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## **From Rote to Reflective: Reimagining Critical Thinking in Secondary School Curricula**

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### **ABSTRACT**

*The article focuses on the intractable power of rote learning in secondary schools and the very urgent necessity of re-focusing curricula and pedagogical practices towards reflective and higher-order thinking. Although the world has been progressively advocating skills that are relevant in the 21st century such as critical thinking, problem-solving, and creativity in learning, most of the learning systems and institutions have not changed to avoid memorization and rote learning. Based on Constructivist Learning Theory, Bloom Taxonomy, and Dewey Model of Reflective Thinking, the research examines the way the contemporary classroom activities and curriculum design binds the cognitive activity and prepares students inadequately to the challenges of the real world, which are rather complex in nature. The study employs qualitative research design and includes semi-structured interviews with classroom observations and teachers and curriculum experts and survey with secondary school students. Results indicate an extensive concentration on recollection of the facts, since there is little use of inquiry learning, and most of the teachers fear to apply strategies of critical thinking. These patterns are also extended to assessment systems which employ standardized closed-format testing extensively. The international best practices in countries like Finland, Singapore, Canada, with their innovative curriculum, their empowerment of teachers and the use of a reflective assessment system have proved to be fruitful in developing critical thinking and these insights are compared against all that. The article ends with selective policy and practice suggestions such as the redesign of curriculum that favors interdisciplinary inquiry, professional development on reflective pedagogy, reforming assessment, and institutional innovation. The paper proposes a change in the system by harmonizing the theoretical principles with practical reformations, which will produce thought-provoking, self-questioning learners who are ready to lifelong learning and become global citizens.*

**Keywords:** Critical Thinking, Rote Learning, Curriculum Reform, Reflective Pedagogy, Bloom's Taxonomy, Constructivist Learning, Secondary Education, Teacher Training, Assessment Reform, 21st-Century Skills.

### **Introduction**

In most countries around the globe and especially in developing countries and education systems that focus on exams, rote learning prevails, which has an influence on the experiences of high school students. Traditionally, rote learning, or the learning through repetition without a profound meaning, has been the most widespread form of the teaching process in South Asian and Sub-Saharan schools and parts of the Middle East, where the



knowledge of the textbook material is still deemed to be the key to academic success (Saeed & Khan, 2021; UNESCO, 2023). Research has found that the method has a tendency to be regurgitation-based rather than reason-based thus lowering on intrinsic motivation and mental flexibility of learners (Biggs & Tang, 2011; Shah & Farooq, 2022). Children even learn to memorize and re-learn around standardized tests, instead of learning how to be critical, creative thinkers, or simply thoughtful. Such trend is frequently aggravated by fixed curricular, formative assessments, and full-enrolled classrooms that do not allow teachers to have time or training to implement interactive or inquiry-based pedagogies (Kozma, 2022; Jibeen & Khan, 2020). The consequence of this is that students are denied the chance to acquire higher order thinking skills, including the ability to evaluate, synthesize, and solve problems, which are needed not only in academic success, but also in the manner they make decisions in real life situations and in being able to participate in democratic life (Brookhart, 2010). Although rote learning can help to reap a faster score on a test, it, in essence, harms long-term cognitive development, flexibility, and creativity, skills that are currently paramount in the 21st century (Ritchhart, 2020; Trilling & Fadel, 2009).

The issue of increasing the critical thinking gap in secondary education has become a worldwide concern among educators, policy makers as well as researchers. The changing definition of the labor market due to the popularity of artificial intelligence, automation, and global connectivity means that students are going to require more than rote knowledge to succeed in an unknown future. Critical and ethical reasoning, metacognition, teamwork problem-solving, are some of the skills listed among the vital skills towards economic resilience and social well-being by leading organizations (World Economic Forum, 2023; OECD, 2022). Moreover, researchers believe that critical thinking should be developed to address misinformation, enhance civic engagement and empower innovation (Facione, 2015; Paul & Elder, 2019). But failure to develop these competencies in school system on a large scale constitutes a threat to national development. The nations that cannot shift the style of rote learning to one of reflection and student-oriented are in danger of graduating students who will be poor candidates to work in knowledge economies and as citizens. More recent international comparisons like PISA (Programme for International Student Assessment) have shown that, on the one hand, students in high-performing countries have very good literacy and numeracy skills, but on the other hand, they are still inconsistent in their skills of critical thinking and creative problem-solving and heavily dependent on context (OECD, 2022; Schleicher, 2022). It shows that not only is inscribing reflective possibilities into school curricula a pedagogical task but it is also a policy requirement of educational equity and innovation all over the world.

