FROM THEORY TO PRACTICE: HOW WELL DO TEACHERS KNOW AND USE CONTEMPORARY TEACHING TECHNIQUES, AND WHY?

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Abstract

This paper investigated the shift from traditional, transmission-based teaching towards active and interactive learning in primary education. Its aim was to measure how well teachers know and how often they apply contemporary teaching techniques, with a focus on the ERR framework (Evocation – Realization of meaning – Reflection), and to identify the obstacles that hinder their use. A mixed-methods design was used: a questionnaire completed by the teachers of one primary school (22–25 responses per item), measuring theoretical knowledge, sources of knowledge, frequency of use of 14 techniques and the impact of five structural barriers, together with an observational case study of a 40-minute Grade 4 Albanian-language lesson. The results showed that 95.7% of teachers knew the techniques "very well" or "sufficiently", yet only 16.0% of all frequency ratings were "often" or "always". 82.6% had either received no institutional training or rated it as mainly theoretical. Brainstorming and the Discussion Web were the most used techniques, while the Fishbowl and the Barometer were the least used. The strongest barriers were large class size, lack of teaching materials, lack of practical training and curriculum overload, whereas lesson time was perceived as less decisive. The case study showed that the ERR framework, with two or three simplified techniques, was feasible within 40 minutes. The paper proposes micro-techniques, training based on classroom simulations, a lighter curriculum and better-equipped schools.

Keywords: interactive techniques, active learning, ERR framework, critical thinking, structural barriers, primary education.

1. Introduction

Rapid social and technological change has increased the need for a deep reform of education. Today, the main purpose of school is not only to equip pupils with factual information but to develop cognitive competences and critical thinking. The traditional model, in which the teacher is the only source of knowledge and the pupil a passive listener, often leads to mechanical, superficial and short-lived learning. Curricula and teacher education programmes have long embraced active methods, and the ERR framework, spread in the region through the "Reading and Writing for Critical Thinking" programme (Steele *et al*, 1998), has become part of teachers' professional vocabulary. Knowing a method, however, does not guarantee using it.

This paper confronts theory with classroom reality through a school-wide questionnaire and a practical case study, in order to identify the barriers that separate what the curriculum prescribes from what actually happens in class. The study was guided by four research questions:

- To what extent do teachers know contemporary teaching techniques, and where did they acquire this knowledge?
- How often are the 14 selected techniques applied, and which categories are preferred?
- Which structural barriers most limit their use?
- How does a 40-minute lesson built on the ERR framework work in real conditions?

The significance of the study lies in the fact that it does not remain at the theoretical level but directly measures how much of what teachers know reaches the classroom, and why not more. Section 2 presents the theoretical framework, Section 3 the methodology and case study, Section 4 the results, Section 5 the discussion, and Sections 6 and 7 the conclusions and recommendations.

2. Theoretical framework

2.1 Constructivism: Piaget and Vygotsky: Constructivism holds that knowledge is not received passively but actively built by the learner on existing cognitive structures. For Piaget (1952; 1970), children are "little scientists", and cognitive development occurs through assimilation and accommodation. Techniques such as the Venn Diagram or INSERT create a "cognitive conflict" that forces the pupil to compare new information with existing schemas. Vygotsky (1978) emphasises the social dimension: through the Zone of Proximal Development, a pupil achieves more in collaboration with the teacher and more capable peers. Interactive techniques such as the Discussion Web, the Fishbowl or the Hot Seat act as scaffolding in the sense of Wood *et al* (1976).

2.2 Bloom's taxonomy: Bloom's taxonomy (1956), revised by Anderson and Krathwohl (2001), divides cognitive processes into six levels: remembering, understanding, applying, analysing, evaluating and creating. Traditional teaching stays mostly at the first two, while interactive techniques target the higher levels: the Venn Diagram and the Hot Seat promote analysis and evaluation, while the Cinquain and Cubing promote creation.

