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REVIEW ARTICLE

Teachers' Effective Use of Educational Resources and Their Effect on Students' Learning

Jacob Kola Aina, Azeez Adebayo Abdulwasiu

ABSTRACT

Purpose/Background – Numerous educational resources are accessible in the 21st century that may be used to help students learn. These materials must therefore be investigated by teachers, and instructors need to be resourceful in order to improve students' learning in the 21st century. This study presents information and ideas on the traits, skills, and effects of resourceful teachers on how students learn.

Materials/Method – In this review, the author consulted literature and empirical data from the most recent scholarly works, including edited books, peer-reviewed journal articles, and other academic research.

Practical Implications – Any educational institution would benefit greatly from recruiting resourceful teachers. Today's teachers need to be resourceful in many different ways, such as being able to work constructively and collaboratively with others, and to make use of appropriate technology, including the latest free and open-source Internet resources. Students' academic performance, retention, motivation, and other aspects are assumed to be influenced by a teacher's resourcefulness, among other things.

Conclusion – Teachers must be resourceful in order to improve the ways in which students learn in the 21st century. Teachers can improve how they work as educators by utilizing the varied materials at their disposal. Teachers that are considered resourceful display traits that demonstrate how they maximize the benefits of using all of the resources available to them.

Keywords – Creativity, collaboration, feedback, motivation, resourcefulness, technology

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1. INTRODUCTION

Teachers' resourcefulness is essential since the appropriate and effective use of all existing resources is critical to the development of any educational system or organisation. Resources are crucial to education and to instructors in particular since they can help to advance both their personal and professional growth (Chigeza, 2022). All global educational systems rely on teachers to deliver most educational instruction since it has a significant impact on students' learning (White & Malkus, 2019). Thus, there has been a significant amount of research undertaken on the many facets of instructors that can affect teaching and learning. Technological Pedagogical Content Knowledge for teachers (TPACK, Akturk & Saka Ozturk, 2019), Pedagogical Content Knowledge (PCK, Usak et al., 2022), and other instructional approaches (Isa et al., 2020) are a few examples of major works; yet, despite the availability of numerous educational tools, there has been little research published on how teachers' resourcefulness impacts upon students' learning. Observation reveals that this crucial aspect of the educational system has received no mention in some educational policies, which is especially true in Africa.

Every nation's growth depends heavily on teachers (Manning et al., 2019), and children's futures can be significantly shaped by those that educate them (Lawal & Braimoh, 2018). Teachers are required to mentor, educate, and direct their students toward academic and life success. High unemployment rates have led many recent graduates to seek work as teachers even though the majority lack certification in teaching; something that has become a significant problem in many African nations. One of the issues that is particularly significant is teachers' inability to make use of the available educational resources in their teaching. In this digital age, new problems are dealt with as they arise through the utilization of digital technologies and other current resources. However, the fact that most teachers fail to make use of many resources has an impact on how well students are learning in many of today's schools. Every educational system needs to be designed to accommodate qualified teachers since they are the key to any educational system's success, irrespective of where in the world it operates (Stacey & Mockler, 2023).

One of the most important qualities that every teacher should possess is resourcefulness. With such a trait, teachers can provide their students with a high quality of education which includes fostering a supportive learning atmosphere. One of the secrets of the Finnish educational success has been its resourceful teachers who are dedicated to addressing all of their student's personal and professional interests throughout their teaching careers (Kuusisto & Tirri, 2021). In the United Kingdom, Malaysia, and Singapore, technology training has become a requirement for teaching accreditation (Kirimi, 2013). In order to examine this phenomena, the researcher in the current study examined how teachers might be considered resourceful in their teaching methods, and how their resourcefulness could influence students' learning, as well as to highlight the key qualities of a resourceful teacher.