Here, the necessity to reinvent the concept of secondary school curricula through the prism of critical thinking is quite obvious. The transition to reflective learning so that it is not a question of shifting the teaching methods, but rather the systemic shift that embraces curriculum design, teacher training, culture in the classroom, as well as assessment models. Such a transformation should be facilitated by the leadership and governance frameworks which prioritize the importance of innovation and lifelong professional development (Fullan, 2020). Although the education systems in some countries have started introducing 21st-century skills into their practice by using project-based learning, inquiry-oriented styles, and Socratic discussions, the corresponding changes usually prove to be piecemeal or, in other



words, superficial (Hammond & Jackson, 2021; Darling-Hammond et al., 2022). In addition, the critical thinking becomes a nebulous and a hotly debatable goal in the typical curriculum documents unless it is strongly supported by the theoretical foundation and action plan. As researchers put it, there should be an alignment of intended and implemented and assessed curricula that can result in a meaningful outcome (Posner, 2004; van den Akker, 2010). Hence this paper aims at exploring how secondary school can transform its current approach that revolves around memorization to a knowledge-based approach that develops reflective as well as independent learners. It is a critical examination of the theoretical origins of reflective learning, synthesis of worldwide attempts to incorporate higher-order thinking in curriculum and strategic prescription of effective pedagogical transformation. By so doing it establishes a larger discourse on exactly what it implies to educate to think in the 21 st century.

### **Problem Statement**

In spite of the focus on building the 21 st -century skills, it may be noted that the learning in secondary schools in most of the locations remains focused on rote learning at the expense of learning to think analytically, reflectively and creatively. Such a deep-seated dependence on fact-recalling skills makes students de-motivated, unable to handle real world problems that require long problem-solving skills, and lacking skills in adaptive problem solving. Education systems tend to produce learners who are not able to question, criticize and innovate, which are the main skills required in the current dynamically developing social, and economic environment. Stifling content-loaded syllabi and examination-driven evaluation systems strengthen the learning on the superficial level at the cost of deep cognitive growth. Such a mismatch of the curriculum practices and the broader vision of an equitable, quality education as presented in Sustainable Development Goal 4 leads to a systematic inability to empower students as critical thinkers and lifelong learners. Addressing this divide requires a radical reconsideration of the way learning is organized, taught and evaluated throughout secondary educational systems.

### **Objectives of the Study**

The study is based on the following objectives;

- To analyze the extent of rote-based learning in secondary curricula
- To examine how critical thinking is currently addressed (or neglected)
- To propose pedagogical and curricular strategies for integrating reflective thinking
- To evaluate the role of teachers and assessments in promoting higher-order thinking skills

### **6. Research Questions**

1. How prevalent is rote learning in secondary school curricula?
2. What are the key challenges in integrating critical thinking into classroom practices?
3. What theoretical and pedagogical approaches support reflective learning?
4. How can curriculum reforms promote critical, reflective thinking in diverse secondary education systems?

