variable examined is Covid-19 Impact on ICT usage by size class of enterprise which was only measured in one year, 2020. Third variable from Eurostat database is Individuals' level of digital skills. This variable is measured every two years.

3.3. Statistical analysis

Statistical analysis was performed in two steps. First, descriptive statistics were carried out for relevant indicators for which comparisons were made between the Visegrad Four countries over several years. This comparison serves to identify the extent of the impact of the COVID-19 pandemic on the readiness of each country for employee training with the use of ICT. Secondary data were obtained from the Eurostat database. The Kruskal-Wallis test was used to compare the selected indicator with the DESI index to reveal the relationship between digital economic development and the percentage of enterprises providing training to their personnel to develop their ICT skills of the Visegrad Four countries. This test is used to compare two or more independent data samples of the same or different sizes. It is a non-parametric method, so normality of the data is not required. We compare the relative position of the data. The hypothesis of this study was: There is a positive relationship between the selected indicators of the DESI index (Human Capital and Integration of Digital Technology) and the indicator of ICT employee training in enterprises of the Visegrad Four countries.

4. Results and Discussion

4.1. Enterprises provided training to their personnel to develop their ICT skills

The following table, Table 1, presents the share of medium-sized enterprises that provide training to their employees to develop their ICT skills between 2017 and 2022. An increasing trend was observed for Hungary and Poland, with a difference of more than 18 percentage points for Poland. Poland registered a big jump in percentage of medium-sized enterprises offer such training in 2020 and again in 2022, implying that COVID-19 might be the reason.

On the other hand, the Czech Republic and Slovakia did not show an increasing trend, on the contrary, a slightly decreasing trend between 2020 and 2022 (COVID-19). Slovakia had the lowest share in 2022 compared to the other Visegrad Four countries, but the Czech Republic was in second place, just behind Poland. The reason for this is unknown and may yet be the subject of further research.

TABLE 1. PERCENTAGE OF MEDIUM-SIZED ENTERPRISES PROVIDING TRAINING TO THEIR PERSONNEL TO DEVELOP THEIR ICT SKILLS

| Country	2017	2018	2019	2020	2021	2022
Czech Republic	43.4	44.2	45.7	44.0	-	43.4
Hungary	28.8	29.5	29.2	30.6	-	34.2
Poland	25	27.1	26.4	32.7	-	43.5
Slovakia	28.5	29.7	33.8	32.8	-	26.3

Source: Own compilation, based on Eurostat (2023)

Table 2 presents values such as the minimum, maximum, first and third quarters, as well as the range between the minimum and the maximum. Again, the values in the tables represent the % of medium-sized enterprises. The same values are illustrated in Figure 1.

TABLE 2. CALCULATION OF QUARTILES FOR THE SHARE OF MEDIUM-SIZED ENTERPRISES PROVIDING TRAINING TO THEIR EMPLOYEES TO DEVELOP THEIR ICT SKILLS

Country	Min	Q1	Medium	Q3	Max	Range
Czech Republic	43.4	43.4	44	44.2	45.7	2.3
Hungary	28.8	29.2	29.5	30.6	34.2	5.4
Poland	25	26.4	27.1	32.7	43.5	18.5
Slovakia	26.3	28.5	29.7	32.8	33.8	7.5

Source: Own compilation, based on Eurostat (2023)
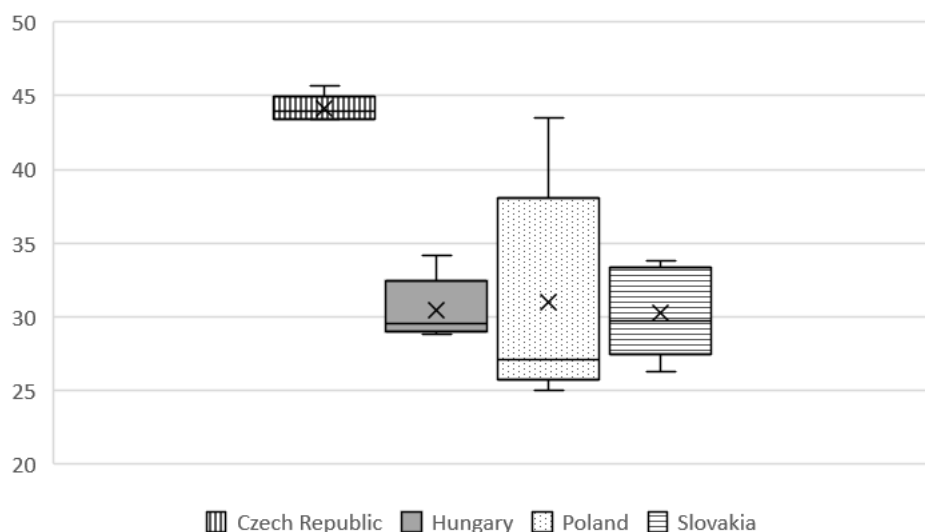
Source: Own compilation, based on Eurostat (2023)

