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Intentional Listening: Practicing a Vital Inclusive Behavior

By Richard F. Bowman

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Abstract- In a classroom setting, intentional listening has six distinctive stages: Actively inviting classmates' thoughts and opinions, reflectively considering every aspect of what others say, thanking others for expressing their ideas and beliefs, putting what one has heard in a broader societal context, connecting peers with similar ideas and insights, and identifying the point of intersection between what you have heard and your own intuitions and experiences. In instructional environments, intentional listening takes practice.

Keywords: listening, dialogue, inclusion, reflection, social-impact teaching.

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INTENTIONALLISTENINGPRACTICINGAVITALINCLUSIVEBEHAVIOR

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Intentional Listening: Practicing a Vital Inclusive Behavior

Richard F. Bowman

Research interests include how students experience the classroom as a social system and how educators address the social context of the classroom.

Abstract- In a classroom setting, intentional listening has six distinctive stages: Actively inviting classmates' thoughts and opinions, reflectively considering every aspect of what others say, thanking others for expressing their ideas and beliefs, putting what one has heard in a broader societal context, connecting peers with similar ideas and insights, and identifying the point of intersection between what you have heard and your own intuitions and experiences. In instructional environments, intentional listening takes practice.

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I. INTRODUCTION

Individuals are fully human only in relationship (Wheatley & Kellner-Rogers, 1998; Handy, 2019).The philosopher Martin Buber (1958). argued that in the ultimate sense, relationship is what educates. In the co-creation of meaning in academic settings, teaching and learning function as a network of relationships (Fairhurst, 2011). In daily practice, teachers as instructional leaders frame here-and-now global, societal, interpersonal, and academic challenges in ways that invite learners to connect with each other through speaking and listening. In academic environments, *intentional* listening is a simple act that requires learners to be present in the moment. On the playground, three and four-year-olds exhibit that wondrous in-the-moment disposition by engaging in play "as a form of listening and learning" (Ellinor & Gerard, 1998).

II. THE PURPOSE OF THIS PAPER

The purpose of this paper is to define and illustrate six distinctive stages of intentional listening in classroom settings: (a) actively inviting classmates' thoughts and opinions, (b) reflectively considering every aspect of what others say, (c) thanking others for expressing their ideas and beliefs, (d) putting what one has heard in a broader societal context, (e) connecting peers with similar ideas and insights, and (f) identifying the point of intersection between what you have heard and your own intuitions and experiences (Helgesen, 2021).

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Intentional Listening is an Instructional Process that Requires Practice

In *A Simpler way,* Wheatley and Kellner-Rogers (1996) argue that "life is an experiment to discover what is possible" (p. 10). Moreover, "life is intent on finding what works, not what's 'right." The capacity to "find what works now is what keeps any organism alive" (Wheatley & Kellner-Rogers, 1996, p.13). Designing lesson plans related to practicing the six stages of intentional listening involves exploring what works contextually. What works "*there* might not work *here*, because *there* and *here* are never identical; even small differences affect the outcome" (Bowman, 2015). The examples provided below for each of the six stages of intentional listening are illustrative, not prescriptive. In practice, instructional design involves unending trials and errors to discover what is possible, what works, and what surprises.

a) Actively Inviting Classmates' Thoughts and Opinions

In the lengthening shadow of death, the enduring COVID-19 pandemic has exposed deepening societal challenges, including climate change, racial inequality, income disparities, political polarization, declining trust in government, the accelerating pace of technological development, and societal fractures mirrored in violence and dehumanization (Bowman, 2022). Psychologists tell us that people want to belong and be part of a community that creates possibility and humanness in the midst of fear and turmoil (Wheatley, 2017). In preparing students to confront societal fragility in the everydayness of life, inviting and structuring classroom conversations related to daunting societal challenges provides learners "room to assert their humanity and tell us what they are going through" (Zaki, as quoted in Emmert, 2020, p.189). In communities torn apart by fear, hatred, broken health-care systems, refugee crises, and destructive politics, the essence of teaching and learning is *listening to the whispers* of students to create spaces of possibility, sanctuary, and compassion (Helgesen, 2021, p. 50).

b) Reflectively Considering Every Aspect of What Others Say

Executive storyteller Annette Simmons recounts the story of a racing greyhound named Larry who simply did not understand the concept of a leash. The dog did not realize that if he walked around one side of a telephone pole and his owner walked around the other side, they were not going anywhere. In instructional

environments, effective stories reveal multiple perspectives. From Annette's perspective, "He's my dog, and I'm boss." From the male dog's perspective, "I just need to get to the next tree." (Kleiner, 2019)

Self-knowledge is the blood of all resonant stories. Propulsive narratives create psychological realism prompting listeners to ask, "If I were this character in these circumstances, what would I do?" In an instructional follow-up to the story of Larry and the leash, an educator might pose this question to students in an open-discussion format: "How would you resolve the impasse between the dog and his owner?"

In practice, the dog analogy serves to invite students to develop an *implicit theory* regarding how to resolve disagreements in daily life (Kleiner, 2019). Characteristically, individuals are committed to maintaining their point of view until other people simply give in. In Annette's impasse, she might have chosen to just keep forging ahead to eventually drag Larry to the other side of the pole. Or she might have said: "You know what? Until I back off, he's not going to back off either. If we both back off, then we can go around the pole."

The object lesson for students in developing an implicit theory related to solving seemingly insurmountable disagreements in life might well be: "My goal is no longer one of making you think the way that I do. My goal is to create a psychologically-safe space in which we can speak and listen intentionally to create a more inclusive point of view."

c) Thanking Others for Expressing Their Ideas and Beliefs

Storytelling is as old as humanity itself. In the everydayness of life, "stories express how and why life changes" (McKee, 2003, p. 52). In academic settings, "stories are how we remember; we tend to forget lists and bullet points" (McKee). The very heart of being an educator "is a desire to tell a story by making sensory, emotional connections" with students in an empathetic, realistic way (Schultz, 2011, p. 7). Stories have always been about ethics: The philosophical practice of testing and retesting the consequences of one's actions and their effect on others (Kleiner, 2019). Powerful stories like fables and myths tend to take small circles of concern and make them larger circles of moral concern for a wider range of people. In the story of LaShyra Nolen recounted below, her enlarged circle of moral concern mirrored a transcendent question: "Who matters?"

LaShyra Nolen was a second-year medical student at the Harvard Medical School in 2021 when she served as student council president of her class---the first Black woman to hold this leadership position. LaShyra led an advocacy effort to rename one of the five academic societies at Harvard named "Holmes." Dr. Oliver Wendell Holmes Sr. was a supporter of

eugenics and the genocide of Native Americans and also the past medical school dean who expelled the first Black student admitted to the school. Despite his unsettling legacy, the Holmes' name "lingered in the spaces where students learned to become healers and struggled to build community." (Nolen, 2021, p. 13)

In *The Emotional Intelligence of Leaders,* Daniel Goleman (1998) argues that what establishes individuals as natural leaders in a group is to "sense the unstated feelings of everyone in a group and to articulate them for the first time" (p. 24). As a young Black woman, LaShyra "felt uncomfortable with the celebration of Holmes in our learning spaces" (Nolen, 2021, p. 13.) As student council president, LaShyra Nolen's efforts to rename the Holmes' Society at Harvard galvanized appreciative support and deep *gratitude* in the form of over 1000 signatures from students, alumni, faculty, and staff.

d) Putting What One Has Heard in a Broader Societal Context

A story is a form of reflection going back centuries to gain deeper, more inclusive perspectives. Storytelling speaks to what makes us human (Bowman, 2018). In the classroom, "everybody has a story, and everybody wants to tell their story in order to connect" (Wheatley, 2005, pp. 218-219). In storytelling, emotion-eliciting input alters learners' brain functioning after only 12 milliseconds—far before students' become consciously aware of it (Reisyan, 2016). Whatever the story, intentional listening requires a demonstrated willingness to listen for differences, to be disturbed, to rethink one's perspective, and to discover what is possible. Stories such those involving the intermittent homeless, for example, have a compelling force in gaining a deeper, more inclusive, more useful point of view (Kleiner, 2019). Crises in students' personal lives including loneliness, depression, and suicidal thoughts highlight the relevance and role of intentional listening in promoting students' emotional and academic well-being (Zaki, 2019). In contrast, not listening creates fragmentation, disconnection, and fear of others (Wheatley). What is disquieting in a humane instructional environment is *silence* regarding life's most profound questions: "Who am I? Who are we? What am I a part of? What connects me to the rest of the world? What relationships matter to me?" (Bressler & Grantham, 2000, p. 161)

e) Connecting Peers with Similar Ideas and Insights

Neuroscience research suggests that students are drawn to stories that they think will be emotionally relevant to others in their social group. When students decide that a personal story is worth retelling to classmates or sharing on social media, their attention intensifies and both learning and memory increase (Fabritius & Hagemann, 2017; Bowman, 2018). Intentionally listening to peers' personal stories for

emergent threads of meaning calls one to the "truth of self and the humanity of others" (Bowman, 2018, p. 5). Tragic accounts related to a catastrophic illness of a friend, a car accident involving classmates, or the suicide of a peer put a human face on stories that evoke both a high level of compassion and a self-creating social coherence. During the Truth and Reconciliation Commission hearings in South Africa, "many of those who testified to the atrocities they had endured under apartheid would speak of being healed by their own testimony" (Wheatley, 2005, p. 218). In that sacred setting, intentional listening permitted participants to receive someone else's pain and learn from it.

f) Identifying the point of intersection between what you have heard and your own intuitions and experiences

Intentional listening is a *retrospective* act that helps learners come to terms with their own experience (Palmer, 2018). Imagine a social studies class studying five distinctive categories of the concept of justice:

- Distributive—determining who gets what
- Procedural—determining how fairly people are treated.
- Retributive—determining how people are treated for wrongdoing.
- Contributive—asserting that everyone has the right to contribute to how society functions.
- Restorative—repairing what is broken and compensating victims for past harm (Winters, 2023).

Imagine that instructor beginning a class period by briefly referencing the five categories of justice noted above. Against the backdrop of those five categories, imagine that the teacher begins the class period by positing: "Systemic racism is a set of systems and structures that advantage the dominant (e.g., white people) and disadvantage other groups" (Winters, 2023, p. 9.) Additionally, the social studies teacher argues that "systemic racism involves one group having the power to enact institutional policies and practices that harm BIPOC (Black, Indigenous, and people of color)" (p. 9).

Finally, imagine that the teacher contends that *intentional listening* involving the five categories of justice requires a demonstrated willingness to listen for differences, to be disturbed, to rethink one's perspective, and to discover what is possible. Relatedly, the teacher confronts students with a question likely considered controversial by some in the class: "Should we as individuals and as a society be willing to address past harm as a justice solution by enacting *reparations* for the descendants of former slaves?"