### **Literature Review**

Critical thinking is commonly considered one of the pillars of contemporary education, which focuses on the fact that students must be able to analyze, translate and judge information in a logical and independent way. Facione (2020) describes the purposeful and self-regulatory judgment as critical thinking, which can be defined by such skills as analysis, interpretation,



inference, explanation, and evaluation. Modern theories also focus on metacognition, emotional intelligence, as well as ethical reasoning, as elements of critical thinking. Paul and Elder (2022) claim effective critical thinkers do not only pose insightful questions, but also examine points of view and identify assumptions in a debate. Learned and teachings have brought about this multidimensionality that has actually influenced educators and researchers to argue that curriculum designs should facilitate open-ended inquiry, organized discourse, and group problem-solving. Such higher-order thinking skills are essential to enable the students to survive in ever-changing social, and economic conditions in 21st-century.

Rote learning, very common in most secondary schools worldwide, is typified by learning by rote and not necessarily understanding the facts. Conversely, reflective learning makes the students approach content critically, challenge assumptions and transfer knowledge to new circumstances. Ramsden (2021) says such students are more conceptually clear, and knowledge is retained better because of the reflective practices. Nevertheless, educators tend to adopt passive teaching methods that promote rote learning due to the systemic pressures associated with time and exam-based teaching paradigm. Strategies of reflective learning, such as journaling, group discussions and Socratic questioning, involve more instructional time and teacher independence. Therefore, the prevalence of rote-learning-driven education systems impedes the wider adoption of reflective educational practices particularly in the environment where educational achievement is strictly reduced to test outcomes.

Various nations across the world have been on the forefront to create changes that open up to critical thinking in schools. In Finland, as an example, they have embraced a cross-disciplinary practice that involves the reinforcement of critical thinking via phenomenon-based learning (Sahlberg, 2021). Inquiry-based thinking and collaborative problem-solving is stressed in the national curriculum of Singapore, whereas project-based learning develops metacognitive awareness in Canada, Ontario curriculum (OECD, 2022). These examples demonstrate that the embedment of the critical thinking not only involves the changes in the curriculum but also need the evolution of pedagogical culture and organization of school. However, the efficacy of this kind of reform is greatly reliant on the continuous training of teachers, the consistency in policies, and community assistance. The countries in the third world, which desire to implement these models, need to factor in the local issues of ill-funded schools, unqualified teachers, and an un-flexible centralized framework of education, which is not easy to transform.

Even with the progressive reforms, there are still huge loopholes in incorporating critical thinking in secondary education and more so in developing parts of the world. Curriculum documents tend to be vaguely stated in nature with references to thinking skills without outlining the dimensions of the teaching skills and assessments (Tikly et al., 2022). Heavily centralized curriculum designs in such countries as India, Pakistan and Nigeria, focus on coverage of content rather than on cognitive engagement, and this mismatch between intended and actual learning outcomes results in ineffective teaching. This disjoint is further solidified by national systems of examinations which reward the retention of material and therefore does not encourage any innovation of instructional practice. In the absence of cohesive structures, which positively codify the process of critical thinking and subsequently coordinate it with performance standards, even the most well-meaning policy documents fail.



Comprehensive curriculum change, thus, should be coupled with an instructional support, pedagogical flexibility and significant assessment change.

Teacher training and pedagogical innovation is essential in the successful integration of critical thinking in the classrooms. Regrettably, there is a lot of teacher training programs that do not equip educators to support inquiry-based or dialogic learning. It is pointed out by Darling-Hammond et al. (2022) that the majority of teachers receive training in the lecture-based approach, and few of them get acquainted with active learning. Furthermore, current school systems do not allow much freedom to implement any innovative methods of educating students because of the large class sizes, strict schedules, the absence of resources, etc. When teachers actually do make an attempt to incorporate critical thinking, they are usually met by institutional resistance or a lack of administrative support. Professional development programs based on reflective teaching, questioning strategies, and formative assessment are necessary to scale critical thinking to the classroom level.

There is a tendency to mismatch assessment system and the objectives of critical thinking development. In most learning environments particularly in higher stake assessment environments, evaluations focus on factual memorization and Algorithmic process instead of analytical and creative solution. Such a disjuncture discourages instructors to embrace a student-centered approach to teaching. Black and Wiliam (2023) promote formative assessment approaches, including peer feedback, reflective journals, and performance tasks, as viable methods of developing higher-order thinking. In case assessment systems are more rewarding to creativity, synthesis, and the capacity to reason ethically, then it will encourage both teachers and students to work more deeply. Moreover, time-tracking portfolios and rubrics that can offer a broader view of student growth can be constructed. Matching assessment with critical thinking objectives is not only a technical solution but it is a required change in educational philosophy and responsibility.