The middle "box" part of the diagrams in Figure 1 is bounded by the 3rd quartile from above, the 1st quartile from below, and the line between them defining the median. The whiskers coming up or down from the boxed part indicate the variability of the data below the first and above the third quartile. Outliers are marked with a 'T'. The largest "boxed" portion in Figure 1 represents Poland, which (as mentioned above) experienced the largest growth between 2017 and 2022 (especially 2019 and 2022).

4.2. Covid-19 Impact on ICT usage – Percentage of medium-sized enterprises

Data from Eurostat shows the percentage of medium-sized companies that increased the percentage of employees who had remote access to email, other ICT systems and the percentage of companies that increased the number of remote meetings, for example via MS Teams, during 2020. Data for the Czech Republic is not available. Slovakia had the highest percentage of companies in all three categories. In the case of the last category (Enterprises increased number of remote meetings conducted by the enterprise), more than 50 % of companies had increased the number of remote meetings held in all three countries. The data is shown in Table 3.

TABLE 3. PERCENTAGE OF MEDIUM-SIZED ENTERPRISES WHERE COVID HAS HAD AN IMPACT ON ICT USAGE

Country	Enterprises increased % of persons employed having remote access to its e-mail system	Enterprises increased % of persons employed having remote access to the ICT systems of the enterprise other than e-mail	Enterprises increased number of remote meetings conducted by the enterprise (e.g. via Skype, Zoom, MS Teams, etc.)
Czech Republic	-	-	-
Hungary	28.7	30.6	61.9
Poland	33.2	42	55
Slovakia	43.2	51.6	66.9

Source: Own compilation, based on Eurostat (2023)

4.3. Digital Skills

Digital Skills Indicator data are available for 2017, 2019 and 2021 and are shown in the Table 4. The Czech Republic ranked highest among the Visegrad Four countries in terms of digital skills. However, it should be noted that the percentage was lower compared to 2019. Hungary had been at a very similar level for all three years, while the level of digital skills in Poland had been continuously decreasing and in 2021 was the lowest among the Visegrad Four countries at just under 43 percent. The indicator for Slovakia decreased significantly in 2019 compared to 2017, and increased again slightly in 2021, but was still at a lower level than in 2017. Therefore, it can be seen that although it would be expected that the level of digital skills would increase significantly after covid-19, this is not the case for the Visegrad Four countries. The author of the article would like to focus her further research on exploring why the level of digital skills has not increased.

TABLE 4. PERCENTAGE OF INDIVIDUALS WITH BASIC OR ABOVE BASIC OVERALL DIGITAL SKILLS

Country	2017	2019	2021
Czech Republic	59.85	62.10	59.69
Hungary	49.59	48.68	49.09
Poland	46.38	44.45	42.93
Slovakia	59.01	53.87	55.18

Source: Own compilation, based on Eurostat (2023)

4.4. Relationship between DESI index and enterprises provided training to their personnel to develop their ICT skills

Given that the development of ICT training is a prerequisite for the development of the digital economy, an investigation of the correlation between selected DESI index indicators (Human Capital and Integration of Digital Technology) and the percentage of enterprises providing training to their employees to develop their ICT skills was carried out. The assumption was that there is a positive relationship between these indicators.

