WASHBACK AND DIFFERENTIATED INSTRUCTION EFFECT: EMBRACING PERSONALISED LEARNING IN EDUCATION 5.0

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Abstract

Education 5.0 is the next generation of education, focusing on learning and connecting it to the learner. It emphasizes dynamic technology, personalized learning, creative thinking, and a value-based learning culture. Key pillars of Education 5.0 include a coherent curriculum, innovative delivery and assessment, meaningful learning experiences, and transformative learning. Students should be encouraged to play an active role in the classroom, transforming traditional learning scenarios into practical and applied knowledge. Washback, a phenomenon in applied linguistics, refers to the effect of testing on teaching and learning. Educators often want their students to succeed, but high test results often result in classroom instruction that reflects test procedures and standards. Differentiated Instruction (DI) is a student-centered approach that focuses on addressing individual needs and preferences. DI strategies include learning centers, group investigation, tiered products, interest groups, complex instruction, rubrics, learning contracts, and alternative assessment methods. The study aims to understand the impact of testing on teaching strategies and learning outcomes, focusing on differentiated instruction for diverse student needs. It explores personalized learning approaches, highlighting their potential to enhance the educational experience and foster creativity, critical thinking, and a value-based learning culture. This research uses a qualitative method, analyzing news elements in headline heading news, using David Williams' theory to prove this method.

Keywords – Education 5.0, Differentiated Instruction, Washback

Introduction

Education is a process of conscious and planned effort carried out by adults to help students develop their potential, both physically and spiritually, to achieve educational goals. According to Ki Hajar Dewantara, education is guiding all the natural strengths that exist in children so that they as humans and as members of society can achieve the highest safety and happiness. This was also explained by (Pristiwanti, 20220) that Education is a humanistic process which is hereinafter known as humanizing humans.

In Law on the Education System No. 20 of 2003, it is stated that education is "a conscious and planned effort to create an atmosphere of learning and learning so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character. as well as the skills needed by himself and society.

Education is one of the most important pillars of the country's infrastructural development (Alharbi, 2023). Education contributes to infrastructural development through: (1) skilled workface, (2) innovation and problem solving, (3) economic growth and (4) social cohesion. Many developed nations prioritize aligning their educational systems with cutting-edge technologies. This enables them to leverage these advancements and strengthen the foundation of academic achievement. In today's world, there's a strong emphasis on creating modern learning environments that utilize technology to improve academic abilities

for students of all ages (Samiha et al., 2022).

Based on this law, currently the world of education is experiencing many developments, one of which is the concept of education 5.0. This is because traditional teaching methods may not always encourage students to think critically or develop their creativity. This can limit the humanistic impact of education.

Education 5.0 is the next generation of education, focusing on learning and connecting it to the learner. It emphasizes dynamic technology, personalized learning, creative thinking, and a value-based learning culture. The concept acknowledges the ever-changing world and emphasizes the importance of lifelong learning. Education 5.0 equips learners with the skills and mindset to continuously adapt and keep acquiring knowledge throughout their lives. Education 5.0 is the next gen in precedence of the previous four versions (Mustafa Kamal et al., 2019). Education 5.0 is a vision for the future of education that emphasizes personalization, technology, and lifelong learning. It aims to create a learning environment that is tailored to each student's individual needs, interests, and learning styles. Students should be encouraged to play an active role in the classroom, transforming traditional learning scenarios into practical and applied knowledge. Washback, a phenomenon in applied linguistics, refers to the effect of testing on teaching and learning. Educators often want their students to succeed, but high test results often result in classroom instruction that reflects test procedures and standards. Differentiated Instruction (DI) is a student-centered approach that focuses on addressing individual needs and preferences.

Differentiated instruction is a teaching approach that involves adapting instruction to meet the diverse needs of learners in a classroom. This can be done by using a variety of teaching methods, materials, and assessments. A lots of scholars agree on the significance of differentiated instruction in a learning process and the term differentiated instruction is nothing new indeed (Ginja, 2020).

Based on the analysis that has been carried out, many problems occur within the scope of education. Education 5.0's focus on personalized learning can generate a vast amount of student data from various sources. Educators must have the tools and training to analyze this data effectively and translate it into actionable insights for personalized instruction. On the other hand, some teacher educators argue that differentiating instruction is too difficult to apply and should no longer be suggested as a means for supporting the diverse needs of students in the classroom (Delisle, 2019).

Many teacher educators know how they do it best learning, but does not necessarily consider how students learn and how they do it Teaching is based on enabling learning to occur. The focus of this research is to analyze how the concepts of washback and differentiated instruction effect in education 5.0. The following basic research questions were planned:

(1) To what extent do teacher educators understand the concept of differentiated instruction in education 5.0?

(2) How do teacher educators differentiate instruction to meet the needs of all students in education 5.0?