### **Theoretical Framework**

Behind all the work being done to change the age-old practice of rote-memorization and reflective learning is the ingrained understanding of Constructivism Learning Theory which holds that learners are the constructors of the knowledge they learn through experience, interaction and contextual involvement. Based on the thought of Piaget and Vygotsky and developed more widely in the modern debate in education, constructivism asserts that knowledge is a constructive rather than an acquisitive process in which the learner actively constructs knowledge in a socially and culturally situated world (Schunk, 2021). This theory facilitates inquiry-based and dialogic methods of teaching in which the students question, explore and together construct meaning with other students and instructors. Constructivism can be understood as a powerful argument in favor of curriculum development in the settings of secondary education that focuses on the role of student agency, practical problem-solving, and critical discussion. The constructivist approaches provide flexible strategies that are student-centered and aligned with 21st century learning objectives across the board as the more diverse educational settings in terms of population and technological richness continue to change.

Taxonomy in the analysis of Bloom is another important systematic way of analysis that pedagogical practices should be analyzed and reoriented to deeper cognitive processing. The taxonomy was first created in the 1950s by Bloom et al. and was updated in 2001 by Anderson



and Krathwohl and describes a sequential flow of thinking skills, starting with the lowest level of basic recall (remembering) and proceeding to higher-order functions, such as analyzing, evaluating and creating (Armstrong, 2023). Rote learning classroom is one whereby students hardly get to stage two which is understanding and remembering. Nevertheless to guarantee critical thinking, the scaffolding activities must proceed to the higher levels of the taxonomy. An example is tasks that support synthesis, critique, and innovation, which fits the purpose of reflective thinking. The adoption of Bloom framework in curriculum planning enables the educator to develop goals in an organized way, to challenge students to perform more advanced mental functions. Such a taxonomy can therefore be used as a diagnostic as well as a guide to development of more cognitively rich learning environments in as much as it can help plug gaps in existing pedagogies.

An addition to these models is Reflective Thinking Model by John Dewey that makes reflection central to meaningful learning. According to Dewey, education must foster inquiry habits, in which students could address the problems of the real world, consider evidence, and update their beliefs by means of logical discussions (Dewey, 1933; Rodgers, 2020). The philosophy of Dewey is so striking in its time because in the education system the problem of having students ready to go through uncertain and complex situations is being relied upon. His model underlines the significance of connection between the experience and thinking, making students shift from the spontaneous response to the refined judgment. Within contemporary educational theorizing, Dewey re-emerged in theories advocating metacognition, problem-based learning and experiential learning. All of these models promote a reflective curriculum; that is, not just a curriculum that provides content but also a curriculum that develops a student's abilities to think, ask questions, and ride the winds of change. The application of the Dewey reflective model, as well as Constructivist Theory and Bloom Taxonomy, allows carrying out a multidimensional assessment of the existing curriculum practice, pointing to the necessity to revolutionize instructional design, teacher training, and assessment, in the ways which will truly promote the critical thinking and learner autonomy.

## **Methodology**

### **Research Design**

This study employs a qualitative research design to explore how secondary school curricula support or hinder the development of critical thinking, moving beyond rote memorization toward reflective learning. A qualitative approach is most suitable for this inquiry as it facilitates a deep, contextual understanding of the lived experiences, perceptions, and instructional practices of teachers and students within diverse school environments. It allows for an interpretive analysis of how curricular content, pedagogical strategies, and assessment systems influence the cultivation of critical thinking.