Skilled educators are able to employ and combine a range of different instructional resources, strategies, and techniques in order to encourage student learning and engagement. Specifically, they can adapt and devise unique solutions in order to meet the diverse needs of their students. The current study examines several traits of what it means to be a resourceful teacher and identified 11 crucial qualities of teachers that utilize each letter of the word "resourceful." Before outlining how each of these qualities can affect students, the study discusses the different ways in which teachers may be considered resourceful.

2. QUALITIES OF A RESOURCEFUL TEACHER

Quality is imperative when talking about the teaching profession in all educational settings (Gager & Percival, 2022). Resourceful teachers need to possess various characteristics that are essential for their students to learn in the 21st century; although there are also other characteristics, as depicted later in Figure 1.

Knowledgeable: An intelligent educator needs to be highly knowledgeable about the topic or area in which they teach. They are required to possess in-depth understanding of the subject and must be adept at helping students understand its most complex concepts. One of the many attributes of a professional teacher, according to Clement and Rencewigg (2020), is to possess a solid understanding of the subject matter. Resourceful instructors should be well-versed in both their subject area and anything else related to the educating of students. While most teachers' only focus is to their students' academic success, their social and moral lives are also just as important. Some developing nations, such as Zimbabwe in Africa, are adopting the "education 5.0 curriculum" in order to specifically incorporate students' social lives (Muzira & Bondai, 2020). Therefore, today's resourceful teachers should be well-versed in developing superior learners for the 21st century through practices of both mentoring and scaffolding (Brataas & Janset, 2023).

Problem-solving skills: Resourceful teachers need to be adept at identifying and fixing issues that arise in the classroom. They should have the ability and experience to devise innovative strategies to engage their students, manage their behaviour, and to promote learning. However, many of today's teachers are faced with unfamiliar situations and new types of challenges for which they may lack knowledge or conceptual understanding, which suggests the need for advanced problem-solving abilities. Teachers in the 21st century need to deal with unforeseen circumstances and escalating problems for which they may lack the specific knowledge or experience required, signifying the requirement for teachers to possess problem-solving abilities (Organisation for Economic Co-operation and Development, 2014). Human development is making modern-day society more and more complex every day, which brings about new educational challenges and issues. The emergence of COVID-19, as an illustration, saw a problem significantly impact entire education systems worldwide. Resourceful teachers therefore need to be able to handle even these previously unknown difficulties as and when they arise. Since many teachers and administrators were significantly unprepared when the pandemic struck, the majority of African schools and their students suffered greatly (Nwokeocha, 2021). Due to a general inability to control the situation, only a few teachers in African schools were equipped to be able to do anything much at all during the pandemic.

Adaptability: Teachers are generally free to amend their pedagogical approaches as they deem necessary. They can therefore change their instructional strategies according to each student's demands, learning styles, and talents. It can also be necessary for teachers to change the class pace, modify class activities for certain students, and to look for fresh resources to aid students in understanding or applying crucial or core concepts (Collie & Martin, 2016). When it comes to addressing the various learning styles of students, today's learning environments can be particularly diverse. With both slow learners and fast learners, and with each student having perhaps a unique type of intelligence, various attributes need to be taken into consideration by teachers to understand how their students' learning can be affected (Aina, 2018). By addressing the various educational requirements of students, resourceful teachers need to ensure that no students are left behind in the class.

Creativity: Teachers with creativity employ novel strategies to maintain the interest of their students, and may employ a range of teaching techniques, materials, and technologies in order to make their courses interesting and up-to-date. According to Pishghadam et al. (2012), success as a teacher depends not just on their education and academic preparedness, but also on other traits such as originality. To enhance the established objectives, Terry et al. (2018) defined teacher creativity as the development of a fresh and original learning process within an established educational environment. According to Uçar (2022), since instructors place a high value on creativity, locations where it may be displayed and where creative ideas can be communicated should be made available wherever possible.

Strong organizational skills: Well-organized teachers should be able to effectively manage the time, resources, and materials in the classroom in order to provide a safe and conducive learning atmosphere. According to Ihsan et al. (2019), having significant organizational skills is vital for teachers to be able to successfully encourage and boost their students' achievement within a country's educational system.