2.3 Cognitive load and metacognition: According to Sweller (1988), working memory has limited capacity; a technique with many procedural rules can shift the pupil's attention from content to procedure. This paper therefore argues for "micro-techniques" – simplified versions that reduce extraneous cognitive load. Metacognition, the awareness and regulation of one's own thinking (Flavell, 1979), becomes visible in the Reflection phase and in INSERT, where pupils mark what they already knew, what is new and what they do not understand.

2.4 The ERR framework: The ERR framework organises the lesson in three phases: Evocation activates prior knowledge, Realization of meaning brings the pupil into active contact with new information, and Reflection consolidates and personalises learning (Steele *et al*, 1998). The meta-analysis by Freeman *et al* (2014) showed that active learning raises achievement and lowers failure rates compared with traditional lecturing. The main differences between the two models are summarised in Table 1.

Table 1. Comparison of the traditional and interactive models

Dimension	**Traditional model (passive)**	**Interactive model (ERR framework)**
Teacher's role	Main transmitter of information	Facilitator and guide of the process
Pupil's role	Passive listener, reproducer of knowledge	Active, inquiring and critical participant
Focus of the lesson	Memorising rules and content	Developing skills and thinking
Bloom levels	Mainly remembering and understanding	Analysing, evaluating and creating
Assessment	Testing factual knowledge at the end	Continuous formative and self-assessment

2.5 Techniques studied: Contemporary techniques foster active and lasting learning, argument building, inclusion of different learning styles and social competences such as active listening and tolerance of other views. The study examined 14 techniques grouped into four categories (Table 2).

Table 2. Techniques studied, by category

Technique	Description	ERR phase	Bloom level
Graphic organisers			
Cluster	Gathers first ideas around a central concept	Evocation	Remembering, understanding
Venn Diagram	Compares two characters/events: differences and similarities	Realization, Reflection	Analysing
Cinquain	Five-line poetic summary of the essence of a character	Reflection	Creating
Prism	Chain of free word associations leading to the text's message	Evocation, Reflection	Understanding, analysing
Social interaction			
Brainstorming	Rapid, non-judgemental collection of ideas	Evocation	Understanding
Fishbowl	A small group discusses in the centre while the others observe	Realization, Reflection	Analysing, evaluating
Hot Seat	Interview with a pupil playing the role of a character	Realization, Reflection	Analysing, evaluating
Movement			
Gallery Walk	Display of work and circulation of pupils to comment	Reflection	Evaluating
Four Corners	Physical positioning by stance (for/against)	Reflection	Evaluating
Barometer	Lining up on an imaginary line (scale 1–10) by opinion	Evocation, Reflection	Evaluating
Dramatization	Acting out and emotionally experiencing the text	Realization	Applying, creating
Deep critical thinking			
INSERT	Marking while reading (✓, +, –, ?) (Vaughan & Estes, 1986)	Realization	Understanding, metacognition
Cubing	Exploring a topic from six angles: describe, compare, associate, analyse, apply, argue (Cowan & Cowan, 1980)	Realization, Reflection	Analysing, applying
Discussion Web	Arguments for and against a yes/no question (Alvermann, 1991)	Reflection	Evaluating

3. Methodology

3.1 Design and sample: A mixed-methods approach was used, combining a questionnaire (quantitative) with a case study (qualitative), preceded by a qualitative review of the Grade 4 Albanian-language syllabus and official textbook. The questionnaire was distributed to all teachers of the primary school where the researcher works; the number of responses ranged from 22 to 25 per item, as some items were optional. The sample was experienced: 36.4% had over 20 years of experience, 27.3% 11–20 years, 31.8% 6–10 years and 4.5% 1–5 years (N = 22); 65.2% taught in the lower cycle (Grades 1–5) and 34.8% in the upper cycle (Grades 6–9) (N = 23).

3.2 Instruments and analysis: The anonymous online questionnaire (Google Forms) contained 10 items: demographics, theoretical knowledge and its source, rating of training, frequency of use of the 14 techniques on a 1–5 scale (never – always), impact of five barriers on a 1–4 scale (no impact – strong impact), perceived impact on critical thinking, and two open questions. Frequencies, percentages and means (M) were calculated; open answers were analysed thematically. The observation protocol recorded pupil engagement, accuracy in using INSERT, quality of discussion and adherence to the time planned for each phase.