### **Population and Sample**

The population for this study comprises secondary school stakeholders in both urban and semi-urban settings, including teachers, curriculum experts, and students in grades 9 to 12. Using purposive sampling, 10 teachers, 5 curriculum experts, and 30 students from four secondary schools were selected to ensure diversity in perspectives and teaching contexts. Participants were chosen based on their willingness to share in-depth insights and their exposure to current curricular reforms or innovative classroom practices.



### Data Collection Tools

To gather rich and varied data, the study utilized multiple qualitative data collection tools. Semi-structured interviews were conducted with teachers and curriculum experts to explore their understanding of critical thinking, instructional approaches, and perceived barriers to implementation. Classroom observations were carried out using a standardized observation guide to document teaching strategies, classroom interactions, and signs of reflective engagement among students. Additionally, surveys containing open-ended questions were administered to both teachers and students to capture broader perceptions of the effectiveness of current curricula and assessments in promoting critical thinking.

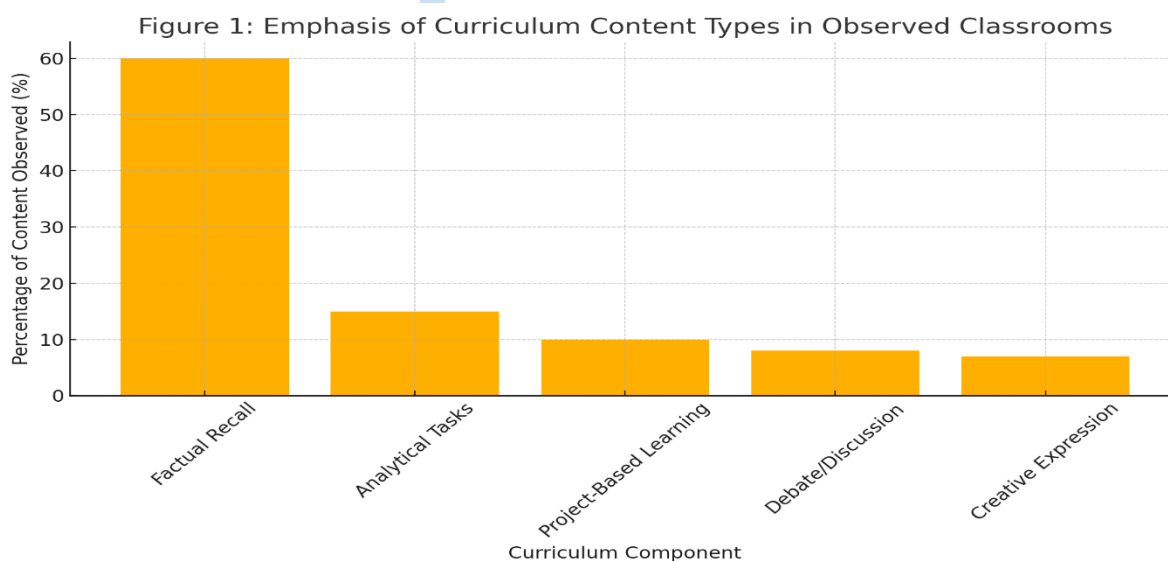
### Data Analysis

The collected data were analyzed using thematic coding. This involved a systematic process of identifying, categorizing, and interpreting recurring themes, patterns, and contradictions within the qualitative data. NVivo software was employed to manage and code the data efficiently. Codes were initially generated deductively based on the theoretical frameworks (Constructivism, Bloom's Taxonomy, Dewey's Model), and then inductively refined as new themes emerged from the data. To ensure rigor, triangulation across interviews, observations, and survey responses was employed, along with member checking with selected participants to validate interpretations. This approach allowed for a nuanced understanding of how current pedagogical practices either reinforce rote learning or enable reflective, critical engagement.

### Results

The analysis of classroom observations and participant feedback revealed a pronounced dominance of recall-based instructional strategies in the secondary school curriculum. As illustrated in Figure 1, approximately 60% of the curriculum content observed was centered on factual recall, including memorization of definitions, formulae, and textbook summaries. Higher-order learning strategies such as analytical tasks (15%), project-based learning (10%), and debate/discussion (8%) were significantly underrepresented. Creative expression accounted for only 7% of instructional time. This pattern underscores a curriculum structure that prioritizes surface-level learning over deep cognitive engagement.