Winters (2023) observes that students' comments, observations, reactions, and insights regarding the issue of reparations might well include:

- "We have to find the courage to learn about our racist history to address past harm. In *The*

Screwtape Letters, C. S. Lewis (1942) observed that "courage is not simply one of the virtues, but the form of every virtue at the testing point" (p. 161).
- "I have to admit I don't know much about our nation's alleged history of racism, and I don't want to offend anyone and be punished for saying the wrong thing."
- "Are discussions about reparations really about alleged white supremacy?
- "Why are we still talking about slavery? That happened a long time ago."
- "This has nothing to do with me. I am not responsible for what my ancestors did. My ancestors were Irish immigrants and they experienced racism, but we don't keep dwelling on it."
- "In another of our classes, we are studying Adam Smith's concept of *mutual advantage* as the foundation of capitalism and a free and fair market system. Is there a mutual advantage for everyone in enacting a legislative policy that financially atones for past transactions against its Black population? Who is harmed or who benefits from reparations?"

III. CONCLUSION

In instructional environments, an intentional-listening culture is grounded in *human connection* (Bowman, 2014). In practice, intentional listening supports a shift in self-perception that allows learners to see themselves in relation to others. In a psychologically-safe setting, class discussions related to issues such as poverty, intermittent homelessness, climate change, and community-police relations compel students to calibrate their inner moral compass: What do I believe in? What do I stand for? What matters? Who matters? What is decency? What are the core values that guide my daily life? What do we owe one another? (Handy, 2019).A body of research suggests that in influential institutions educators create an intentional-listening culture that evokes a sense of common purpose, belonging, emotional engagement, and a shared vision in which learners' best ideas and insights surface spontaneously (Bowman, 2020; Mehta & Fine, 2019; Edmondson, (2018).

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The Twilight and Eclipse of Literature in the School of Paper: Manufactured Tensions and Newartisanal Nuances

By Mario Ribeiro Morais

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Abstract- The reading and teaching of literature is a central theme of various fields of study, such as Applied Linguistics, which has investigated it in contexts of uses of language practices, such as the public school classroom. The aim of this article is to investigate the teaching of literature in elementary and high school in artisanal, manufacturing, dualistic, unique, paper and neoartisanal schools, based on the metaphors twilight, eclipse and dawn, discussing tensions, disturbances and nuances that these phenomena provoke in educational actors and in the public institution itself. This work is based on theoretical and methodological bases of literary education, the schooling of the literary text and paradigms of literature teaching. With a qualitative approach, of a basic nature, the phenomena in these institutions are investigated through the bias of bibliographical research.

Keywords: paper schools. neoartesanal school. paradigms of literature teaching. reader education and literary literacy.

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THE TWILIGHT AND ECLIPSE OF LITERATURE IN THE SCHOOL OF PAPER MANUFACTURED TENSIONS AND NEWARTISANAL NUANCES

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The Twilight and Eclipse of Literature in the School of Paper: Manufactured Tensions and Newartisanal Nuances

O Crepúsculo e o Eclipse da Literatura na Escola de Papel: Tensionamentos Manufatureiros e Nuances Neoartesanais

Mario Ribeiro Morais

Resumo- A leitura e ensino de literatura é tema central de variados campos de estudos, como a Linguística Aplicada, que o tem investigado em contextos de usos das práticas de linguagens, como a sala de aula da escola pública. O objetivo deste artigo é investigar o ensino da literatura no ensino fundamental e ensino médio nas escolas artesanal, manufatureira, dualista, única, de papel e neoartesanal, a partir das metáforas crepúsculo, eclipse e amanhecer, discutindo tensionamentos, perturbações e nuances que estes fenômenos provocam nos atores educacionais e na própria instituição pública. Este trabalho situa-se em bases teórico-metodológicas da educação literária, da escolarização do texto literário e de paradigmas de ensino da literatura. De abordagem qualitativa, de natureza básica, os fenômenos nestas instituições são investigados pelo viés da pesquisa bibliográfica. São dois os aspectos desvelados, de natureza assimétrica: de um lado, a umbra densa do crepúsculo e do eclipse das práticas de ensino de literatura se espraia sobre escolas manufatureiras, dualistas, de papéis, cristalizando práticas de estudos literários tradicionais, segregadores, com produções em série de alunos coisificados, vacinados contra a leitura; do outro, a luminosidade da aurora tem trazido investigações, práticas de letramentos literários criativas, transformadoras, dialógicas, que potencializam o renascimento do leitor (subjetivo) e a formação de fruidores perenes da literatura, cujas práticas de ensino caracterizam as emergentes escolas neoartesanais.

Palavras-chave: escolas de papéis. escola neoartesanal. paradigmas de ensino da literatura. formação de leitores e letramento literário.

Abstract- The reading and teaching of literature is a central theme of various fields of study, such as Applied Linguistics, which has investigated it in contexts of uses of language practices, such as the public school classroom. The aim of this article is to investigate the teaching of literature in elementary and high school in artisanal, manufacturing, dualistic, unique, paper and neoartisanal schools, based on the metaphors twilight, eclipse and dawn, discussing tensions, disturbances and nuances that these phenomena provoke in educational actors and in the public institution itself. This work is based on theoretical and methodological bases of literary education, the schooling of the literary text and paradigms of literature teaching. With a qualitative approach, of a basic nature, the phenomena in these institutions are investigated through the bias of bibliographical research. There are two aspects unveiled, of an asymmetrical nature: on the one hand, the dense umbra of the twilight and eclipse of literature teaching practices spreads over manufactured, dualistic, paper schools, crystallizing practices of traditional, segregating literary studies, with serial productions of objectified students, vaccinated against reading; on the other hand, the brightness of the dawn has brought investigations, creative, transformative, dialogical literary literacy practices, which enhance the rebirth of the (subjective) reader and the formation of perennial enjoyers of literature, whose teaching practices characterize the emerging neoartisanal schools.

Keywords: paper schools. neoartesanal school. paradigms of literature teaching. reader education and literary literacy.

Introdução

Situado no campo Indisciplinar da Linguística Aplicada, definida como área do conhecimento mobilizadora de domínios múltiplos do conhecimento, que tem preocupação com as práticas de linguagens nas diversas esferas de atividades sociais (MOITA LOPES, 2006), nesta vertente, este artigo[1] vê as práticas de ensino da literatura no contexto escolar como campo de atuação, tema de investigação de extrema relevância pela contribuição que pode dar aos estudos sobre ensino da literatura, na perspectiva reflexiva, crítica e propositiva. O objetivo é investigar a leitura e ensino da literatura na instrução pública, desde as Escolas Artesanal, Manufatureira, Dualista, Única, de Papel até a Neoartesanal, nas etapas do Ensino Fundamental (EF) e Ensino Médio (EM), a partir de dois fenômenos metafóricos: crepúsculo e eclipse. Como consequências desses fenômenos no interior das escolas referenciadas, discutimos tensionamentos, perturbações que esses fenômenos têm provocado e

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[1] Este trabalho foi apresentado no IV Encontro do Grupo de Estudos Linguísticos e Literários do Norte (GELLNORTE), realizado de 24 a 27 de outubro de 2023, na Universidade Federal do Tocantins, Campus de Porto Nacional, no simpósio intitulado 'Desafios no Ensino de Literatura: do Aluno ao Leitor'.

apresentamos nuances, matizes que vislumbram práticas situadas e criativas para o ensino da literatura na nova instituição educacional emergente, a Escola Neoartesanal.

Com relação ao aporte teórico-metodológico, esta investigação é de abordagem qualitativa, de natureza básica, de procedimento bibliográfico. De acordo com Severino (2017, p. 137) "A pesquisa bibliográfica é aquela que se realiza a partir do registro disponível, decorrente de pesquisas anteriores, em documentos impressos, como livros, artigos, teses etc." Os principais aportes teóricos lidos, examinados e interpretados foram Alves (2006), que trata da produção da escola pública contemporânea (artesanal, manufatureira, dualista e única); Morais (2020) e Morais e Ribeiro (2022), que abordagem a natureza da Escola de Papel; Cosson (2014, 2014a, 2020), Lajolo (2005), Soares (1999), Zilberman (2010) e Rezende (2013), que discutem e propõem o ensino de literatura na escola.

Este texto está organizado em três principais seções, além desta *Introdução*, da *Conclusão* e *Referências*. Na seção denominada *Da Celulose do Eucalipto à Gênese da Escola de Papel*, definimos esta unidade de ensino e caracterizamos as práticas pedagógicas que imperam em seus espaços. A seção *A Gênese da Escola de Papel e as Escolas Artesanal, Manufatureira, Dualista e Única* situa o surgimento dessas instruções públicas desde a antiguidade clássica, passando pelo feudalismo, revolução industrial, escolanovismo até a contemporaneidade. A seção *A produção do Ensino de Literatura no Interior das Escolas: da Artesanal à Neoartesanal*, subdividida em duas partes (*Tensionamentos manufatureiros no ensino de literatura: do leitor ao aluno*; *Nuances Neoartesanais no ensino de literatura: do aluno ao leitor*) é destinada às discussões sobre o ensino de literatura nesses contextos de ensino a partir das metáforas crepúsculo, eclipse e amanhecer, com o intuito de mostrar o movimento da abordagem tradicional com foco no aluno e da perspectiva neoartesanal com foco no leitor personalíssimo.

I. Da Celulose do Eucalipto à Gênese da Escola de Papel

As industrias transformadoras de celulose em papel têm produzido uma variedade de lâminas de fibra de vegetal, constituídas por diversas cores, formatos, texturas, espessuras, cheiros, sons, gramatura. O papel, até ser constituído como tal, para ganhar forma, beleza e funcionalidade (escrever, desenhar, embrulhar, limpar, enxugar, brincar...), passa por um processo fabril. Das exuberantes plantações enfileiradas de eucaliptos, cujas madeiras têm primazia na fabricação de papel, às fileiras de transportes em direção às fábricas, onde são descascadas e picadas. Para se

formar a pasta de celulose, os pedacinhos triturados são colocados em tanques para cozinhar com adição de substâncias químicas. Depois de lavada para retirar as impurezas, a massa é levada para uma mesa plana com esteira rolante, que irá transformá-la em uma folha contínua e lisa. Na sequência, grandes rolos prensam, retiram o excesso de água, compactam e alisam o papel que, enrolado e cortado em bobinas, fica pronto para abastecer o mercado. A árvore de eucalipto, pela sua verticalidade e copa altíssima, e o papel, pela sua textura e formatos, constituem materiais vegetais de rara beleza. No entanto, ambos, transformados em/de madeira morta, grosso modo, padecem de males idênticos: fragilidade, descartabilidade, rápida decomposição.