Collaborative mindset: Since resourceful teachers are aware of the advantages of cooperative working practices, they will actively seek out opportunities to work together with their coworkers, parents, and other school system stakeholders in order to improve student performance. Collaborative skills help teachers to deal with challenges through collectively embracing several responsibilities, positive relationships, and interdependence (Ilma et al., 2020). As demonstrated within the Finnish education, working in partnership with parents and school communities can be an effective strategy to raise morally upright and well-adjusted children (Kelly et al., 2018). However, the majority of African teachers do not actively seek cooperation with parents and the wider community as a means to improving their students' learning (Maganda, 2016).

Continuous learner: Teachers with a growth mindset and a commitment to professional development are generally quite resourceful. Teachers who are resourceful keep themselves up to date with the latest academic research, instructional strategies, and technological advancements in order to enhance their day-to-day teaching practices. According to Lavonen et al. (2020), teacher professional development is crucial to education, but is dependent upon the efficacy of instructors. In today's digital age, there are many different ways for teachers to learn new things and to keep their knowledge current. There is, therefore, little to no excuse for teachers not to continue their education. Laziness is an inherent problem for many instructors, especially in African nations such as Nigeria. However, innovation in education is debated almost daily at academic conferences, seminars, workshops, and webinars, so a resourceful teacher needs only to attend some of these events, whether local or international, in order to learn new things that could help advance their career and also produce better educated students. Balarabe et al. (2019) contended that instructors should be encouraged to routinely attend workshops and conferences since, after more than 5 years of teaching, teachers will need to professionally develop a step further and should not miss attending such events.

Compassion and understanding: Teachers primarily care for and work towards understanding their students. They have to be able to take into account their students' diverse requirements and backgrounds and to create a welcoming and inclusive educational atmosphere. To succeed in the classroom, teachers need to exhibit empathy with their students (Clement & Rencewigg, 2020).

Effective communication: Teachers who can effectively communicate are thereby resourceful, since they must be able to effectively express information, listen carefully, and provide constructive criticism to coworkers, parents, and students alike. Muste (2016) argued that effective communication, particularly within the educational setting, depends on the ability to simply, confidently, and clearly express ideas while continuously adapting the tone and content to the target audience. According to Khan et al. (2017), teachers need to be competent communicators in order to be effective in their job.

Reflective practice: Teachers frequently reflect on their teaching methods and selves, and are generally open to receiving feedback and willing to alter their teaching strategies accordingly. Teachers mostly feel that reflecting on didactic activities greatly boosts their professional effectiveness, and that the educational process as a whole can significantly benefit from teachers reflecting on their instructional practices (Petrescu et al., 2018). A creative vision of a helpful teacher is shown in Figure 1.