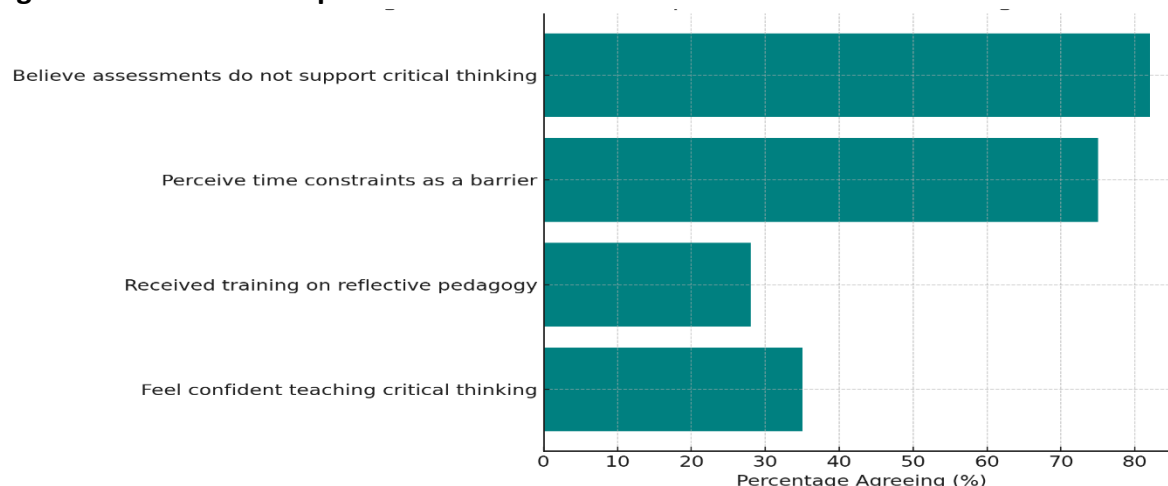
**Figure 1 – Curriculum Content Emphasis**





Further, teacher responses revealed notable concerns regarding their preparedness and systemic constraints in promoting critical thinking. As depicted in Figure 2, only 35% of teachers reported feeling confident in teaching critical thinking skills, and merely 28% had received formal training in reflective pedagogy. Meanwhile, 75% identified time constraints as a major barrier, citing pressure to complete syllabi and prepare students for exams. Alarminglly, 82% believed that the current assessment frameworks do not support or incentivize the development of critical thinking, contributing to a reliance on rote methods.

**Figure 2 – Teacher Perceptions**



Complementing these insights, Table 1 summarizes the thematic gaps in assessment design and student engagement. Data from classroom observations and student surveys revealed a strong preference for traditional assessment formats—mostly multiple-choice and short-answer tests. Students exhibited low engagement in activities requiring original analysis or creativity. Moreover, feedback mechanisms in most classrooms were limited to marking right or wrong answers, with little focus on constructive dialogue or personalized growth.

**Table 1 – Assessment Design Findings**

Category	Findings
Assessment Format	Predominantly closed-book exams and MCQs; few open-ended tasks
Student Engagement	Students showed low participation in activities requiring original thought
Feedback Use	Feedback mostly corrective, not developmental

## Discussion

The results of this experiment have confirmed the fact that rote-based learning remains dominant in the secondary classrooms, which makes the Constructivist Learning Theory and Bloom Taxonomy as the diagnostic scales applicable. It was found that factual remembering activities took up most of the instructional time and there was little room left to discuss critically or engage in dialogues. The same was in line with the taxonomy by Bloom (1956, modified by Anderson & Krathwohl, 2001), in which the classroom activities could hardly go beyond the lower levels of remembering and understanding. Furthermore, the reported absence of training in implementing reflective pedagogies and confidence among teachers is also echoed in the model of reflective thinking introduced by Dewey, who attaches significance to the clear process of inquiry and practical experience (Rodgers, 2020). The model provided by Dewey suggests that the meaningful learning occurs due to the cycle of



observation, reflection, and judgment, which is mostly lacking in the classroom settings observed. The mismatch between the theoretical principles and real pedagogical practice points at the forces of inertia within the system and the absence of institutional arrangements to facilitate cognitive engagement, peer discussion, and problem-solving in real life in daily teaching.