O termo 'Escola de Papel' é constituído de um substantivo (escola) e um adjunto adnominal (de papel), que tem a função de caracterizar o substantivo. O núcleo desse adjunto (papel) exerce a função de adjetivo. Para este artigo, no âmbito da leitura e ensino de literatura, o qualificador 'papel', embora nele resida uma dualidade (beleza e fragilidade), é tomado em referência a práticas metodológicas e pedagógicas frágeis, tradicionais, inócuas, que aviltam o leitor e o próprio texto literário, que esterilizam o conhecimento e prazer decorrentes da leitura de literatura, prevalentes em inúmeras escolas públicas brasileiras. A Escola de Papel existe na realidade e está em todo lugar, diferente das 'Cidades de Papel', que são definições geográficas de um lugar que só existe no mapa traçado pelos cartógrafos.

Para caracterizar essas práticas de ensinagem frágeis no campo do ensino e leitura de literatura, o termo Escola de Papel foi cunhado nos estudos de Morais (2020), retomado em Morais e Ribeiro (2022) e, neste artigo, expandido. Para os autores, a Escola de Papel não promove o encanto pela leitura de literatura, resultando no afastamento de leitores em potencial da roda em torno da fogueira milenar da leitura. Na leitura realizada nesse espaço, não se ouve a voz, as experiências dos estudantes em interação com o texto literário. Raras intepretações são autorizadas. Na escola de papel, o professor criativo é engessado, seguindo as orientações e pressões do sistema/currículo tradicional de ensino. A narrativa dos números (preenchimento de fichas de leitura para arquivo na biblioteca; leitura de obras para o vestibular e provas bimestrais) é anunciada em bom tom nos corredores da escola. A biblioteca na escola de papel é, além de pobre em acervo de literatura, intocável, vigiada por professora em fim de carreira. Na escola de papel, o livro didático, constituído de inúmeros fragmentos de obras de literatura, tem primazia nas práticas de leitura e escrita. Como pontua Soares (1999), escolarizado de modo inadequado, o texto literário vira pretexto para abordagens microgramaticais.

A escola de papel deixa uma memória trágica da leitura, desprovida de sabor, em alunos egressos das séries finais e do ensino médio. Petit (2009, p. 39), ao relatar as experiências das animadoras do projeto A Cor da Letra com jovens de favelas no Brasil, a nosso ver, egressos de escolas de papeis, afirma que 'não é fácil transmitir o gosto pela leitura aos adolescentes, especialmente quando eles crescem nos meios populares'. Continua a autora, no momento em que as animadoras chegaram nas comunidades faveladas e 'começaram a tirar livros da mochila, muitos jovens se decepcionaram ou ficaram desconfiados. Tais objetos eram desprovidos de sentido; esses jovens só tinham conhecido a leitura na escola, o que não lhes trazia boas lembranças'. (MORAIS; RIBEIRO, 2022, p. 280).

Dilemas e tensões na escola de papel refletem na formação de leitores e nas evidências e usos que fazem da leitura nas diversas situações de interações sociais. A escola de papel contribui, decisivamente, para o apagamento das luzes, do prazer e da fruição que a leitura pode proporcionar (BARTHES, 1987). Práticas de leitura literária desencantadoras instauram o desprazer pelo ato de ler, por toda a vida, na grande maioria dos estudantes brasileiros. A escola de papel não promove a paixão pela leitura, pois, segundo Kleiman (2013), a atividade árida e tortuosa da leitura nesse ambiente é baseada na decodificação (composta de uma série de automatismos de identificação e pareamento das palavras do texto com as palavras idênticas em perguntas e comentários sobre o 'fragmento' lido); na avaliação (aferimento da capacidade de leitura; leitura em voz alta com enfoque na forma, pronúncia, pontuação, ritmo); e na concepção autoritária de leitura (interpretação autorizada: a contribuição do estudante e sua subjetividade e experiência são dispensáveis).

II. A Gênese da Escola de Papel e as Escolas Artesanal, Manufatureira, Dualista e Única

Como a concebemos, a Escola de Papel surgiu no interior das Escolas Manufatureira e Dualista e se cristalizou na Escola Única. Para compreendermos com mais acuidade os principais elementos que fundamentam a gênese da Escola de Papel, faz-se necessário realizarmos um movimento conceitual que vai da Escola Artesanal à Manufatureira, da Dualista à Escola Única. Tomamos como referência básica para essas definições, as discussões de Alves (2006) sobre a produção da escola pública contemporânea.

No âmbito dos estudos da educação, Alves (2006) investiga a produção da escola pública contemporânea, tomando por base a instrução pública na Alemanha, Inglaterra, França, Estados Unidos e Brasil. Examina o surgimento da escola pública contemporânea (laica e universal) a partir da reforma protestante, do incremento que ela recebeu por força das revoluções industrial e francesa e do movimento do capitalismo. As Escolas Artesanal e Manufatureira são situadas nos limites da universalização do ensino até o século XIX, e a Escola Dualista e a Única, que se universalizou, desde meados do século XIX até o século XX.

Preceptorado e produção material manual são as características centrais da Escola Artesanal. O preceptor ou professor particular tem seu ápice de atuação durante a Idade Média, estendendo-se até meados do século XVII. "O mestre, na condição de preceptor, era uma figura cujo conhecimento ia muito além da média dos homens" (ALVES, 2006, p. 78). Era erudito, artífice primoroso, dotado de conhecimentos invulgares, sábio, conhecer dos clássicos da literatura, leitor voraz, transmitia noções humanísticas e científicas, de forma personalizada, em atenção às necessidades diversas de seus aprendizes. O educador preceptor estabelecia uma relação educativa afetiva e individualizada com o educando, dando-lhe atenção especial, mesmo quando tinha sob sua responsabilidade muitos estudantes. O atendimento aos educandos era dado nas *ágoras*, nas feiras ou nos bosques e campos das casas dos discípulos. O modo de organização e produção técnica do trabalho do preceptorado era típica de um artesão feudal, ou seja, ele realizava todas as etapas de formação profissional, científica e humana dos discípulos. O mestre detinha os meios necessários e os conhecimentos de todo o processo educativo. Ele acompanhava todo o desenvolvimento integral dos seus discípulos (ALVES, 2006).

A decadência do feudalismo em meados do século XVII reflete no interior da Escola Artesanal. O modo de produção feudal vai cedendo lugar ao modo de produção fabril, manufatureira, do capitalismo, cuja consolidação vai se efetivar no século XIX. Nos espaços de instrução pública, o trabalho didático, espelhado na produção manufatureira, supera o modelo do preceptorado e, com a proposta a partir da obra *Didática Magna* de Comenius, ancorada na ideia da divisão do trabalho do capitalismo, passa a se organizar sob a égide do ensino simultâneo, por meio de uma nova ferramenta, o livro didático (ALVES, 2006).

Em oposição à Escola Artesanal, a manufatureira é caracterizada pelo ensino simultâneo e mútuo, pela divisão do trabalho, pelo uso do manual didático, pela substituição do mestre artesanal pelo professor manufatureiro, pela nova relação distanciada do educador-estudante. Na produção manufatureira, o processo educacional reúne os professores em uma oficina comum, a sala de aula escolar. Cada professor, como que em torno de uma esteira fabril, pela divisão disciplinar, realiza uma etapa da formação/produção dos alunos, além de não ser mais responsável pela formação integral do produto, o educando. A manufatura (sistema educacional) tem um controle

rígido sobre os professores e lhes cobra bastante lucro, bons escores nas avaliações, sobretudo externas, as chamadas 'narrativas dos números' (cf. HAMILTON, 2012).

> Logo, o educador morávio pressupunha uma organização para a atividade de ensino, no interior da escola, que visava equipará-la à ordem vigente nas manufaturas, onde a divisão do trabalho permitia que diferentes operações, realizadas por trabalhadores distintos, se desenvolvessem de forma rigorosamente controlada, segundo um plano prévio e intencional que as articulava, para produzir mais resultados com economia de tempo, de fadiga e de recursos. (ALVES, 2006, p. 73).

O professor manufatureiro, no ensino simultâneo e fabril, deixou de atender de forma personalizada seus estudantes, pois agora era necessário dar atenção a um contingente bem maior, dispostos em fileiras na sala de aula. A difusão da simultaneidade do ensino, no transcurso da primeira metade do século XIX, pretendia assegurar a realização de uma escola para todos, já defendida por Comenius no século XVII. Entretanto, conforme Alves (2006, p. 100), como "não existiam professores em número suficiente para dar conta dessa tarefa", os educadores ingleses, Lancaster e Bell, pensaram a alternativa do ensino mútuo, no qual alunos mais adiantados (os monitores, que supervisionam as atividades de uma classe; e os decuriões, que transmitiam conhecimentos a um pequeno grupo de colegas) auxiliariam no ensino dos demais.

A Escola Manufatureira barateou os seus serviços educacionais, ao suplantar o preceptorado pelo professor comum/especializado, ao transformar os instrumentos de trabalho do educador artesão que, resistindo, procurava se adaptar a esse formato de produção fabril (alternando o uso de obras clássicas e compêndios didáticos), simplificado pelo uso do manual didático (que servia professor e estudante em tempo integral). Com a suplantação do preceptorado, a implantação da didática do uso do manual e o barateamento dos serviços educacionais, qualquer homem mediano, cultural e cientificamente, passaria a ensinar e o preceptorado, não resistindo à suplantação, seguiria outra carreira profissional. Simplificação, objetivação do trabalho, especialização pelo manual didático e desqualificação do trabalhador cristalizaram a crise da Escola Manufatureira. O conhecimento culturalmente significativo cultivado na Escola Artesanal ficou fora da Escola Manufatureira. Assim como o copista fora suplantado historicamente por Gutenberg, o sábio fora superado pelo professor manufatureiro.

> O primeiro, um sábio que, na condição de preceptor, realizava um trabalho complexo, desde as operações correspondentes à alfabetização até a transmissão das noções humanísticas e científicas mais elaboradas, cedia lugar ao professor manufatureiro, que passava a ocupar-se de uma pequena parte desse extenso e complexo processo. (ALVES, 2006, p. 80).

O professor fabril é uma decorrência da manufatura, da força do trabalho, do modo de produção capitalista, da qualificação profissional tecnicista moderna. Com efeito, esse trabalhador tornou-se um mero especialista na aplicação de manuais técnicos e instrumental, resultando na limitação de sua atuação e criatividade. Se o professor manufatureiro se enquadra no paradigma da produção do capital, a sua clientela, de igual modo, é preparada para o trabalho fabril, para o mercado. A formação humana e integral ficaria em segundo plano. Há muitos defensores da Escola Manufatureira como necessária à formação do trabalhador, em atendimento às demandas imediatas do mercado:

> Ainda até mesmo algumas obras influenciadas pelos estudos marxistas manifestam-se contaminados por essa preocupação e têm gasto muita tinta no sentido de evidenciar como a escola, através da *reprodução da força de trabalho* ou da *qualificação do trabalhador*, é essencial para o aumento da produção de mais-valia relativa. (ALVES, 2006, p. 142, grifos do autor).