3.3 Case study: A Grade 4 Albanian-language lesson on the text "Ani the Pianist" (official textbook, pp. 22–24) was planned and delivered. Its objectives were for pupils to identify the theme (talent) and message (generosity of spirit), classify events with INSERT symbols and describe Ani through a cinquain. To reduce cognitive load, INSERT was simplified to three symbols: ✓ (I knew this), + (new/surprising) and ? (I don't understand / want to discuss). Time allocation is shown in Table 3.

Table 3. Lesson structure following the ERR framework (40 minutes)

Phase	Time	Technique	Activity
Evocation	6 min	Brainstorming + Cluster	Ideas around the word "TALENT" on the board and link to the text
Realization of meaning	24 min	INSERT (3 symbols)	Silent reading with marking (12 min); completing the table and discussing the "?" questions (12 min)
Reflection	10 min	Cinquain	Cinquain about Ani (5 min) and reading aloud to the class (5 min)

Evocation. The teacher writes "TALENT" in the centre of the board, and pupils say the first words that come to mind or share their own talents (music, football, drawing, piano); ideas are written around the central word as rays. Link to the topic: "Today we will read about a talented girl like you, called Ani."

Realization of meaning. Pupils read silently and place the symbols in the margin with coloured pencils: ✓ – Ani played the piano beautifully; + – her friends became jealous and played a trick on her; ? – why Ani chose not to tell the teacher who was to blame. The class then completes the table on the board, and discussion focuses on the "?" questions, analysing why Ani forgave her friends and what generosity of spirit means.
Reflection. Pupils write a cinquain about Ani, e.g.: *Ani / Talented, big-hearted / Played, forgave, triumphed / She forgave jealous friends / Pianist*, and read it to the class. Homework: two sentences of advice to the characters Ela and Eni about jealousy and friendship.

4. Results

4.1 Theoretical knowledge, sources and training: Declared knowledge was high: 39.1% of teachers knew the theoretical aspects of the techniques "very well", 56.5% "sufficiently" and 4.3% "a little" (N = 23). Knowledge had been acquired during university studies (30.4%), through self-study (26.1%), from colleagues (21.7%) and from institutional training (21.7%). Regarding institutional training, 43.5% had received none, 39.1% found it mainly theoretical and only 17.4% found it practical (Table 4). Comparing knowledge with practice reveals the central finding: of 350 frequency ratings (25 teachers × 14 techniques), only 16.0% were "often" (10.6%) or "always" (5.4%), while 50.6% were "never" or "rarely" (Figure 1).

Table 4. Theoretical knowledge, sources of knowledge and rating of training (N = 23)

Item / response	n	%
Knowledge of theoretical aspects		
Very well / Sufficiently / A little / Not at all	9 / 13 / 1 / 0	39.1 / 56.5 / 4.3 / 0
Main source of knowledge		
University studies	7	30.4
Self-study (reading, internet, professional literature)	6	26.1
Exchange of experience with colleagues	5	21.7
Official institutional training	5	21.7
Usefulness of institutional training		
Very useful, fully practical	4	17.4
Mainly theoretical, hardly applicable in class	9	39.1
No institutional training received	10	43.5