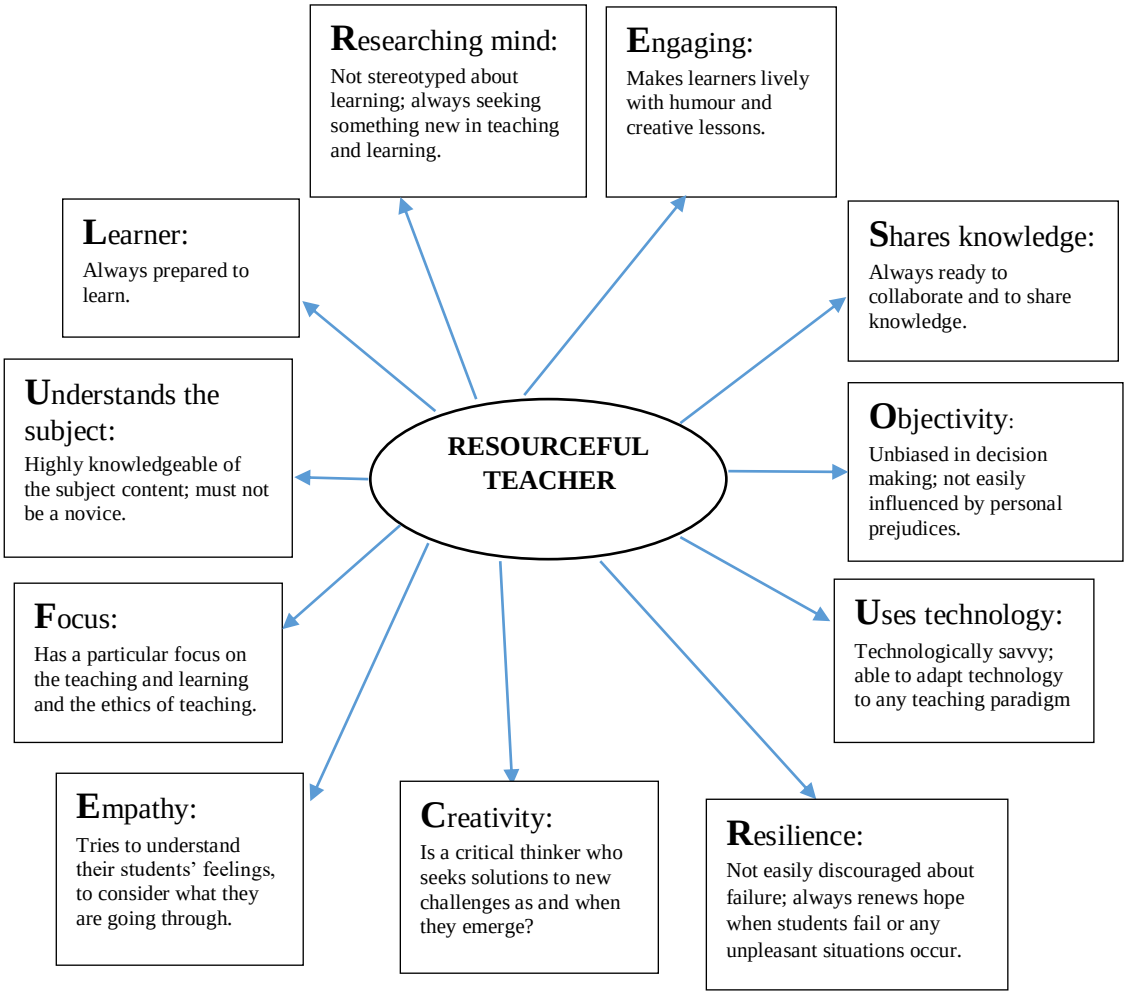


Figure 1. Conceptualized Qualities of a Resourceful Teacher

Resourceful teachers need to be able to overcome almost any obstacle, motivate their students, and provide a memorable learning experience, and this is achievable based on the various traits that have been identified. The following section looks at several ways in which teachers can be resourceful.

3. HOW TEACHERS CAN BE RESOURCEFUL

A teacher can use their resourcefulness in a variety of ways. The following points, however, are considered the most critical for teaching in the 21st century.

Utilize Technology

Teachers can benefit significantly from the widespread technological transformation that has occurred throughout the education sector. However, research has demonstrated that preservice teachers can lack sufficient technology-related expertise in the classroom (Şen-Akbulut & Öner, 2021). Technology is essential to modern-day education. According to Sanchez et al. (2012), instructors should be able to utilize a variety of technologies in the classroom. Today's teachers should be able to construct engaging and interactive lesson plans using a variety of online resources and tools. They can make use of these technologies to develop games, interactive quizzes, and movies that make it easier for their students to comprehend difficult subjects. According to Ghavifekr and Rosdy (2015), technology in the classroom has developed into a means of information transfer throughout the globe that no teacher should ignore. Every facet of human endeavour, including teaching, is being constantly impacted by the rapid advancements seen in digital technology (Malhotra, 2020). Since technology is essential to the teaching vocation, many nations have incorporated it into their teacher education curricula (Omoso & Odindo, 2020). According to several published studies, technology can make teaching both simple and entertaining (Sumathi & Selvarani, 2020), making its usage crucial for teachers' professional growth. Teachers need technology just as much as living creatures need blood; hence, a teacher who considers being resourceful as optional will unlikely become a competent teaching professional in the 21st century. Many teachers in African countries like Nigeria still struggle with using technology in the classroom, which significantly restricts their flexibility as educators (Agormedah et al., 2020). According to Burns et al. (2019), as indicated in Table 1, many nations in sub-Saharan Africa lack robust ICT strategies in their educational systems. According to Surahman et al. (2020), teachers need to become skilled at integrating technology into the classroom due to the many advancements in information and communication technologies.