Therefore, this research was conducted with the aim of: (1) to understand how standardized testing (washback effect) influences teachers' use of differentiated instruction in Education 5.0 classrooms, (2) to assess the effectiveness of personalized learning approaches within Education 5.0 on learning outcomes and (3) to understand

the impact of testing on teaching strategies and learning outcomes, focusing on differentiated instruction for diverse student needs.

Methodology

This study uses a qualitative method. Qualitative research is a research procedure that produces descriptive data through analysis (Moleong, 2007). Meanwhile, Bodan and Taylor in (Puspita, 2022) explained that the qualitative method is a research procedure that has an output in the form of words made through observation. The reason why researchers use this method is because qualitative methods can help researchers analyze the relationship between washback and differentiated instruction effect in education 5.0. Apart from that, through qualitative methods researchers can also emphasize natural and critical ways of thinking. Qualitative assumes knowledge as the result of the construction of understanding, sourced of communication and interaction, so knowledge is not "out there" but in in the perception and interpretation of individual (Firmansyah, 2021).

The theory that will writer use for prove this method is from David Williams. This theory emphasizes the development of new theories based on the data collected.

Finding and Discussion

Finding

Since the technology and academic institutions have been running in parallel for transformation of the education. According to (Mustafa, 2019) development of modern tools and techniques are also being updated in parallel for the better education standards. Education 5.0 is the next gen in precedence of the previous four versions. Dynamic technology surrounds the the learner and provides options for the learner's core decisions of what, where, when, how, why and with whom to study (Melluso et al., 2020) . Detail is given in Figure below.

Education 5.0 has following key areas for implementation to obtain maximum benefits:

1. Focused learning to become a professional.
2. Improved and blended concept of personalized learning.
3. Applying creative thinking for solving the problems.
4. Developing value based learning culture.

Following are the key pillars of

Education 5.0 and their outcome:

1. Coherent and Relevant Curriculum: Curriculum development is a key to enrich the learning environment. This requires intuitive methodology for designing and developing a dynamic and organic curriculum. Students will be provided a real world to learn and perform the skills in a real industry or business. Students must be capable of performing these skills with adaptive competency. For this purpose, curriculum must include industry and community relevant concerns and requirements. Furthermore, shared and distributed content and multidisciplinary electives and programs must be included in the curriculum.
2. Transformative Learning: Learning environment will be an active and unique environment by adapting advance technology for effective

and meaningful learning. This will include applied learning experiences from converting the structural paradigm to practicing the learner's opinions and spirits into practical activities between teachers and students. Furthermore, smart schools equipped with data analytics labs for performing the theories and formulas in an immersive and interactive learning environment. Student will play the role of agent for further extending the knowledge.

3. Meaningful Learning Experience: Learning will have strong intelligence in transforming knowledge into experience-based information. This will include a comprehensive set of measures such as activity orientation, technology support, compliance experience and comprehensive relevance to the industry.
4. Innovative Delivery and Assessment: Students not only have a business perspective; technology will help and change the classroom environment where students will act as active learners. This will change the traditional learning scenario from an instructive mode to converting the information learned into practical and applied knowledge. Delivery methods will be updated with presentations and practical teaching instead of traditional assessments.

Discussion

Education 5.0 represents the next generation in the evolution of educational paradigms, building upon the foundations established by its four predecessors (Adel, 2024). While previous models focused on various aspects such as access to information, personalized learning, and the integration of technology, Education 5.0 emphasizes a holistic approach that aligns education with the needs of society and the economy. This model prioritizes skills like critical thinking, creativity, and collaboration, preparing students not just to consume information but to actively contribute to a rapidly changing world. Additionally, Education 5.0 leverages advancements in artificial intelligence and data analytics to create tailored learning experiences, ensuring that education is both relevant and responsive to individual and societal demands. By embracing this forward-thinking framework, educators can foster a learning environment that nurtures innovation and prepares students for the complexities of the future.

The differentiated learning approach is built on Gardner's (2011) theory that Students learn through the eight intelligences. Gardener (1983) identified seven intelligences first, then added one more for a total of eight. The first seven are the logical ones or mathematical, verbal or linguistic, musical, visual or spatial, bodily or kinesthetic, interpersonal and intrapersonal.