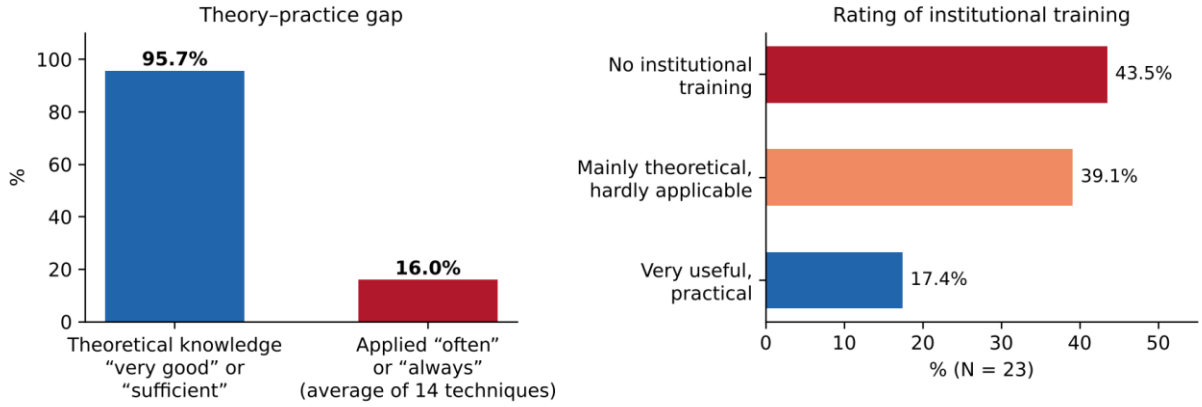


Figure 1. Theoretical knowledge versus regular use (left) and rating of institutional training (right)

4.2 Frequency of use: The most used technique was Brainstorming (M = 3.36), used at least "sometimes" by 80% of teachers. Second was the Discussion Web (M = 3.16), with the highest share of regular use (40%) but also 36% who used it rarely or never. At the bottom were the Fishbowl and the Barometer (M = 2.00), the Gallery Walk (M = 2.20), Four Corners and the Hot Seat (M = 2.24); nobody used the Barometer "often" or "always" (Figure 2). By category (Table 5), deep critical thinking techniques had the highest mean, mainly due to the Discussion Web, and movement techniques the lowest.

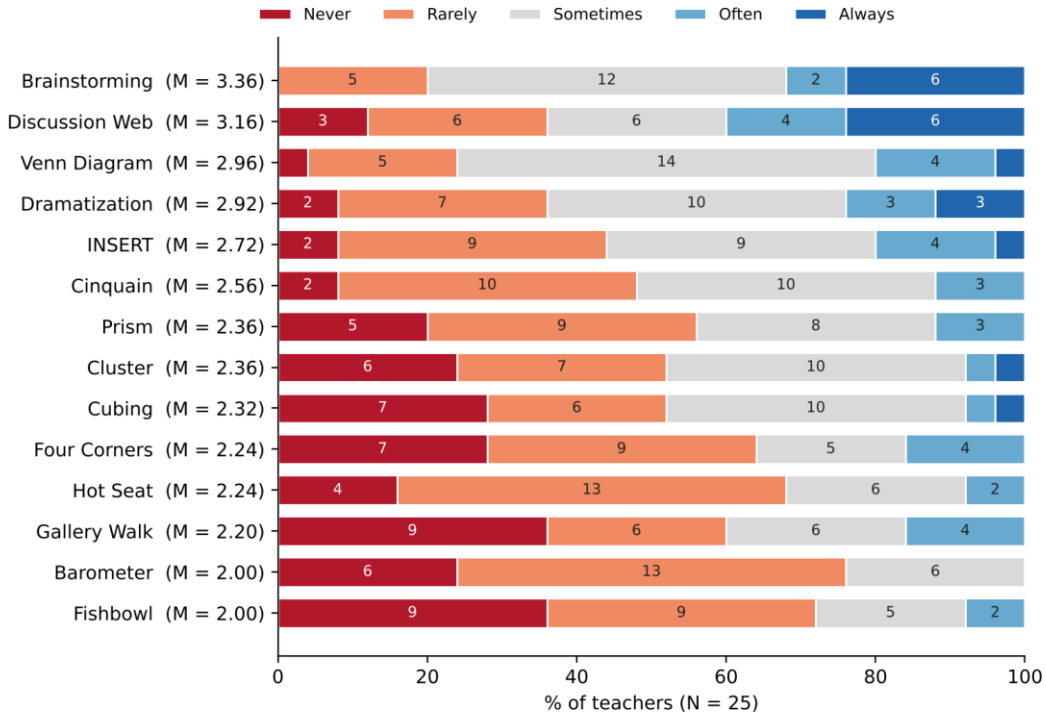


Figure 2. Frequency of use of the 14 techniques (number of teachers inside the bars; M = mean on a 1–5 scale)