For this study, the DESI index indicator – Integration of Digital Technology – was selected, specifically three dimensions were examined, namely Digital intensity, Digital technologies for business and e-Commerce. The second indicator chosen was Human Capital, specifically two dimensions – Internet User skills and Advanced skills and development. The individual values of these two indicators are shown in Table 5 and Table 6. For the Kruskal-Wallis test, only the year 2022 was chosen. The values in the tables represent the scores (0-100).

The Integration of Digital Technology indicator showed a year-on-year increase for all 4 countries. The Czech Republic showed the highest values in 2022, followed by Slovakia. When comparing the values of 2022 with 2019 (before COVID-19), the Czech Republic again had the highest increase of 7.78 points.

Human Capital was examined as the second indicator. The Czech Republic, Poland and Slovakia showed an annual increase, while Hungary had a slight decrease in 2018 (compared to 2017), then an increase until 2021 and again a slight decrease in 2022. In 2022, the Czech Republic showed the highest values, with Slovakia again in second place. Slovakia had the highest increase from 2019 (before COVID-19) to 2022, with 4.1 points.

TABLE 5. DESI INDEX: INTEGRATION OF DIGITAL TECHNOLOGY

Country	2017	2018	2019	2020	2021	2022
Czech Republic	22.78	24	26.03	30.51	32.55	33.81
Hungary	12.89	14.62	15.55	16.61	18.33	21.57
Poland	12.67	14.55	16.61	18.94	20.58	22.89
Slovakia	19.22	21.97	22.99	24.33	26.26	27.85

Source: Own compilation, based on ec.europa.cz (2023)

TABLE 6. DESI INDEX: HUMAN CAPITAL

Country	2017	2018	2019	2020	2021	2022
Czech Republic	40.7	41.1	43	43.7	44.4	45.6
Hungary	36.4	35.9	36.5	37.1	38.7	38.4
Poland	32.2	32.8	33.9	34.7	36.3	37
Slovakia	37.6	38.9	40	42	43.3	44.1

Source: Own compilation, based on ec.europa.cz (2023)

To compare the relationship between the indicators from the DESI index (Human Capital and Integration of Digital Technology), the third indicator selected was Enterprises provided training to their personnel to develop their ICT skills. The values of the indicators including the result of Kruskal-Wallis test is shown in Table 7.

TABLE 7. COMPARISON OF DESI INDEX INDICATORS AND ICT EDUCATION IN ENTERPRISES

Country	Indicators			Kruskal-Wallis test	
	Human Capital	Integration of Digital Technology	Enterprises provided training to their personnel to develop their ICT skills	H	p-value
Czech Republic	45.6	33.81	43.4	6.6154	0.0366*
Hungary	38.4	21.57	34.2		
Poland	37	22.89	43.5		
Slovakia	44.1	27.85	26.3		

Source: Own compilation (2023)

*statistically significant at 5%

The critical value was 5.9915, so the value of H (6.6154) was higher than the critical limit. Hence, we rejected the positive relationship between these variables.

5. Limitations of this research

This research has several limitations. The data reported summarize an entire year which misses the dynamics of what happens in between. Hence, this analysis as such does not fully reflect a dynamically evolving system. Eurostat does not publicly state what percentage of all companies participated in their survey. It is also impossible to verify whether all respondents answered according to the truth and the real situation in the company.

6. Conclusion

The aim of the paper was to analyse the impact of COVID-19 on the readiness of medium-sized enterprises in the Visegrad Four countries for employee training with the use of ICT. The paper also examined the relationship between ICT training in 2022 and the digital development of the Visegrad Four economies. The first indicator examined was the percentage of medium-sized enterprises that provided training to their employees to develop their ICT skills. It was found that Poland recorded the biggest jump between 2019 and 2022. Hungary also recorded growth in this period. It can be assumed that it is thanks to COVID-19 that enterprises have started to pay more attention to such training. Unfortunately, the Czech Republic and Slovakia experienced a slight decline in this period before and after COVID-19; the reason for this is unclear and may be subject to further investigation. In 2022, Poland had the largest percentage of companies, with the Czech Republic in second place with an almost identical result.