Differentiated instruction is a pedagogical approach that recognizes the diverse talents and learning styles of students, aiming to tailor teaching strategies to meet individual needs (Magableh, 2020). According to Tomlinson (2010), differentiating content involves providing multiple pathways for students to engage with facts, concepts, principles, attitudes, and skills. This flexibility allows educators to present the same essential content to all students, while varying the complexity and instructional processes to accommodate different learning profiles. Sebihi (2016) emphasizes that while students at the same educational level should access the same core content, teachers must adjust their methods and expectations based on the diverse capabilities and learning preferences within the classroom. This approach not only enhances understanding and retention but also fosters a more inclusive learning environment where all

students feel valued and supported in their educational journey. By embracing differentiated instruction, educators can create a more equitable and effective learning experience that empowers every student to succeed. The idea is that all students should learn the same concepts in different ways. Teachers can either vary the content by differentiating the complexity or having the same content to all but differentiate the activities. So that, DI strategies include learning centers, group investigation, tiered products, interest groups, complex instruction, rubrics, learning contracts, and alternative assessment methods.

Washback and differentiated instruction (DI) have a complex relationship. While both aim to improve learning, they can sometimes work against each other. Here's a breakdown of the potential conflict:

Washback Effect

1. Focus on standardized test. High-stakes standardized tests can create pressure on teachers to "teach to the test," neglecting the broader goals of differentiated instruction.
2. Reduced Innovation. Washback concerns might lead teachers to shy away from innovative teaching methods or diverse assessments that don't directly align with standardized tests.
3. Limited Effectiveness. The pressure to prepare students for standardized tests can undermine the effectiveness of differentiated instruction. Teachers might prioritize practicing test formats over catering to individual student needs and learning styles.

Impact on Differentiated Instruction

1. Reduced Individualized Learning. Standardized testing often focuses on a one-size-fits-all approach, which can limit opportunities for teachers to create personalized learning experiences through DI.
2. Student oriented. Focusing solely on test preparation can create anxiety and demotivate students who struggle with standardized formats. This goes against the core principles of DI, which aims to create a positive and engaging learning environment for all.

By acknowledging washback concerns and actively seeking solutions, educators can leverage differentiated instruction to create personalized learning experiences even within the constraints of standardized testing. This approach can promote student engagement, learning growth, and a more positive learning environment for all.

The unintended consequences of assessments on teaching and learning, can have both positive and negative effects on differentiated instruction (DI). While washback can sometimes create challenges for implementing DI, it can also be used as a tool to enhance and improve differentiated instructional practices.

The positive contributions of washback to DI are:

1. Standardized tests and other assessments can provide a clear picture of the expected learning outcomes for students. This information can be used by teachers to design differentiated instruction that aligns with these goals while catering to individual student needs.
2. Assessments can reveal areas where students are struggling and where they excel. This information can guide teachers in tailoring their instruction to address individual student needs and provide targeted support.
3. Washback data can inform curriculum development by identifying areas where the curriculum may need to be

adjusted or supplemented to better meet the needs of diverse learners. This can lead to a more inclusive and effective curriculum that supports DI.

4. Washback can be used to identify areas where teachers may need additional training or support in implementing DI effectively. This can lead to targeted professional development opportunities that enhance teachers' skills and knowledge in DI.
5. Washback can encourage collaboration and communication among teachers, administrators, and parents to discuss student progress, identify areas for improvement, and develop strategies to enhance DI implementation.

Based on that explanations, Education 5.0, with its emphasis on personalized learning, offers a promising vision for the future. However, the potential negative washback effects of standardized testing can complicate the implementation of differentiated instruction (DI) within this framework.

The acknowledgment of the washback effect in education is crucial for understanding how standardized testing influences teaching and learning practices (Hung, 2019). By recognizing this phenomenon, educators can proactively seek solutions that leverage differentiated instruction, which tailors teaching methods to meet the diverse needs of students. This personalized learning experience not only accommodates varying abilities and learning styles but also enhances student engagement and motivation. In an era defined by Education 5.0, where the emphasis is on holistic development and the integration of technology, this approach becomes even more relevant. By fostering an inclusive and adaptive learning environment, educators can counteract the limitations imposed by standardized assessments, ultimately nurturing student growth and well-being. This alignment between differentiated instruction and the goals of Education 5.0 enables a more positive and dynamic educational experience, allowing all students to realize their full potential and preparing them for the complexities of the modern world.

Conclusions

Based on the results of the discussion in above, it can be concluded that current students are considered as a capable millennial generation mastering technology, this requires teachers to be able to keep up with developments era. In this context, technology can be a very tool useful for improving student learning experiences. Key pillars of Education 5.0 include a coherent curriculum, innovative delivery and assessment, meaningful learning experiences, and transformative learning. Students should be encouraged to play an active role in the classroom, transforming traditional learning scenarios into practical and applied knowledge. Washback, a phenomenon in applied linguistics, refers to the effect of testing on teaching and learning. Educators often want their students to succeed, but high test results often result in classroom instruction that reflects test procedures and standards. Differentiated Instruction (DI) is a student-centered approach that focuses on addressing individual needs and preferences. DI strategies include learning centers, group investigation, tiered products, interest groups, complex instruction, rubrics, learning contracts, and alternative assessment methods.

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