Table 1. ICT in Education Strategies in Sub-Saharan African Nations

With ICT policy	With national ICT education plans	Secondary only (upper)	No ICT policy	No record
Eritrea	Côte d'Ivoire	Togo	Comoros	Burundi
Angola	Gambia	Djibouti	Lesotho	Nigeria
Côte d'Ivoire	São Tomé	Ethiopia	Congo	Central African Republic
Gambia	Uganda		Guinea	Sierra Leone
South Africa	Kenya		Madagascar	Benin
Mauritius	Liberia		Cameroon	Chad
Botswana	Zambia			Equatorial Guinea
Rwanda	Mozambique			Tanzania
Uganda	Niger			Gabon
Zambia	Burkina Faso			Mali
São Tomé				Guinea Bissau
				Zimbabwe
				Malawi

With ICT policy	With national ICT education plans	Secondary only (upper)	No ICT policy	No record
				Namibia Senegal Somalia Swaziland

Source: Burns et al. (2019)

Collaborate with Other Teachers

Teachers can gain new insights and ideas about their teaching techniques by working with other educators. They can exchange information, concepts, and lesson plans in order to help each other improve the educational opportunities offered to their students. Teachers can keep up with the latest current trends and advancements in their profession by working with other educators. According to Harati (2012), teacher collaboration is essential for students to succeed academically, whilst Child and Shaw (2016) opined that collaboration is an essential skill for the achievement of successful educational results. There has been a considerable amount of research that has emphasized the benefits of strong collaborative connections, and the benefits of teacher collaboration are well recognised in the literature (Ellis et al., 2020; Sidgi, 2022). Today's complex global community requires teachers to have the ability to work together, according to Morel (2014), and since it is a skill for the 21st century, collaboration is important in education (Singh, 2021).

Use of Open Educational Resources

Teachers can make use of open educational resources (OERs), which are available for free, to supplement their lesson preparations. These resources include books, movies, and other material that is freely accessible online. Teachers can save considerable time and money by utilizing OERs, and in doing so can also help their students to receive a high-quality education. Despite the clear benefits of OERs, many teachers still find them difficult to use since they are not sufficiently computer literate. For instance, videos form a crucial learning resource that is used all around the world (Vrapi & Zekaj, 2015). To teach students how to solve problems in the real world, experts are often brought into the classroom as part of the authentic learning approach (Herrington et al., 2010), whilst videos are frequently shown to students where an appropriate professional is unable to attend. The Second World War saw the first known application of video-based learning as a teaching aid to assist in-class training (Yousef et al., 2014). However, a sizable number of educators, notably in Nigeria in Africa, still find this subject difficult due to a lack of ingenuity. Almost all teachers today have access to YouTube, which is a potent educational resource and tool (Aina & Olanipekun, 2018; Sharma & Sharma, 2021). Every resourceful educator in the digital age should be able to make good use of videos to improve instruction and learning in their classroom. Instructors should be able to access and make use of the contemporary literature now available as e-books in all academic areas. Many of these e-books have highly relevant and modern content that can help students to develop their learning skills. However, some teachers find it challenging to make effective use of these materials; instead preferring to simply rely on teaching from outdated textbooks.