Another indicator examined was the impact of COVID-19 on ICT use. This indicator was only measured in 2020 and was not measured in the Czech Republic. Three aspects were examined in this study – the percentage of companies that increased the number of employees with remote access to email, remote access to other ICT systems beyond email, or increased the number of remote meetings through platforms such as MS Teams, Zoom, etc. Of the three countries surveyed, Slovakia has the highest results, followed by Poland and then Hungary.

The third indicator examined was Digital Skills, which is only available for certain years. Comparing 2019 (pre-COVID-19) with 2021, no impact of this pandemic was shown. Some countries experienced a slight increase, but some experienced a decline.

DESI indicators, namely Integration of Digital Technology and Human Capital, were also examined. The former shows an annual increase for all countries studied, and it cannot be said that the COVID-19 pandemic has had an impact on this growth, as there is no greater jump between 2019 and onwards than in previous years. The same is applicable to the second indicator examined, Human Capital.

The paper also verifies the relationship between the development of the digital economy of countries and ICT education in medium-sized enterprises in 2022. For this verification, the Kruskal-Wallis test was chosen, and it showed no positive relationship between the selected indicators. Thus, it can be assumed that the different levels of development of the digital economy in the Visegrad Four countries have no effect on the share of medium-sized enterprises that provide training to their employees in order to acquire or improve ICT skills.

This research is an important contribution to the literature. It can be assumed that as the pandemic unfolds, educational design will become even more important and practitioners will focus on combining traditional employee training with modern forms of employee training using ICT. Learning and development practitioners should take greater account of changing and unpredictable realities, as well as the evolving nature of ICT.

Further research will focus on some of the time series fluctuations in the examined indicators mentioned above, which were expected to increase but instead show a decrease. The author recommends that companies continue to increase their interest in improving the digital skills of their employees, as the industrial revolution continues and modern technologies become more and more prominent, even though COVID-19 is no longer such a threat to companies.

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Beáta Kalamár (2022). *CRAFT Leadership.* Budapest: Pallas Athéné Könyvkiadó Kft.

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Exploring leadership qualities from a truly unique perspective, Beáta Kalamár's book, *CRAFT Leadership*, is an ambitious endeavor to shed light on what it takes to be an efficient leader in the 21st century. Leadership is a *craft* in the sense that leaders need to acquire knowledge, skills and attitude to be able to make or create something. However, leadership is also CRAFT, a unique model devised by the author, comprised of CREATIVITY, RESILIENCE, AGILITY, FOCUS and TRUST, the qualities that are fundamental for leaders to operate in what is called the VUCA world today and going forward – an acronym for volatile, uncertain, complex and ambiguous. Using the author's metaphor, imagine that the VUCA world is a stormy ocean and CRAFT is a surfboard to ride the waves.

A practising executive coach and a firm advocate of life-long learning, Beáta Kalamár acquired her Associate Certified Coach (ACC) credential at the International Coaching Federation after receiving her degree in Andragogy. In addition, she obtained numerous qualifications in coaching: a Diploma in Executive Coaching from the Academy of Executive Coaching in the UK, **s**he is also a Certified Professional Value and Behavioural Analyst and Consultant (CPVA and CPBA) by TTI Success Insights Central-Eastern Europe, a 360 Degree and Behavioural Event Interview (BEI) Feedback Consultant and an Accredited Licensed Practitioner of Neuro-Agility Profile™ (NAP™). She was elected President of the Hungarian Chapter of the International Coaching Federation for 2014.

The well-structured volume *CRAFT Leadership* is organized into nine illuminating chapters along with a *Preface* and an *Introduction* providing readers with a clear-cut orientation. The book is based on 55 interviews with established leaders in various industries, such as finance, IT, telecommunication, retail, energy, consulting, etc., as well as university students aspiring to be future leaders. The insights from the interviewees concerning the five leadership qualities provide a wealth of practical knowledge that the book is built on. It also draws on the ideas of renowned authors of management and leadership, all duly acknowledged in the *References* section of the book. Combine it with the Beáta Kalamár's 20 years of experience as executive

coach, and you have *CRAFT Leadership*, a book worthy of attention for anybody interested in the science of leadership.