Table 5. Frequency of use by category (N = 25)

Category	M	Often + always (%)	Never + rarely (%)
Deep critical thinking	2.73	22.7	44.0
Graphic organisers	2.56	13.0	45.0
Social interaction	2.53	16.0	53.3
Movement	2.34	14.0	59.0
Total (14 techniques)	**2.53**	**16.0**	**50.6**

4.3 Structural barriers: The strongest barrier was large class size (M = 3.40 on a 1–4 scale; 64% "strong impact"), followed by lack of teaching materials (M = 3.36; 56%), lack of practical training (M = 3.24; 48%) and curriculum overload (M = 3.16; 48%). Unexpectedly, the 40-minute lesson length emerged as the weakest barrier (M = 2.64; only 16% "strong impact") (Figure 3).

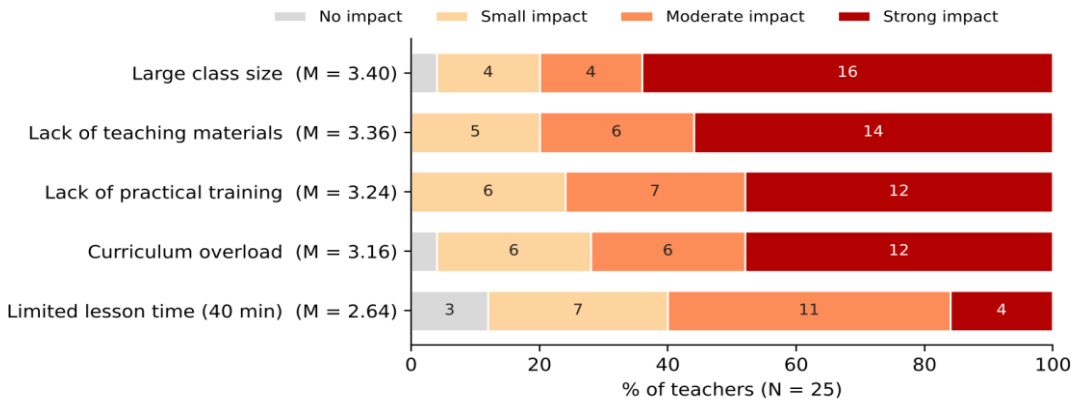


Figure 3. Impact of structural barriers (M = mean on a 1–4 scale)

4.4 Perceptions and open answers: 59.1% of teachers believed interactive techniques have a "strong" impact on pupils' critical thinking, 36.4% a "moderate" and 4.5% a "small" impact (N = 22). Problem-based learning (4 of 10 answers), discussion and debate, project work and brainstorming (2 each) were named as most effective for analysis and evaluation. One teacher described in detail a three-group activity in which pupils separate facts from assumptions, draft two alternative solutions and evaluate them for effectiveness, cost and justification, while the teacher asks challenging questions such as "What is the weakest point of the solution you proposed?". Suggestions for support (10 answers) are summarised in Table 6.

Table 6. Themes in teachers' suggestions for support (10 answers; one answer may contain several themes)

Theme	Answers
Material conditions, teaching materials and technology	8
Fewer pupils per class	5
Suitable spaces, subject labs, flexible furniture	4
Lighter curriculum	2
Ongoing practical training	2
Professional support for pupils with special needs	1
Clearer discipline regulations	1

4.5 Case study: The lesson was completed within 40 minutes, covering all three ERR phases. The text prompted a rich discussion, especially around the questions marked "?" – why Ani forgave her friends and what generosity of spirit means – moving the conversation from retelling towards analysis and evaluation. The cinquain allowed pupils to synthesise Ani's character into a new piece of language. The main challenge was INSERT: even in its simplified form, pupils needed repeated instructions, indicating a lack of prior habit, consistent with the 44% of teachers who use it rarely or never.

5. Discussion

The theory–practice gap is not a knowledge problem. Teachers knew the techniques and believed in their effectiveness, but rarely applied them. Their knowledge came mainly from university or self-study, while institutional training was either absent or theoretical. Declarative knowledge of a technique ("what it is") does not automatically turn into procedural knowledge ("how to manage it with many pupils in 40 minutes").