O modo de produção manufatureira surgido no limiar da decadência do feudalismo e início da Revolução Industrial no século XVIII contribuiu para a instalação da Escola Dualista: uma para os filhos dos trabalhadores (profissionalizante, força de trabalho para operar máquinas, sob a lógica da mais-valia, a serviço do capital); e outra para os filhos dos dirigentes da sociedade (fundada nas artes liberais e nas ciências modernas). A escola manufatureira deixou de ser uma instituição frequentada somente pelos filhos da burguesia, dos funcionários do Estado, dando lugar também à classe trabalhadora (ALVES, 2006).

De acordo com Alves (2006), a Escola Dualista surgiu nos domínios do reino luso-brasileiro, durante o processo de implantação e desenvolvimento das reformas pombalinas da instrução pública. Nesse sentido, ao examinarmos as escritas de Neves (2014), notamos que Marquês de Pombal (1699-1782), das inúmeras reformas que fez com o objetivo de modernizar Portugal e suas colônias (especialmente o Brasil), expulsou, de ambos, os jesuítas, acabando com o monopólio do ensino jesuítico (1759), cuja corrente pedagógica era de expressão feudal produzida dentro da contrarreforma (portanto antiburguesa), dando início a um processo de laicização e estatização do sistema educacional. No entanto, a expulsão da Companhia de Jesus da colônia brasileira (1530-1822) deixou, durante a segunda metade do século XVIII até as primeiras décadas do século XIX, um vácuo no ensino secundário, visto que não havia outro sistema de educação secundária e pública, além das escolas jesuíticas. Essa lacuna foi sendo preenchida com cursos independentes chamados de *aulas régia*. Ressalta-se que a classe burguesa era favorecida nesse sistema de ensino. A educação continuava elitista, exclusivista, excludente, profissionalizante, em

consonância com o modo de produção capitalista, à força de trabalho.

Mesmo com a vinda da Família Real para o Brasil (1808) e as mudanças educacionais brasileiras trazidas em seu bojo (como a criação dos primeiros estabelecimentos oficiais de ensino secundário e das primeiras faculdades durante o Segundo Império, de 1840-1889), a educação nacional continuou precária e elitista. Liceus ou escolas públicas secundárias foram criados, com a independência do Brasil (1822). O Colégio Pedro II foi fundado em 1837 e seu modelo francês de currículo e ensino influenciou várias escolas (que passaram a adotar programas iguais ou semelhantes ao da escola padrão) até a aprovação da LDB de 1971. Com a instalação da Republica, passaram a se preocupar com uma educação de caráter nacional, favorecendo a implantação de mais unidades de ensino público (como as Escolas Normais Secundárias, em 1920) bem como particulares, como o Marista (1880). Entretanto, as escolas secundárias, voltadas para a classe dominante, preparavam candidatos para exames seletivos de acesso aos cursos superiores (Militares, Episcopais, Medicina, Direito, entre outros), além de garantir *status* à elite brasileira, que almejava ascender à educação europeia, por meio do ensino do Latim e da leitura dos clássicos, que alimentavam os currículos dessas escolas (NEVES, 2014).

Essa divisão no interior dos sistemas educacionais deu origem à Escola Única, cujos fundamentos advêm do escolanovismo[2], que

[...] incorporou a concepção formulada pelo liberalismo clássico no que se refere aos princípios gerais da educação pública. Se, desde o século XVIII, eram celebrados como elementos que a qualificavam – universal, laica, obrigatória e gratuita –, o movimento escolanovista reforçou-os em sua plenitude e acrescentou-lhes, tão somente, um princípio complementar: única. (ALVES, 2006, p. 156).

Esse último princípio da escola pública permite entendermos "a especificidade do processo de difusão da escola contemporânea, caracterizado pela realização de uma nova forma de ensino marcada pela unidade do conteúdo" (ALVES, 2006, p. 156). De acordo com Alves (2006), a emergência da expressão escola única, no plano conceitual, exprimi as características singulares da nova forma de ensino em oposição ao modelo escolar dualista que vigorava até então. Para o autor,

A escola nova burguesa tornou-se *escola única* em dois aspectos indissociáveis: de um lado, destinou-se a todos, filhos de burgueses e de trabalhadores, e de outro, superou o dualismo entre formação profissionalizante – exclusiva das escolas anteriormente dirigidas aos filhos dos trabalhadores – e a formação humanístico-científica – até então restrita aos filhos dos dirigentes da sociedade. (ALVES, 2006, 157, grifos do autor).

A Escola Única, desde a sua fundação, procurou cumprir a promessa burguesa de universalizar a educação. Lastreou a unidade de seu plano de estudos nos conteúdos humanísticos – seguindo o modelo de educação da Antiguidade Clássica (greco-romana) e da Idade Média do *Trivium*, composto pelas disciplinas Lógica, Gramática e Retórica, e do *Quadrivium*, por Aritmética, Astronomia, Música e Geometria – e nas ciências modernas. Na visão de Alves (2006, p. 157, grifo do autor), "Ante a destruição da escola profissional, a de educação geral tornou-se *escola única*, mas não deixou de ser outra coisa senão o ramo sobrevivente da escola burguesa dualista, cujo atendimento privilegiara, no passado, os filhos das classes dirigentes."

A Escola Única que se universalizou continuou excludente, elitista, organizada e financiada pela classe dominante. Tendo os manuais didáticos como seu instrumento de realização, operando um progressivo aviltamento dos conteúdos, por exemplo, com o desaparecimento dos clássicos da sala de aula, a Escola Única moldou-se ao mercado editorial, acompanhou o movimento reversivo e perverso da ideologia burguesa, empresarial. A simplificação do trabalho didático gerou um barateamento dos serviços prestados pelos professores, que tem refletido no sistema educacional contemporâneo uma acentuada desvalorização da carreira docente. Se na Escola Artesanal, o preceptorado era uma atuação profissional valorizada e procurada, na Escola única dos nossos dias a carreira docente é desvaloriza, esvaziada.

Feita essa exposição, deve ser reafirmado que a Escola de Papel que opera na educação pública contemporânea, tendo surgido no período na Escola Manufatureira, atravessado a Escola Dualista, tornou-se uma extensão da Escola Única. A Escola de Papel adota como instrumento principal o livro didático. Os índices das avaliações (sobretudo externas) são cultuados. Quanto ao ensino das práticas de linguagens, essa escola é essencialmente escriturística, sendo, segundo essa perspectiva, a fala inferior em relação à escrita. Na Escola de Papel, o texto literário "não está em **parte alguma**", como afirma Zilberman (2013, p. 265) apud Cosson (2014b, p. 13, grifo do autor).

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[2] O ideário do escolanovismo ou Escola Nova, que teve origem no Brasil em 1920, veio para contrapor o que era considerado 'tradicional', dualista. Os seus defensores lutavam por diferenciar-se das práticas pedagógicas anteriores. Nesse paradigma educacional, todo indivíduo teria direito de ser educado, independente de razões de ordem econômica e social. A educação era uma função essencialmente democrática, pública, gratuita e universal (VIDAL, 2003).

III. A Produção do Ensino de Literatura no Interior das Escolas: Da Artesanal à Neoartesanal

Da Escola Artesanal, interessa-nos a metodologia e o espaço destinado ao ensino da literatura, em detrimento do direito e acesso à literatura que eram privilégios da classe burguesa, dos filhos dos colonos. A obra literária era lida e discutida na sua integralidade. Os clássicos eram trabalhados na relação individualizada preceptor-educando, desenvolvendo relevante função, visto que eles "fecundavam o trabalho didático e davam consistência à formação dos estudantes" (ALVES, 2006, p. 159). No currículo artesanal, a literatura clássica, ao lado dos estudos gramaticais, retóricos e humanistas e o leitor ocupavam lugar de primazia. No Brasil, no entanto, no âmbito da atuação da Companhia de Jesus, os preceptorados jesuítas sujeitados aos moldes clássicos, portugueses e franceses apresentavam a literatura clássica apenas para filhos de colonos e para mulheres refinadas frequentadoras dos salões da corte, suprimindo temas, fé, cultura e motivos literários locais em suas aulas.

Na Escola Artesanal, tinham livre trânsito a literatura, os originais de Aristóteles, Cícero, Demóstenes, Santo Agostinho, Heródoto, Xenofonte, Homero, Horácio, Camões, Verney, entre outros. Na leitura interativa artesanal, a voz e as percepções dos estudantes eram sentidas no interior da *ágora*, nas batidas sensíveis e sábias do coração e mente brilhante do preceptor. Na próxima subseção, discutimos, sumariamente, o ensino de Literatura nas escolas manufatureira, dualista e única.

a) Tensionamentos manufatureiros no ensino de literatura: do leitor ao aluno

Nas Escolas Manufatureiras, Dualista, Única (em razão de sua natureza tradicional, aqui as denominamos também de escolas de papéis) a literatura, o preceptorado, os clássicos e o leitor saem de cena e dão lugar ao manual didático, aos textos literários fragmentos, ao aluno enquanto objeto fabril da mais-valia capitalista, à escolarização inadequada da literatura, às práticas pedagógicas que não cativam, por isso, não formam leitores. Esse panorama de ensino de literatura com enfoque no aluno enquanto objeto fabril educacional (leitura para avaliações escolares e em larga escala, formação para o mercado profissional) e com abordagens microgramaticais a partir do texto literário causa tensionamentos, perturbações, inquietações nos atores educacionais envolvidos no ato de ler, na demanda por formação de leitores perenes.

Esses tensionamentos no âmbito do ensino de literatura são, neste artigo, representados pelas metáforas do crepúsculo da literatura nas séries finais do EF e do eclipse da leitura literária no EM. O crepúsculo é uma luminosidade acinzentada de intensidade crescente ao alvorecer e decrescente quando cai a noite. O fenômeno compreende o tempo de duração dessa luminosidade opaca, turva, embaçada, decadente. Tomamos como base o tempo crepuscular do pôr do sol ao anoitecer para discutirmos a decadência, o acinzentamento, a opacidade da leitura e do leitor nas séries finais do EF nas escolas manufatureiras, dualistas, únicas, de papéis.