Encourage Student Feedback

In order to better understand their students' needs, teachers can encourage student feedback and then adapt their teaching strategies accordingly. Teachers may therefore receive input from their own students regarding their classroom pedagogy, to develop lesson ideas, and to improve the general classroom atmosphere. This type of criticism can assist teachers in making the changes necessary to their instruction and the learning environment they provide for their students. Ahea et al. (2016) claimed that while feedback can improve instructors' professionalism, many educators choose not to make use of it because it can be a challenging experience. All teachers, however, should constantly encourage their students to provide them with critical feedback.

Teacher Professional development

One important element that can increase teachers' resourcefulness across the board is their professional development. However, several African nations, like Nigeria, have yet to fully embraced this approach. For instance, Lawal and Braimoh (2018) expressed concern that Nigerian school teachers do not value professional and personal growth as highly as they should. Bell and Sexton (2018) claimed that most teachers have not yet taken advantage of professional development in an efficient manner, although the quality of instructors is largely dependent upon teachers' professional development (Lavonen et al., 2020).

In conclusion, every teacher should possess the ability to use the resources that are available to them. Some of the ways that teachers can be resourceful in their teaching techniques include leveraging the appropriate technology, working with other teachers, making use of free online resources, and promoting student feedback. These techniques can assist teachers in improving their professional competency and thereby aid the learning of their students.

4. IMPACTS OF TEACHERS' RESOURCEFULNESS ON STUDENTS' LEARNING

Teachers are creative people who aim to apply their skills, knowledge, and imagination in order to provide their students with a high-quality education. Students' learning, especially retention, academic achievement, motivation, and teamwork, are all areas that can be significantly impacted by their teachers' resourcefulness.

Retention

The resourcefulness of teachers can help students retain course content from appropriate materials. To aid students in remembering difficult subjects, resourceful teachers employ a variety of teaching techniques such as visual organizers, mnemonics, and repetition. Students who then employ these techniques themselves are more likely to retain what they have learned and use it to their advantage to benefit from future learning. Just a few hours after leaving the classroom, the majority of students can scarcely recall what they were taught, and this, in part, is due to the manner in which teachers approach their lessons. The goal of teaching in the 21st century is to help students to learn and retain information in the longer term. This is accomplished through active-learning instructional techniques based on published peer-reviewed research. However, the majority of educators continue to employ age-old, inflexible, teacher-centric methods.

Resourceful teachers constantly seek out new methods to enhance the processes of teaching and learning, and thereby enhance their students' recall and retention. According to Pillado et al. (2020), the teaching strategy that a teacher employs plays a significant role in

how well their students remember and retain information. According to some academics, students' ability to retain information depends on their level of focus whilst learning (Gargrish et al., 2022). Teachers must therefore ensure that their students are paying adequate attention during classes. However, the majority of educators have delegated the management of the classroom to technology, which allows some students to pay much less attention during lesson sessions.

The need for coaching and scaffolding will generally be understood by resourceful teachers (Herrington et al., 2010). These roles allow teachers to direct students more appropriately, to ensure that they are paying attention, yet allowing students to take ownership of their learning as is the case in authentic learning (Van Donge, 2018). The course objectives, teaching techniques, and in-class learning activities all play a crucial role in inspiring students to retain information (Curtis, 2017). Teachers should therefore always seek out ways to improve their students' long-term memory, even if that requires some element of financial or time-based sacrifice.

Academic Achievement

The academic achievement of students may also be impacted by the resourcefulness of their teachers. To successfully engage students and promote learning, resourceful teachers employ a number of pedagogical techniques, including differentiated instruction, technology, and hands-on activities. Teachers who employ these types of strategies are more likely to see their students succeed academically. Any teaching process must take into account the students' academic progress, which is also frequently considered a measure of a teacher's effectiveness. According to the published research, instructors' resourcefulness has an advantageous effect on their students' academic performance (Ruth et al., 2021). Employing a variety of teaching strategies in the classroom is optimal, according to Oke (2020), since teachers' paradigms of instruction affect their students' academic success.