Chapter I opens with the motto of *CRAFT Leadership*: "Sharpen the REAL LEADER in you by mobilizing the 5 CRAFT Leadership qualities" (p. 11). The author argues that leaders tend to lose their REAL SELF in the sense that most of them go through a subconscious process whereby their title and position become their identity. As this condition is clearly detrimental to the company and more importantly to the employees, the attention of the readers is directed to those fundamental notions that are capable of bringing out the REAL LEADER, thoroughly examined through the lens of the DISC model, a profiling tool referenced to Erikson (2019) and adapted by the author.

The next five chapters give a detailed account of the components of CRAFT leadership. Have you wondered how backward-looking perceptions and conventional thinking may hinder your creativity? Chapter II, CREATIVITY, has all the answers and more. First, the author explores the theories of creativity, its definitions with its key components, and what the interviewees think about it. Second, she shows how to master this leadership quality, highlighting six essential areas. The reader learns how to mix the "creativity cocktail" with the three ingredients, how to use them and what to focus on when the leader is looking to develop the creativity of their team. Finally, creativity and strategy are brought together in the savvy metaphors developed by Kim and Mauborgne (2005; 2017) of the "red ocean strategy", a market of cutthroat competition, and the "blue ocean strategy", an untapped and more scalable marketplace. Which market would you rather go for as a creative leader? Beáta Kalamár shows you three ways of pursuing a "blue ocean strategy" and lays out the kind of mindset you, as a leader, will need for creative strategizing. Nonetheless, efficient leaders are not only creative, but they create as well. Citing Peter Drucker's famous quote "The best way to predict the future is to create it" (p. 76), Beáta Kalamár urges leaders to create a market, create jobs and create a future for themselves and their team. That is where real CREATIVITY lies.

RESILIENCE, the next leadership quality in the CRAFT model, is addressed in Chapter III. It is defined as the ability to cope with stress in adverse situations, being indispensable to navigate the VUCA world. Stress poses a set of different threats to the leader, such as burnout, fatigue and even conditions leading to medical treatment. Thus, it is of paramount importance to be aware of how stress impacts us. Therefore, the reader is introduced to Hans Selye's (1951) General Adaptation Syndrome theory highlighting the three phases how stressors affect our lives. The chapter raises the question of what a resilient leader and organization look like and explores five key prerequisites of becoming a resilient leader and their 13 characteristics. In the author's words: "A resilient organisation is one where there is always someone who bites and someone who rests" (p. 92). The chapter even offers some intriguing mindfulness exercises designed to sharpen your leadership presence in order to "de-stress" in the moment.

Chapter IV sets out to explore AGILITY as the third leadership quality in CRAFT. It is pointed out that AGILITY, similarly to CREATIVITY and RESILIENCE, is a highly necessary quality in the VUCA world. The interviews conducted with leaders reveal that AGILITY involves "a quick response to the rapidly changing environment" along with quick thinking and proactive behavior to anticipate the future (p. 118). Brain agility is marked as probably the most important factor in an agile way of thinking. At this point, the author introduces the concept of Neuro-Agility developed by Dr. André Vermeulen. This is concisely summarized as the "flexibility to

learn new skills, attitudes and behaviors fast and easy and unlearn old-behavior patterns" (p. 131). When applied to leadership, the theory assists leaders to "out-think", "out-learn" and "out-create" competition, preparing them for the future laden with disruptive changes. The author draws up 20 characteristics of being an agile leader and offers an insight into the ways of optimizing brain performance. She also argues for "whole-brain leadership" (p. 142), which means that leaders need to use both sides of the brain to achieve optimum results. One of the highlights of the chapter is the introduction to the Neuro-Agility^{TM} profile. Comprised of seven components and six drivers, the profile yields your Neuro-Design Flexibility score, a highly important assessment of any leader's AGILITY in the 21st century and beyond.