The comparison of these findings and the best practices used internationally will be the indicator of the level of incompatibility of the curricular and pedagogical approach. In other countries such as Finland and Canada, education systems are actively employing a phenomenon- and inquiry-based approach to learning with the central focus on critical thinking in the form of cross-disciplinary projects and collaborative learning (Sahlberg, 2021; OECD, 2022). These systems give autonomy to the teachers, continuous professional development, and assessment systems that reward intellectual knowledge in place of recitation. The reforms in Singapore curriculum focus on metacognitive processes and thinking by classroom discourse (unstructured) and subject-specific thinking routine (structured) (Tan et al., 2023). In comparison to these models, settings of this study do not have pedagogical infrastructure and policy coherence, which is needed to accommodate such innovations. The lack of real world assessment, e.g. portfolios, reflective writings, or interdisciplinary activities, inhibits the potential of students to transfer knowledge between settings, which is one way to demonstrate higher order thinking. Besides, in the lack of collaborative planning time, instructional coaching, differentiated performance-based evaluation criteria, teachers are not able to use any transformative pedagogical practices.

These results are bad news as far as policy makers and educators are concerned in their efforts to shift towards reflective education. The curriculum should first of all be reformed not just on revised textbooks but with learning outcomes and with the competencies of critical thinking. All these results are to be scaffolded across subjects and grade levels in line with the bloom hierarchy to make sure that the evaluation, synthesis, and creativity are a common practice. Second, the training programs of teachers require immediate reform. The directions of professional development must be directed towards pedagogical content knowledge, formative assessment design and reflective teaching practices based on constructivist and Deweyan ideas. The support and modeling can be ongoing with mentorship programs and learning communities on school-based grounds. Lastly, reforms need to be in the accountability and assessment systems that, as of now, reward the recall of facts. To transform the culture of schooling to deep learning, it is possible to introduce low-stakes, formative evaluation where student-led conferences, capstone projects, and peer feedback loops are involved. When oriented on policy, curriculum, pedagogy, and evaluation levels, the strategies can create a schooling environment that will develop critical and adaptive thinkers ready to face the complexities of the 21st century.

### **Recommendation on Policy and Practice**

In a bid to instill the spirit of critical thinking in the students of the secondary schools, the curriculum redesign should be based on inquiry, reflection, and contextual learning rather than the rote learning process. This will mean abandoning the traditional, content-laden syllabus in favor of one that is skills-based and which incorporates questioning, collaborative problem-solving, and interdisciplinary exploration into the learning experience. As an example, such curriculum as a phenomenon learning in Finland promotes the situation when



students have a chance to study real-life problems that cut across different disciplines and lead to better and more comprehensive knowledge (Sahlberg, 2021). Although the inclusion of environmental sustainability, civic responsibility, or digital literacy as themes increases interest in learning, it also leads to transferable thinking. To ensure that students develop critical thinking skills, ministries of education ought to review curriculum standards to make sure they update explicit outcomes of critical thinking based on Bloom Taxonomy- especially on the upper levels of analysis, evaluation, and creativity (Anderson & Krathwohl, 2001). Incorporating them into national curricula means that one does not have to practice reflective thinking as something isolated but a systemic requirement in all learning areas.