No interior dessas escolas, vislumbramos dois movimentos luminosos distintos quanto ao trabalho com o texto literário, que vai da luminosidade de um dia ensolarado à claridade ofuscante, da beleza de um pôr do sol nas colinas à opacidade do crepúsculo. No primeiro, nasce o sol, seus primeiros raios invadem a biblioteca, as salas de aulas, a escola. Em que pese seus brilhos revelarem a precariedade física e recursiva de muitos desses ambientes, os feixes de luz trazem em seu bojo o encantamento e a luminosidade da leitura para a vida dos pequenos leitores das séries iniciais. Os mediadores de leitura (professores, bibliotecários, voluntários, servidores, pais, alunos, monitores de oficinas de leitura, escritores, poetas, entre outros) desempenham um papel singular na formação de leitores iniciantes e no encantamento do ato de ler nas séries iniciais, pelo uso que fazem de estratégias de contação, da voz, do cenário decorado, da seleção e indicação de bons textos. O uso da voz na sala de aula nas séries iniciais faz aproximar o aluno de sua própria voz, de sua subjetividade, visto que "escutar um outro é ouvir, no silêncio de si mesmo, sua voz que vem de outra parte" (ZUNTHOR, 2014, p. 81).

No segundo, o sol se declina no horizonte. O dia claro esvaece na entrada da noite. Um aspecto turvo e acinzentado adentra os rincões da escola. O brilho da leitura e do leitor das séries iniciais entra em decadência nas séries finais do EF. "É o crepúsculo, de novo", Edward Cullen, da saga Crepúsculo, murmura. "Outro final. Não importa quanto os dias sejam perfeitos, eles sempre têm que acabar" (MEYER, s/d, p. 217). A luminosidade decrescente e opaca desse fenômeno reflete o estado da leitura na escola, em que as primeiras leituras nas séries inicias são encantadoras, prazerosas, envolventes, em contrastes com as últimas nas séries finais, que têm caráter obrigatório, instrumental, avaliativo (fichas estruturais de leitura, provas, fluência...). O reino do prazer, da luminosidade, cede lugar ao reino da obrigação, do desgosto, da repulsa à leitura. Nesse sentido, Ceccantini (2009, p. 210) constata que tem ocorrido um afastamento do universo da leitura por parte de muitos leitores assíduos, formados durante os primeiros anos de escolarização: "Pesquisas recentes demonstram que há um abandono paulatino das práticas de leitura, à medida que esses leitores recém-cultivados vão deixando a infância e alcançando a juventude, num processo gradativo que só faz intensificar ao longo da vida".

Vivemos um tempo opaco, nebuloso, crepuscular, momento de crise educacional, em que pese o ensino brasileiro ter avançado e amadurecido bastante nas séries iniciantes,

[...] no sentido de promover atitudes afirmativas e comportamentos mais ativos em relação à leitura, talvez como resultado de anos a fio de debate do tema nas mais diferentes esferas: cursos de licenciatura e de formação continuada, seminários e congressos, diretrizes educacionais em âmbito regional ou nacional, farta bibliografia especializada e disponível sobre o assunto, estímulo do forte mercado editorial de literatura infantil, entre outras possíveis razões [...]. (Ceccantini, 2009, p. 212, 213).

A decadência, a morte do leitor (e o surgimento do aluno coisificado, produto mercadológico) e da leitura literária na fase crepuscular do EF se evidencia no fato de que a Escola de Papel sempre fez o aluno ler a qualquer custo (ações de coerção típicas do sistema escolar: ler para exame bimestral; atribuição de nota à ficha de leitura; ler lista de obras, apreensão de técnicas de redação e de interpretação de textos para exames), "com resultados muitas vezes desastrosos e sobejamente conhecidos, vacinando gerações a fio contra a leitura" (CECCANTINI, 2009, p. 216).

Decadentes, tensionados, inquietos, mordidos pelos vampiros da leitura (paupérrimas ações governamentais para a leitura e o livro; escolarização inadequada da literatura (SOARES, 1999), práticas pedagógicas inócuas, entre outras), os alunos, imersos no acinzentamento do crepúsculo do EF, são lançados na noite escura do EM, onde experimentam um aprofundamento da crise da leitura literária. Outro fenômeno se instala. É o eclipse lunar no EM! "Naquela noite o céu estava completamente negro. Talvez não houvesse lua - um eclipse lunar, uma lua nova. Uma lua nova. Eu tremi embora não estivesse com frio.", narra Bella, sob a sombra do eclipse (STEPHENIE MEYER, s/d).

Eclipse é um obscurecimento de um corpo celeste por outro. Júnior (2018) conceitua esse fenômeno como "o escurecimento total ou parcial de um astro feito por meio da interposição de um segundo astro frente à fonte de luz", desde que haja um alinhamento das órbitas da terra ao redor do sol e da lua ao redor da terra. Há dois tipos de eclipses: o solar e o lunar, segundo Júnior (2018). Focalizamos o solar como metáfora do eclipse da literatura no EM. O eclipse solar ocorre quando a lua se posiciona entre o Sol e a Terra, projetando a sua sombra total (umbra) ou parcial (penumbra) sobre a Terra. Os raios solares do dia refletem nas séries iniciais, despertando o encanto pela leitura nos leitores iniciantes. O crepúsculo e o seu aspecto turvo de claridade ofuscante implantam o desencanto pela leitura nas series finais do EF. A densa escuridão provocada pelo eclipse solar total e a penumbra evidenciam a crise do ensino e da leitura de literatura e da formação de leitores no EM.

Os astros sol, lua e terra, envolvidos no eclipse, nesta pesquisa, são figuras do ensino e leitura de literatura na educação básica. O sol, com seus raios vívidos, representa o que de melhor a escola tem desenvolvido no âmbito da leitura e formação do gosto pelo texto nas séries iniciais. A lua, em efeito de eclipse, com a sua dupla face (uma brilhante, direcionada para o sol e outra escura, voltada para a terra), representa uma fase de transição do prazer (lado claro, nas séries iniciais) para o desprazer da leitura dos gêneros literários (lado escuro, no EF). Por seu turno, a Terra, em pleno dia, ofuscada pelo eclipse solar, representa as velhas práticas escolares tradicionais, que imperam com mais vigor nos centros de EM, nas escolas de papéis, cujos processos de formação do gosto pela literatura têm acentuado o afastamento dos alunos da arte literária. A umbra representa instâncias escolares, que vivem graves momentos de crise e atraso no âmbito da formação de leitores de literatura. A Escola de Papel vive dias perenes de escuridão. Há um eclipse solar duradouro, que parece de expressão imorredoura, que tem deixado a sala de aula ofuscada, professores, em pé, com o giz na mão diante do quadro azul e alunos desinteressados, ambos copistas, em estado de escuridão, sem saber o que, onde e para que escrevem e leem.

Se a literatura clássica tinha um espaço na escola artesanal, embora destinada às classes nobre e burguesa, nas escolas manufatureira, dualista, única, de papéis, os clássicos não estão em lugar algum, porque foram ofuscados pelo eclipse das releituras mal elaboradas dos clássicos, dos livros didáticos, constituídos de trechos (mal selecionados) de obras clássicas e de autores privilegiados, do uso de gêneros literários como pretexto para análises metalinguísticas. Com efeito, a formação integral do aluno ficara comprometida. E o professor

[...] deixou de ser um sábio na transição da escola artesanal para a escola manufatureira, as obras dos sábios deixaram de ser referência no âmbito do trabalho didático, sendo substituídas por elaborações de novos especialistas, os compendiadores. Perderam-se a visão de totalidade e, na mesma medida, a possibilidade de formação do cidadão, que pauta a compreensão de seus direitos, de seus deveres, de seu fazer e de si mesmo pela compreensão da sociedade. (ALVES, 2006, p. 170)

O eclipse solar alcançou, no Brasil, sua maior intensidade, nas imediações das escolas manufatureira e dualista. O ensino de literatura, transplantado do currículo humanista francês e promovido pelo professor manufatureiro e dualista, por meio da ferramenta manual didático, era pautado pelo ensino das línguas clássicas (o Latim e o Grego), nas aulas régias, nos primeiros estabelecimentos de EM, implantados pela

família real, nos liceus, no Colégio Pedro II, nas escolas normais secundárias e nas instituições particulares. O ensino literário ficara ofuscado, porque circunscrito ao ensino de gramática latina (ensinavam o 'bem falar' e o 'bem escrever'), da poética clássica, limitado ao manual didático. Segundo Neves (2014), se apropriando dos estudos de Razzini (2000), as aulas de Língua Portuguesa no Colégio Pedro II se dedicavam apenas ao estudo da Gramática. No período da Escola Única, vieram a Leitura Literária e a Recitação (1855) para auxiliar no ensino de língua, nos primeiros anos do secundário, mas com enfoque tradicional, estruturalista.

A literatura clássica, nas escolas secundárias elitistas, sob a égide da produção manufatureira e dualista, sofreu um obscurecimento. A essência do texto literário bem como os conhecimentos e prazeres estéticos, que ele veicula ou faz experienciar no leitor, foram ofuscados. O fenômeno do eclipse pairou nas escolas secundárias durante todo esse período porque os autores e textos canônicos serviam de referência apenas para o conhecimento e a aquisição da língua escrita e falada. Até os anos 50, "formou-se uma geração de cidadãos bacharéis cujo desempenho linguístico e conhecimento da poesia estavam em escrever à Camões, falar à Vieira, sonetar à Olavo Bilac" (NEVES, 2014, p.135).

Ainda em nossos dias, convivemos com práticas perpetuadas e resistentes da escola única, de papel, quanto ao modo como o ensino literário tem sido abordado na sala de aula. Para Zilberman (2010) e Rezende (2013), a leitura literária recebe um tratamento *stricto sensu* pragmático; fato que pode ser verificado, em grande parte, nos manuais didáticos utilizados por muitos professores. O *modus operandi* prescinde da experiência plena de leitura do texto literário pelo leitor. Em lugar da experiência estética, os textos literários são apresentados em forma de excertos, de trechos de obras, com ênfase nas modulações históricas e, por conseguinte, na cronologia literária, respectivamente, por serem considerados exemplares de determinados estilos; enfoque preocupante, mas recorrente no contexto do EM. As atividades de leitura de textos literários no EM são restritas. Devido ao reduzido espaço conferido aos textos, os alunos recebem apenas informações sobre autores, características de escolas e obras, tendo, portanto, um tempo exíguo para leitura integral das obras, comprometendo, assim, as habilidades leitoras para a formação de um leitor proficiente *in fact*, acentuando a densa escuridão do eclipse e o obscurecimento da obra literária na sala de aula.