Beáta Kalamár also explains that the VUCA world has brough a myriad of challenges leaders need to face day by day, such as information overload, the need for multitasking, the constant fear of missing out or being left behind, never stopping for a moment, that is, being in the action all the time, impatience and short termism, as shareholders, consumers, business partners demand instant gratification and our ever increasing addiction to dopamine, a hormone which is released in the body bringing a feeling of satisfaction when a task has been completed. All these factors and the surrounding 'noise' make it incredibly challenging for leaders to see clearly where to put the FOCUS, the fourth leadership quality presented in Chapter V. Intriguingly, the author argues that executives need to forget time management. Instead, they should opt for developing their FOCUS, trying to capture the priorities of their teams or company, as one cannot squeeze everything into a day of 24 hours. The chapter offers fascinating insights into the ways of developing the areas related to FOCUS, such as the functionality dimension, looking at how you allocate your time and resources; making use of the Pareto Principle (20/80) as applied to leadership by focusing on higher value activities and teaching you "to see the wood from the trees" (p. 161); a systematic approach to problem solving, that is, instead of solving problems, the task of the leader is to facilitate the process; and finally, managing self-limiting tendencies, setting boundaries and avoiding the traps of multitasking. One would think that multitasking is a highly efficient way of working by virtue of the ability of tackling different tasks simultaneously. What the reader will be truly surprised to learn from this chapter is a discovery by research with regard to multitasking going against deep-rooted beliefs taken for granted thus far.

The final leadership quality TRUST is nicely elaborated on in Chapter VI. The author argues quite convincingly that this quality must be a top priority in leadership for the simple fact that every business operation comes down to the people eventually, the most important assets of the company. If TRUST is lost, people may go with it, leaving the business in dire straits. In addition, trust has an unquestionable impact on the company's brand, reputation and financial performance. We learn about many different types of trust, such as distributed, cognitive-based, affect-based, instinct-based and transferred trust, as well as the importance of trusting yourself and others, be it one-to-one or one-to-many trust.

Distinction is made between trust and trustworthiness. The leadership insights from the interviews shed light on what real trustworthy leaders are like, and how they are perceived by the coworkers. With that said, there is an enlightening introduction to the "Trust equation" originally developed by Maister, Green and Galford (2001) with the author explaining how she uses it in her practice with executives when working on this leadership quality. Another issue of central importance in gaining trust is the ability to listen to others. Based on Scharmer (2018), the author walks us through the four levels of listening, that is, selective, factual, emphatic and

global, and then she goes on to explain to what extent each level can be expected to contribute to the success of your leadership. The chapter ends with an in-depth discussion of trust in economic and emotional terms. An organization where TRUST is managed professionally is much quicker to react to internal and external needs, while distrust can be costly. On the other hand, TRUST in emotional terms is compared to a bank account, using Covey's (2004) notion of the Emotional Bank Account. Similarly to a regular account, we add and withdraw TRUST in our personal relationships just like money. When the balance is high, the level of TRUST shoots up. Conversely, when the balance is low, trust plunges. A leader needs to cherish and balance relationships through the perspective of giving and withdrawing TRUST.

The last three chapters bring the threads together by providing the readers with a comprehensive and helpful recap of the large and diverse topic of CRAFT leadership. Chapter VII contains useful mind maps of the five leadership qualities in the CRAFT system for visual readers, along with a summary of the reflection questions from the individual chapters followed by assessment sheets to be completed to see how the reader fares on the various components of CRAFT and to pinpoint the areas in need of improvement. Chapter VIII puts in practice what has been learned throughout the previous chapters through looking at how you steer your organisation as a craft on the stormy ocean of the VUCA world, whereas Chapter IX is the final summary taking up the central issues of the book, once again drawing on the five leadership qualities incorporated in CRAFT.

All things considered, it is safe to say that Beáta Kalamár's *CRAFT Leadership* is an outstandingly well-written book combining theory and practice in a masterful way with each chapter complete with theoretical argumentation building on the tenets of psychology, coaching, leadership and management science and an abundance of helpful advice which can be transformed into practice right after reading the book. In addition to the insights from leaders, most chapters include thought-provoking reflection points with questions, helpful exercises and cautionary anecdotes all related to the leadership quality under scrutiny. Add to this the author's easy to read style and rich metaphorical language, no doubt that this book is a must read not only for leaders, trainers, professors and students of management, but also for those who feel stuck at some point in their lives. At the end of the day, leaderships skills could be looked upon in a broad perspective: one way or another everybody is a leader of their own life and to navigate through the stormy seas of the VUCA world everyone needs CRAFT.

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