The change of classroom practices requires a similar one in teacher education. Majority of pre-service training programs continue to focus on content delivery as opposed to pedagogical approaches to facilitate higher-order thinking. The training of teachers should have specific modules on the practice of inquiry-based learning, teaching through dialogue, and assessment by students (Darling-Hammond et al., 2022). Further, in-service professional development, which is an ongoing process is essential to update and reinforce these competencies. Countries such as Singapore and Estonia ensure that there is a massive investment in continuous teacher learning, which includes mentoring, peer collaboration, and reflective practice time (Schleicher, 2022). The capacity building of teachers also involves reforming the evaluation processes: instead of basing it only on the student test scores, teacher performance should be measured via classroom observation instruments, which will consider the level of engagement, the application of questioning techniques, and metacognitive scaffolding. Policymakers have to stop seeing teachers as implementers of a curriculum and adopt a view that they are creators of knowledge and that they can be trusted to be innovative in their classrooms and can play a role in educational reform in the larger sense.

One of the obstacles to reflective pedagogy is to have a dependency on high-stakes exams with a particular emphasis on factual recall. There is a need to change assessment practice to capture analytical thinking, evaluative thinking and creative thinking of students. Performance tasks, portfolios, reflective journals, and open-ended questions ought to be included in the systems of both formative evaluation and summative evaluation (Black & Wiliam, 2023). Such approaches can make it possible to know more about how a student learns and also promote deeper involvement. The policymakers must, also, incorporate critical thinking rubrics in national assessment systems to inform teachers on how to judge thinking processes rather than right answers. Isolated technology-based evaluations such as those that involve digital simulation and peer assessment provide scalable models of assessing higher-order thinking and remain authentic. Finally, the alignment of assessments to critical thinking objectives guarantees the consistency between teaching activities, learning opportunities, and desirable competencies, closing the gap between classroom purpose and the systemic support.

Without institutional support and allocation of resources, pedagogical reform is doomed. School leaders are central in modelling an innovation, risk-taking and reflective culture. This involves allocating the time to conduct collaborative planning, the investments made in digital resources to facilitate inquiry-based learning, and the decrease in bureaucratic limitations of classroom experimentation (Fullan, 2020). Governments should also guarantee equal access



of schools especially in the underserved areas to learning resources, technology and infrastructure. Pedagogical ideas that are the best in practice stand little chance of scaling or sustaining without systemic support. Instructional buy-in includes having an institutional buy-in in terms of prioritizing the development of school leaders with an ability to lead instructional reform and also facilitating of professional learning communities as well as modeling of reflective inquiry. An entire-system strategy, which is anchored on shared vision, flexible governance, and constant feedback, will be required to integrate critical thinking in the DNA of education facilities.

### Conclusion

The excessive use of rote learning in secondary schooling institutions poses serious challenge to the creation of critical, reflective and adaptive learners. Although there has been increased awareness of the importance of 21<sup>st</sup> century competencies across the world, most of the educational systems are stuck in content rich curriculum and exam-oriented approach to teaching. This paper has revealed that teaching in those ways restricts student learning, inhibits higher-order thinking, and makes learners ill-equipped to tackle practical problems. Although theoretical approaches like Constructivist Learning Theory, Bloom Taxonomies and Dewey Reflective Thinking Model lay stress on active formulation of knowledge and queries, education in the classroom seems to depict a gap between the concepts and the action. Teachers themselves feel bound by a lack of training, poor assessments, and curriculum that still seeks to teach memorization more than meaning making.

In a bid to close this gap, there is a need to have systemic reform in various levels of education. Curriculum redesign should incorporate outcomes and support of critical thinking as well as inquiry based learning in all subjects. At the same time, it is imperative to provide the teachers with the ability and resources by offering high quality pre-service training and continuous professional development with reflective pedagogy. The evaluation systems should change the emphasis on restricted testing of recall to expanded evaluation of analysis, synthesis, and innovativeness. Importantly, the institutional leadership and policy systems should establish enabling contexts in which innovation is promoted, and reflection practice becomes the rule. It is only with increased coordination of theory, practice and policy that secondary education can be transformed out of the rote teaching to an active reflective culture of learning that can raise well-thought, competent and future-ready citizens.

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