Sob o efeito do eclipse, o professor (e seu potencial estado de mudança (*devir*) para mediador, articulador da leitura (COSSON, 2020)), o leitor e o próprio texto literário, quando presente na sala de aula escura, são invisibilizados. Definitivamente, a literatura é apagada, ofuscada, na escola. Segundo Cosson

(2014b), há vários indícios para o seu estreitamento, apagamento. Um deles é o próprio livro didático, que é constituído pelos mais variados textos, de origem e função distintas (receitas, regulamentos, roteiros de viagem, textos jornalísticos etc.), com fragmentos recortados, adaptados ou condensados de gêneros; modalidades, contextos culturais e temas distantes da literatura. Outro índice flagrante é a recusa das obras clássicas por causa das dificuldades impostas aos alunos por textos complexos; recorrendo, desse modo, às adaptações cinematográficas e/ou aos resumos pasteurizados na internet e de credibilidade vacilante. Lamentavelmente, nos dias atuais, apregoa-se que a literatura ocupa um lugar indevido no ensino escolar porque se trata apenas de uma manifestação cultural, e que, em função da diversidade temática, os livros literários devam ceder lugar aos filmes, *shows*, vídeos, programas televisivos, entre outros, que compõem a geração dos jovens, que estão no exercício do ensino e aprendizagem em nossas escolas (COSSON, 2014b).

O resultado de tudo isso é o estreitamento do espaço da literatura na escola e, consequentemente, nas práticas leitoras das crianças e dos jovens. No campo do saber literário, o efeito de tal estreitamento pode ser potencialmente ainda mais desastroso porque a escola é a instituição responsável não apenas pela manutenção e disseminação de obras consideradas canônicas, mas também de protocolos de leituras que são próprios da literatura. Se a presença da literatura é apagada da escola, se o texto literário não tem mais lugar na sala de aula, desaparecerá também o espaço da literatura como lócus de conhecimento. (COSSON, 2014b, p. 15)

Eis um recorte do panorama que se instalou nas escolas manufatureira, dualista, única, de papéis brasileiras, até o início do século XXI:

a) Substituição dos clássicos por manuais elaborados por compendiadores, com efeito, o progressivo aviltamento dos conteúdos literários e desqualificação do professor manufatureiro, cuja função é a de reproduzir o parasitismo, o anacronismo da escola pública mercantil (ALVES, 2006).

b) Privação de um aluno do povo da possibilidade de apreciar e ler Clarice Lispector, Machado de Assis, Manuel Bandeira, por exemplo, restando aos filhos dos proletários e classes populares, na Escola Dualista, a literatura de massa, a canção popular, o provérbio, os mitos; e a distribuição desigual da literatura associada à distribuição desigual de renda no Brasil, sendo que a literatura erudita é privilégio de pequenos grupos (CANDIDO, 2004).

c) Fim do ensino dos clássicos da literatura e crescente disputa de espaço dos gêneros literários e poéticos com "os gêneros jornalísticos, publicitários, midiáticos, digitais que se tornaram os gêneros escolarizados por excelência" (NEVES, 2014, p. 134).

d) Produção literária no país que se relacionava, até a década de 70, com a meta de aceleração do projeto de industrialização, em que "os textos passaram a ser escritos segundo o modelo da produção em série, e o escritor, reduzido à situação de operário, passou a fabricar seu produto segundo as exigências do mercado"; e, com acentuada ocorrência no século XX, pedagogismo, elitismo burguês e opção por um padrão linguístico, segundo a norma culta, foram valores veiculados nas obras que seriam lidas pelos infanto-juvenis, cuja seleção e aquisição eram de responsabilidade das instâncias família, escola e Estado (ALBINO, 2018, p. 13).

e) Prática corrente da utilização de textos literários, como pretexto para exercícios gramaticais, até os anos 50/60. Primeiro momento de libertação parcial do texto literário da gramatiquice coincide com "a adesão a uma espécie de modelo simplificado de análise literária: questionários a propósito de personagens principais e secundários, identificação de tempo e espaço da narrativa, escrutínio estrutural do texto" (LAJOLO, 2005, p. 70). A obra literária distancia-se da microanálise gramatical, mas, com a proposta de preenchimento de fichas de leitura previamente elaboradas, o texto literário continuava aprisionado, apagado; e crescente desinteresse pelo texto literário, objeto que incomoda e enfada os fiéis: "um professor que pensa estar investido da função sagrada de guardião do templo: lá dentro, o texto literário; cá fora, os alunos; na porta, ele, o mestre, sem saber se entra ou se sai, ou, se melhor mesmo, é que a multidão se disperse..." LAJOLO (2005, p. 12).

f) O mestre artesanal lia e fazia seus discípulos leem, o professor manufatureiro não lê (o tempo é escasso, a ferramenta de trabalho (livro didático) direciona e delimita as suas ações na escola) e não desperta seus alunos para a leitura, com efeito, o desencontro entre literatura e jovens se acentua na escola, vindo a parecer um "mero sintoma de um desencontro maior, que nós – professores – também vivemos. Os alunos não leem, nem nós; os alunos escrevem mal e nós também" LAJOLO (2005, p. 16).

g) Não é mais competência de o professor manufatureiro decidir "*o que fazer com o texto literário na sala de aula*". As editoras, livros didáticos e paradidáticos são quem decidem, "muitos dos quais se afirmaram como quase monopolizadores do mercado escolar, na razão direta em que tiraram dos ombros dos professores a tarefa de preparar as aulas" LAJOLO (2005, p. 14-15, grifos da autora). Essa mudança de competência, ampliada para outras instâncias, como jornais especializados, cinema, internet, é chamada por

Melo e Silva (2011) como deslocamento de voz institucional.

Diante da exposição, é premente a necessidade de deslocamento em direção à uma Nova Instituição Escolar, que denominamos de Neoartesanal, cujas bases, no âmbito do ensino e leitura literária, ancoram-se nas práticas que revalorizam as vozes dos leitores, na personalização do ensino da Escola Artesanal, nos princípios da Escola Única (universal, laica, democrática), mas indo além (inclusiva, criativa, transformadora (TORRE; ZWIEREWICZ, 2009)). Se na passagem da Escola Artesanal para a Escola de Papel ocorreu a mudança do leitor ao aluno; nessa Nova Instituição Educacional ocorre um movimento reverso, de retorno, de revalorização do leitor, que fora suplantado pelo aluno objetificado nas escolas manufatureira e dualista. Estudos da Estética da Recepção (ISER, 1996, 1999; ECO, 1994, 2011; JAUSS, 1993, 2002) e da Leitura Subjetiva (ROUXEL, 2012, 2018; ROUXEL; LANGLADE e REZENDE, 2013) lastreiam essa revalorização.

b) *Nuances Neoartesanais no ensino de literatura: do aluno ao leitor*

Depois do crepúsculo e do eclipse no EF e no EM, da noite densa nas escolas de papéis, que têm operado perturbações e tensionamentos, espera-se um amanhecer, que indica o começo de um novo raiar, um alvorecer, uma manhã sempre inéditos, que traz em seu bojo nuances (gradação de cor que permite cambiantes de pequena alteração, matiz, tonalidade) neoartesanais. A emergente Escola Neoartesanal, que tem irrompido na produção das escolas públicas contemporâneas, apresenta gradação de cores, tonalidades de luz que fortalecem o ensino e leitura de literatura em seus espaços.

Pela luminosidade do amanhecer, essas nuances ou alterações gradativas de cores na Escola Neoartesanal cristalizam-se em pesquisas, propostas e práticas pedagógicos, cujos elementos centrais são o texto literário e o leitor, que vive, nesse contexto, um processo de renascimento. Campos diversos de conhecimento, como a Linguística Aplicada, a Semiótica (didatizada ao ensino de Português), a Análise do Discurso, entre outros, a formação inicial de professores de língua portuguesa e literatura numa perspectiva dialógica, criativa, interativa, sensível e programas de Pós-Graduação *stricto sensu* sobre ensino de Língua Portuguesa e Literatura (destacamos o Programa de Mestrado Profissional em Letras – PROFLETRAS) têm problematizado e apresentado alternativas para o ensino e leitura de literatura na sala de aula.

Há, no interior da Escola Neoartesanal, focalização na leitura de prazer, de fruição (BARTHES, 1987; BRASIL, 2018), nas práticas de análise

linguística/semiótica dialógicas, nas práticas de escolarização adequada do texto literário, pois conduzem "eficazmente às práticas de leitura literária que ocorrem no contexto social e às atitudes e valores próprios do ideal que se quer formar" (SOARES, 1999, p. 47).

Na Escola Neoartesanal, é assegurado ao leitor, autonomia na realização de suas atividades, individualmente, ou em pequenos círculos de leitura. Os encontros com os professores para a discussão das obras lidas não se resumem às aulas na sala de aula, ganhando formas mais diversificadas, desde sessões de discussões em praças públicas, em grupos em aplicativos de redes sociais, até extensões com cinema e teatro.

A Escola Neoartesanal focaliza a humanização do leitor pelo texto literário, pois a literatura tem um modo peculiar de humanizar, nos tornar melhores, por isso se constitui como um bem, um direito incompressível, inalienável, que o leitor não pode abrir mão (CANDIDO, 2002, 2004). Em assimetria com a humanização, a ecoformação também é um princípio norteador das práticas pedagógicas neoartesanais. Torre; Moraes e Pujol (2008) adotam o termo ecoformação[3] para se referir ao desenvolvimento da consciência conectada com o meio natural, a realidade social, a razão e a emoção, numa maior incidência nos valores humanos. Nas aulas de literatura, as práticas ecoformativas valorizam as ações interdisciplinares e transdisciplinares. Projetos de letramento literário são desenvolvidos em cooperação com outros componentes curriculares. Os saberes dos estudantes e temas da comunidade local fazem parte de ações literárias, como o tema das Olimpiadas de Língua Portuguesa: 'O lugar onde vivo'.

Na Escola Neoartesanal, prevalecem dois paradigmas contemporâneos de ensino da literatura com foco no leitor, na personalização do ensino, discutidos por Cosson (2020): Formação do Leitor e Letramento Literário. No primeiro, o objetivo do ensino

da literatura é desenvolver o hábito, criar o gosto pela leitura e formar o leitor crítico-criativo. O prazer de ler e a leitura de fruição são combinados em atividades que dão deleite ao leitor. Neste paradigma, o professor desempenha dois papéis: o de leitor-modelo (apaixonado pelo texto literário) e o de mediador (motivador da leitura, biblioterapeuta). O leitor passa a ter uma posição ativa (participa da escolha negociada entre escola, professor e ele), contribuindo para sua formação. "A função da escola seria, por um lado, proporcionar o acesso aos livros e, por outro, garantir o tempo para a leitura de fruição" (COSSON, 2020, p. 143). O material de ensino é o texto literário integral. Leitura de fragmentos é praticamente ignorada nesse paradigma. Três atividades de sala de aula são propostas nesse modelo: hora do conto, cantinho da leitura e diário de leitura (registro das impressões subjetivas em um caderno para compartilhamento). Para a avaliação, utiliza-se o próprio diário de leitura, um relatório das leituras (com uso de recursos diversos: impressão escrita e pessoal, associação com outros textos, vídeos, fotografias, produtos culturais, canções...), a performance em atividades de oralização (declamação, dramatização...).