Techniques with low organisational cost are preferred. The most used techniques require little preparation and no rearrangement of space, while the least used (Fishbowl, Barometer, Gallery Walk, Four Corners) require physical movement and group management. This matches the strongest barriers – class size and lack of space and materials. The initial hypothesis that teachers prefer individual graphic organisers was only partly supported: the Venn Diagram was among the most used, but the Cluster and Prism were not. What unites the preferred techniques appears to be ease of management rather than category.

The Discussion Web as a special case. The relatively high use of an evaluation-level technique is encouraging, but its polarised distribution (40% use it regularly, 36% rarely or never) suggests that one group of teachers has fully integrated it and another has not – a difference that may relate to teaching cycle or experience and deserves further research.

Time is not the main barrier – how it is organised is. The case study showed that with three techniques and a clear time split (6–24–10 minutes), the ERR framework was fully delivered. This is consistent with cognitive load theory: fewer, simpler techniques reduce procedural load for both pupils and teacher. The need for repeated instructions with INSERT reveals a vicious circle: a technique is used rarely because it takes time, and it takes time because it is used

rarely. Regular use of a few techniques would turn them into classroom routines, in the spirit of scaffolding that is gradually withdrawn (Wood *et al*, 1976).

6. Conclusions

The study showed that teachers know contemporary techniques well and believe in their value for critical thinking, but rarely apply them. The main conclusions are:

- **Knowledge is high, use is low:** 95.7% report good or sufficient knowledge, yet only 16% of usage ratings are "often" or "always".
- **Practical preparation is missing:** 82.6% had no institutional training or rated it as mainly theoretical.
- **The barriers are structural:** class size, lack of materials, lack of practical training and curriculum overload matter more than lesson time.
- **Choice follows ease of management:** techniques that can be run quickly with the whole class are preferred, while those requiring movement and rearranged space are sidelined.
- **The ERR framework is feasible in 40 minutes:** with 2–3 simplified techniques and structured time, the lesson increases engagement and promotes higher-order thinking, in line with the theories of Piaget, Vygotsky and Bloom.

7. Recommendations

- **Education policy:** professional training with practical modules, classroom simulations and model lessons; a lighter or more flexible curriculum; smaller classes.
- **School management:** equipping classrooms with teaching materials (flip-chart paper, movable boards, markers), projectors and internet; flexible furniture for group work; open lessons and peer exchange among colleagues.
- **Classroom practice:** "micro-techniques" – 1–2 key techniques per lesson in simplified form; regular use of the same techniques until pupils master them; starting with low-cost techniques (Brainstorming, Venn Diagram, INSERT) and moving gradually to those involving movement and debate.

Limitations: The sample is small and from a single school; the data are self-reported; the number of responses varies by item; and the case study covered a single lesson taught by the researcher herself. Future research could include several schools, comparisons between lower and upper cycles, external observers and pre/post measures of pupil achievement.

Appendix: Teacher questionnaire

(1) Teaching experience: 1–5 / 6–10 / 11–20 / over 20 years. (2) Cycle taught: lower (Grades 1–5) / upper (Grades 6–9). (3) How well do you know the theoretical aspects of contemporary interactive techniques (e.g. the ERR framework)? Very well / Sufficiently / A little / Not at all. (4) Where did you mainly acquire your knowledge of these techniques? University studies / Self-study / Colleagues / Institutional training. (5) How helpful has institutional training been? Very, fully practical / Mainly theoretical / No training received. (6) How often do you apply each of the 14 techniques? Never / Rarely / Sometimes / Often / Always. (7) How much do the following barriers limit you (40-minute lesson, curriculum overload, class size, lack of materials, lack of practical training)? No / Small / Moderate / Strong impact. (8) How much do interactive techniques affect pupils' critical thinking? Strongly / Moderately / Slightly / Not at

all. (9) Which techniques are most effective for analysis and evaluation, and why? (open). (10) Suggestions on the conditions or support you need (open).

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