Motivation

The resourcefulness of teachers can affect students' desire to learn. Students need to be appropriately motivated to accomplish their learning goals (Filgona et al., 2020). According to Al-Kandari et al. (2018), teachers in Kuwait play a crucial role in inspiring their students to overcome any learning obstacles they encounter. Unquestionably, the most crucial aspect on which educators may focus their attention to improve student learning is motivation (Vero & Puka, 2017). Resourceful teachers foster a type of learning environment where students feel motivated to study. Additionally, they provide their students with constructive criticism and encouragement, which in turn boosts their self-esteem and encourages them to keep on studying. Teachers in the 21st century should be aware that they have responsibilities that exceed merely teaching and instruction. Today's schools cater for a varied student demographic, and resourceful teachers should make themselves fully aware of the balances within their particular institution. For instance, the emergence of COVID-19 (González-Zamar et al., 2020; Wijaya, 2020) and the insecurities it brought had a huge impact on the majority of students across various African nations (Aina, 2022). Many students in sub-Saharan Africa come from broken homes and low-income families; whilst some are orphans and others are drug users. More than anything else, these students require a drive to achieve (Johnson, 2017). Although some students' home environment may not be conducive to learning, the students themselves may have a natural desire to learn; and in this case, the instructor can improve the learning environment considerably by providing a motivating class environment

(Singh, 2021). Teachers need to take into account the methods that can improve students' experiences and thereby increase their motivation (Curtis, 2017). Due to its clear connection to student achievement, increasing student motivation in the classroom is a major concern for both educators and academic researchers (Pillado et al., 2020).

Collaboration in Learning

Collaborative learning is an essential element of teacher education (Mutlu-Guilbak, 2023). The resourcefulness of teachers can affect how well their students collaborate whilst learning. Cooperative learning strategies such as group projects and peer tutoring are employed by resourceful teachers to encourage their students to collaborate and learn from each other. Students are more likely to develop the teamwork and communication skills necessary for success in school and beyond by employing these types of techniques. To expand group members' learning beyond what they would otherwise learn by working alone, many educational activities in the 21st century call for group collaboration (Andrews & Rapp, 2015). Universities and colleges are urged to support student collaboration in learning because since it is essential to learning (Sidgi, 2022). To handle the difficulties and challenges of the 21st century, today's students require teamworking skills. Collaborative skills are therefore essential to equip students to deal with problems in both the real world and the classroom (Ilma et al., 2020).

How effectively teachers use their resources affects how well their students learn. By adopting a variety of teaching methods and styles, teachers can improve their students' retention, academic success, motivation, and cooperative learning. Teachers need to be resourceful if they want to provide their students with a high-quality education, and thereby set them up for success in the future.

5. CONCLUSION

Teachers must be resourceful if they want to increase their students' learning in the 21st century. Teachers have a variety of resources at their disposal today to enhance their work as educators. Resourceful teachers display characteristics that show how they can make the best use of the tools available at their disposal. In the current study, the word "resourceful" was used to conceptualise 11 traits that today's teachers should possess. The researcher studied a number of scholarly papers as well as other pertinent academic literature in order to discuss several ways that teachers may be more resourceful. The study discussed various influences that resourceful teachers may have on their students' learning. Therefore, instructors everywhere need to become sufficiently and competently resourceful in order to positively impact their students' motivation, retention, collaboration, and academic performance, among other things.

6. RECOMMENDATIONS

The following recommendations are made in light of this review to assist teachers worldwide to become more resourceful:

- All educational resources should be made use of by teachers in order to enhance their knowledge.
- Governments should implement measures to increase teachers' resourcefulness.
- Governments and school officials should mandate regular attendance for teachers to academic workshops, seminars, and conferences.

- Digital literacy must be made mandatory for all teachers at all levels, especially in African nations.

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