No paradigma do Letramento Literário[4], o objetivo do ensino da literatura é desenvolver, ampliar, aprimorar a competência literária do aluno. Este paradigma toma a literatura como uma prática e não como um conteúdo a ser ensinado. A linguagem literária, compreendida como um repertório de textos (instâncias do texto, intertexto e contexto) e práticas de ler e produzir obras literárias, é o objeto quando se ensina literatura. Metodologicamente, este paradigma compreende um percurso entre dois polos: o manuseio do texto e o compartilhamento da experiência literária pelos leitores. Nesse percurso, o aluno passa por três estações: encontro pessoal do aluno com a obra; leitura responsiva, resposta dada à leitura do texto; e leitura como prática interpretativa. O papel do professor é "*essencialmente arquitetural*, no sentido de que a sua função é planejar as atividades e projetar os caminhos que serão percorridos pelos alunos, sabendo que o desenho feito é tão somente um conjunto de indicações mais ou menos precisas [...]", pois o desenvolvimento da atividade é atribuição exclusiva do estudante (COSSON, 2020, p. 190, grifos do autor). Nesse modelo de ensino da literatura, o estudante é o principal agente do processo pedagógico, devendo realizar as atividades programadas pelo professor, bem como atuar coletivamente na forma de uma comunidade de leitores que é a sala de aula. O papel da escola é garantir um espaço próprio e condições adequadas para o ensino da literatura. A seleção dos textos

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[3] A ecoformação é compreendida como "[...] uma maneira sintética integradora e sustentável de entender a ação formativa, sempre em relação ao sujeito, à sociedade e à natureza. O caráter de sustentabilidade somente é possível quando se estabelecem relações entre todos os elementos humanos. A partir de um enfoque transdisciplinar a entendemos como um olhar diferente da realidade e seus diversos níveis. A ecoformação comporta, entre outras, as seguintes características: a) *vínculos interativos* com o entorno natural e social, pessoal e transpessoal; b) *desenvolvimento humano* desde e para a vida, em todos seus âmbitos e manifestações de maneira sustentável. A sustentabilidade é um traço fundamental da ecoformação e de todos os conceitos relativos a 'eco' como ecopedagogia, ecodesenho, ecoavaliação, ecossistemas; c) *caráter sistêmico e relacional* que nos permite entender a formação como redes relacionais e campos de aprendizagem; d) *caráter flexível e integrador* das aprendizagens, tanto por sua origem multissensorial interdisciplinar, como por seu poder polinizador; e) primazia de princípios e *valores meio ambientais* que consideram a Terra como um ser vivo onde convergem os elementos da natureza. (TORRE, 2009, p. 195-196, grifos do autor).

[4] Letramento literário é "o processo de apropriação da literatura enquanto construção de sentidos." (PAULINO; COSSON, 2009, p. 67 apud COSSON, 2020, p. 172).

literários deve ser plural, significativa e diversa. O material de ensino é multifacetado e diverso (livros, filmes, vídeos caseiros, miríades de formas e suportes, avatares da literatura[5]). As atividades compreendem as duas sequências, uma básica e outra expandida, apresentadas na obra *Letramento Literário: teoria e prática* (COSSON, 2014a); e outras tantas apresentadas na obra *Círculos de Leitura e Letramento Literário* (COSSON, 2014b), como Leitura Silenciosa (meditativa e sustentável), Leitura em Voz Alta (hora do conto, sacola de leitura), Leitura da memória (coro falado e jograis), Leitura da interação (*fanfiction*, jogos de personificação (RPG), seminário socrático), Leitura Cumulativa, Leitura Compartilhada, entre outras possibilidades. Como avaliação, este paradigma propõe a memória do leitor ou memorial da leitura, um relato autobiográfico sobre o percurso do aluno na construção do seu repertório literário; a apresentação de um produto final individual ou coletivo (ensaio, diário de leitura, portifólio).

IV. Conclusão

Neste trabalho, investigamos a gênese, a constituição da Escola de Papel contemporânea. Para tanto, discutimos a origem, princípios e fundamentos de práticas pedagógicas das Escolas Artesanal, Manufatureira, Dualista e Única. Vimos que a Escola de Papel surgiu no interior das Escolas Manufatureira, Dualista e Única, não as substituindo, mas perpetuando suas práticas metodológicas tradicionais. Discutimos, ainda, a produção do ensino da literatura no centro dessas escolas. Nesse passo, a partir das metáforas crepúsculo e eclipse da literatura na escola, evidenciamos inquietações, tensionamentos que as abordagens tradicionais provocam nesses espaços, ofuscando, invisibilizando professores, alunos que se tornaram objetos da produção fabril escolar, leitores em potencial e a própria escola, enquanto lugar privilegiado de instrução pública, cuja função, no campo do ensino da literatura, é formar leitores autônomos, críticos, mas não tem alcançado esse objetivo de formar leitores perenes.

Diante dos tensionamentos provocados pela umbra e penumbra do crepúsculo e do eclipse da literatura na escola, apresentamos matizes, nuances de uma nova instituição escolar que tem surgido no âmago dessas perturbações, a Escola Neoartesanal. Com a mudança de tonalidade depois do crepúsculo, do eclipse, a luminosidade da aurora tem trazido em seu bojo investigações, eventos e práticas de letramentos literários criativos, transformadores, que potencializam o renascimento de leitores (subjetivos) e a formação de fruidores perenes de literatura. Como evidências de que os primeiros raios do sol já começam a alvorecer no

horizonte de muitas escolas, apontamos práticas que valorizam os diferentes modos de fruir o texto literário (propostas pelos paradigmas da literatura: formação do leitor e letramento literário), pela subjetividade leitora, bem como por campos de pesquisa e programas de Pós-Graduação que promovem a leitura e ensino da literatura na educação básica e na formação inicial de professores.

Das Escolas de Papéis, os princípios de uma escola universal, laica, democrática, para todos devem ser preservados. As práticas tradicionais que ainda vigoram nesses espaços devem ser demolidas para a instituição, consolidação, ampliação de uma nova instituição educacional, qual seja, a Escola Neoartesanal. Nesta linha, entre outras ações, as instâncias governamentais devem revalorizar o preceptor, que fora substituído pelo professor manufatureiro; equipar bibliotecas com variedades de obras literárias, fruto da ampliação das políticas culturais para o livro e a leitura; melhorar a infraestrutura das escolas e ampliar, modernizar seus recursos didáticos. Nas práticas pedagógicas dos professores de língua portuguesa e literatura, o livro didático não deve ser a única ferramenta de trabalho e formação de leitores de literatura. Os docentes devem ser leitores ficcionados pelo texto literário e, aos estudantes, devem apresentar atividades de leitura envolventes e personalizadas.

É preciso cultivar a leitura por prazer, as práticas de letramento literário e fortalecer as escolas neoartesanais, para, assim, constituirmos em seus espaços leitores apaixonados pela literatura. É um processo complexo, difícil, quanto possível. Podemos escolher trabalhar com as melhores potencialidades dos professores e estudantes, embora essa escolha demande muitos esforços, enfrentamentos, embates, desmanche da rotinização da escola tradicional. Por fim, esperamos contribuir com as investigações sobre o ensino de literatura, de modo a permitir reflexão, novas políticas educacionais, pesquisas e práticas pedagógicas, projetos de leitura literária, tomando as discussões (inacabadas) que desenvolvemos como pontos motivadores.

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Understanding Teacher Reactions to Curriculum Reforms: A Comprehensive Typology

By Gerard Guthrie

Abstract- Learner-centred curriculum reforms in 'developing' countries have a long classroom history of non-implementation. The need is to better understand teachers' perspectives on such reforms. A Typology of Teacher Reactions to Curriculum Reforms provides a nuanced framework to interpret teachers' knowledge, attitudes and behaviour. Divided into three domains and seven categories, the typology encompasses the Cognitive Domain (ranging from Lack of Awareness to Recognition to Understanding), the Affective Domain (Espoused Belief and Actual Belief), and the Behavioral Domain (Surface Practice and Deep Practice). The evidence from wide-ranging school effectiveness and classroom improvement literature reviews that illustrate the Typology is that, typically, interview and questionnaire studies find teachers in primary and secondary schools are aware of learner-centred curriculum policies mandated at higher levels, can articulate knowledge about them, and express positive attitudes.

UNDERSTANDINGTEACHERREACTIONSTOCURRICULUMREFORMSACOMPREHENSIVETYPOLOGY

Strictly as per the compliance and regulations of:

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Abstract- Learner-centred curriculum reforms in 'developing' countries have a long classroom history of non-implementation. The need is to better understand teachers' perspectives on such reforms. A Typology of Teacher Reactions to Curriculum Reforms provides a nuanced framework to interpret teachers' knowledge, attitudes and behaviour. Divided into three domains and seven categories, the typology encompasses the Cognitive Domain (ranging from Lack of Awareness to Recognition to Understanding), the Affective Domain (Espoused Belief and Actual Belief), and the Behavioral Domain (Surface Practice and Deep Practice). The evidence from wide-ranging school effectiveness and classroom improvement literature reviews that illustrate the Typology is that, typically, interview and questionnaire studies find teachers in primary and secondary schools are aware of learner-centred curriculum policies mandated at higher levels, can articulate knowledge about them, and express positive attitudes. However, triangulation with classroom observation commonly shows traditional pedagogy continues. Any adoption is of surface features consistent with teacher-centred knowledge transmission rather than student-centred knowledge construction. While espoused support can be professionally expedient for teachers, non-adoption as theories-in-use can be a reasoned response to curricula that offer no relative advantage, are complex, incompatible with existing methods, and offer no observable outcomes for clients. Rather than introducing culturally-inappropriate curriculum reforms, a more constructive approach to improving teaching effectiveness is to identify and 'reverse engineer' successful classroom methods that are consistent with teachers' understandings of pedagogy and epistemology.

Keywords: curriculum, formalism, learner-centred pedagogy, progressivism, teacher-centred pedagogy, teaching styles.

I. Introduction

Why do learner-centred curriculum reforms in 'developing' countries have a long history of non-implementation in the classroom? In top-down educational systems in such countries, considerable worldwide curriculum reform efforts encompassing Learner-Centred Pedagogy (LCP) date back decades. Teachers in primary and secondary schools often claim support for progressive, student-centred, knowledge construction curricula mandated at higher-levels; however, they overwhelmingly continue to use formalistic Teacher-Centred Pedagogy (TCP) with knowledge transmission methods that build on memorization of given knowledge. The contradiction

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between stated beliefs and classroom practice leads to varying interpretations in the comparative education literature. Studies often include optimistic assumptions that teachers' knowledge of and seemingly positive opinions about progressive curriculum reforms indicate that implementation is on a path to classroom success. This article provides a Typology of Teacher Reactions to Curriculum Reforms intended to help interpretation of research findings by distinguishing between teacher knowledge, attitudes and behaviour in relation to curriculum reforms.

Terminology: The terminology for LCP has been criticized strongly as wide and ill-defined (Abadzi 2006; Bremner 2021; Guthrie 2021). Here, LCP is a general term for a variety of labels based on a foundation of knowledge construction epistemology. Various labels in the research literature include 'action learning', 'active learning', 'child-centred', 'competency-based', 'constructivist', 'cooperative', 'democratic', 'discovery', 'enquiry', 'learner-centred', 'learning-centred', 'liberal', 'outcomes-based', 'participative', 'problem solving', 'progressive', and 'student-centred'. Similarly, TCP refers to various labels founded on epistemology involving given knowledge, including 'didactic', 'direct instruction', 'expository', 'instructivist', 'knowledge transmission', 'performance mode', 'traditional', and 'whole class' pedagogy.

Evidence: The evidence from wide-ranging school effectiveness and classroom improvement literature reviews that will illustrate the Typology is that, typically, interview and questionnaire studies find teachers in primary and secondary schools in developing countries are aware of LCP curriculum policies mandated at higher levels, can articulate knowledge about them, and express positive attitudes. However, triangulation with classroom observation commonly shows TCP continues. While some teachers in developing countries do add surface student-centred techniques to their knowledge transmission classroom practice, examples of teachers who incorporate deeper elements of knowledge construction epistemology in their lessons are extremely rare in the classroom research literature. Even rarer are any cases of sustained implementation or wider diffusion in schools.

Consolidation of such evidence occurred in a variety of quantitative and qualitative analyses of the research literature during the 2010s (Glewwe et al. 2011;

Tabulawa 2013; Westbrook 2013; Nag et al. 2014; Wedell & Grassick 2018; Nsengimana et al. 2020; Guthrie 2021; Sakata et al. 2022). For example, Nsengimana et al. (2020) reviewed 27 articles with research findings on the implementation in 11 countries in Sub-Saharan Africa of competency-based curricula with LCP in science subjects. The studies showed that the curricula (which the authors supported) were still implemented in traditional ways. Most teachers continued to rely on lectures and chalk-and-talk promoting memorization. An unchallenged statement in a qualitative review of 72 studies spanning 20 years and 39 countries, by a supporter of LCP on human rights grounds, was that the literature was 'riddled with stories of failures grand and small' (Schweisfurth 2011: 425).

Adoption of Innovation: An interpretation in the present article, based on Simon's (1963, 2003) sociological analysis of adoption of innovation, is that teachers' reluctance to maintain progressive reforms as routine classroom behaviour can be rational decision-making that is not just conservative resistance to change. Non-implementation of top-down curricula prevalent in international policy discourse can be embedded in teachers' authentic cultural constructs, consistent with Sternberg's (2007: 5) definition of culture as the set of attitudes, values, beliefs, and behaviours shared by groups and communicated from generation to generation. Building on culturally intuitive pedagogy, 'reverse engineering' can focus on working bottom-up to improve the effectiveness of existing TCP paradigms rather than requiring paradigm shift to LCP. Thus the Typology does not necessarily lead to identifying how to improve teachers' knowledge of LCP and change their attitudes to it with the aim of persuading them to shift paradigms to LCP. Rather, the Typology can also direct attention to treating TCP as authentic and encouraging teachers to improve it.

Scope: This article briefly outlines the history of progressive curriculum reforms in developing countries. Section III then discusses cultural constructs and the differences between espoused beliefs and actual behaviour and why teacher non-adoption can be a rational response to inappropriate reforms. The Typology that follows in a long Section IV is intended to help resolve interpretation of teacher beliefs and behaviour. While objective conditions do inhibit implementation of LCP, lack of clarity about deeper cultural issues can contribute to confirmation bias in the research, to which some methodological limitations contribute (Sections V & VI). Finally, Section VII outlines a research design for reverse engineering successful classroom methods as a basis for improving teacher performance.

II. Curriculum Reforms in Developing Countries

During the decades of decolonization that followed World War II, an entrenched belief among international academics and policy-makers was that investment in education was the most important factor in national development (Hawkins 2007). The following synthesis draws on a considerable body of literature from the comparative education field to identify some broad patterns that occurred in developing country education systems during the rest of the century. This literature includes Crossley (1984a; 2019) on policy transfer; Guthrie (1986) on curriculum reform impacts; Tabulawa (2003; 2013) on internationally-influenced pedagogical reforms in Africa; Barrett et al. (2006) on international influences on 'quality'; Riddell & Nino-Zarazua (2016) on the effectiveness of foreign aid; Reagan (2018) on non-Western educational traditions; and Tikly (2020) on post-colonial Africa.

Early Development Efforts: The pre-colonial starting point was the many cultural traditions across the world. During the colonial era, curricula were transferred from the imperial countries, mainly to provide for the children of colonial elites. Colonial rule and direct policy transfer variously ended around the 1820s in South America, the 1940s-1970s across Asia and Africa, and in the early 1990s in the former Soviet Bloc in Central Asia. However, neo-colonial influences have long continued.

In the early post-colonial years, especially during the 1950s through to the 1970s, national governments usually focussed on expansion of primary schooling and provision of basic equipment and materials as reflected in the goal of Universal Primary Education (Bray 1981). Evolutionary curriculum reforms began around independence in countries such as Ghana in the late 1950s (Zimmerman 2011) and Papua New Guinea in the 1960s (Guthrie 2014), often starting with changes to syllabus content to make subjects such as history and geography more relevant. Expansion of schooling and subject content changes were often supported by international aid projects that included institution strengthening components such as printshops for textbook production (Heyneman et al. 1978). The associated curriculum development, textbook and pre- and in-service teacher education activities became vehicles through which international staff, consultants, advisers and their counterparts (often including overseas-educated citizens) projected student-centred changes to traditional teacher-centred styles.

Emergence of Learner-Centred Approaches: Variously from the 1970s, and mainly in former British colonies, textbooks and syllabuses often showed neo-colonial soft power influences when they targeted traditional TCP, which was often perceived as authoritarian (Harber

2002). Changes to official curricula could also borrow progressive educational theory that disparaged the memorization associated with knowledge transmission (Abadzi 2006). Departmental policies typically aimed to improve education quality, address local needs and align with national development goals. Such changes had limited and uneven effects that were highly dependent on context. Any initial successes often occurred in well-funded and staffed pilot projects (Crossley 1984b). Additionally, some governments, such as in South Africa in 1998 after the end of apartheid, borrowed Outcomes-Based Education in the political belief that they could transform society (Jansen & Taylor 2003). Progressive policy borrowings were uncommon in former French colonies and Islamic countries, however.

The many strands in LCP essentially derive from Anglo-American educational philosophy that embodies individualistic values different from the collectivism and communalism usual in developing countries (Alexander 2000). By the early 1980s, progressivism was central to international policy thinking about education in developing countries (Lockheed & Verspoor 1991). The assumption was that 'quality' and 'modernization' required student-centred classrooms (Burkhalter & Shegebayev 2012; Arreman et al. 2016; Altinyelkin & Sozeri 2018). Other progressive concerns with democratization, human rights and gender, as well as sustainable development and global warming, were added to the mix during subsequent decades (Barrett et al. 2006).

Capture by Neo-liberalism: During the 1990s, neo-liberal economic reforms to education system management came actively into play, especially through the increasing educational influence of the World Bank (Klees et al. 2012; Auld & Morris 2014; Tikly 2014). Neo-liberal packages occurred in Africa (Zavale 2013), the Americas (Makino 2017) and Asia (Casinader & Sheik 2021). In the former USSR following its breakup in 1991, most developing countries in Central Asia borrowed education policies voluntarily out of fear of falling behind internationally; other countries had educational reform packages imposed through the neo-liberal structural adjustment loan policies of the World Bank (Silova 2011). In adopter countries, competency-based curricula were often associated with Outcomes-Based Education and qualifications frameworks that were intended to improve how credentials were oriented to the labour market by generating skilled labour forces to attract industry as part of globalization and the 'knowledge economy' (Al-Daami & Wallace 2007; Allais 2014). Teaching methods, such as 'active learning', reinforced the earlier progressive curricula during the 1990s and 2000s.

Global Best Practice: Policy convergence occurred by the turn of the century. Neo-liberal economic managerialism and 'democratization' now encapsulated LCP as 'global best practice' (Verger et al. 2013; Klees et al. 2020; Edwards 2021). LCP was now part of 'travelling policy' that became aligned in international organization, regional and national policy arenas generating extensive educational transfer and borrowing (Ozga & Jones 2006; Phillips 2009; Heyneman & Lee 2016). One effect was that developing countries sometimes adopted foreign pedagogies simply because they were widely promoted as best practice. One case was Rwanda, where LCP policies were adopted in a policy environment where foreign aid agencies, African regional agencies and the Rwandan government all had an unquestioned belief that LCP was world best practice (van de Kuilen et al. 2019). Not uncommonly, part of the motivation for developing countries to adopt such policies was to facilitate aid funding. However, as a literature review by Nguyen et al. (2009) of cooperative learning across Asia identified, a complex web of cultural conflicts and mismatches could occur with traditional teaching styles. Educational policy-makers in non-Western countries, they wrote, were often prone to cherry-pick Western practices and neglect detailed consideration of differences in cultural heritage. The risk, as Dar (2021: 311) aptly put it, is of 'pedagogy for its own sake'.

Extent of Curriculum Policy Adoption: Although curriculum policies encompassing LCP became widespread in developing countries, they were not universal among them. An estimate was that official policy adoption occurred in some 68% of 142 countries (Guthrie 2021). Adoption occurred especially in Confucian Asia, Latin America, the Indo-Pacific, and in 'Anglophone' parts of Sub-Saharan Africa. Conversely, progressive policies were not adopted in an estimated 32% of the countries: notably in Southwest Asia and northern parts of Africa with strong Islamic and 'Francophone' influences as well as countries affected by conflict and/or poverty. Post-colonial Mali illustrates interaction among these elements (Diarra 2015; Boyle 2019). After independence in 1960, local French schools became the basis of the public school system but parental preference led to increasing numbers of Arabic schools. Increased access to schooling from the 1990s was still accompanied by teacher shortages, low standards and major social disparities with no indication that LCP curricula were adopted.

Some adopter countries took a nation-wide political approach to progressive curriculum and classroom policies, as with the Curriculum 2005 in South Africa (Hoadley 2017). Whether or not broader political direction occurred, education policy-makers could officially adopt LCP curricula, for example in Turkey, where they were influenced by potential harmonization with the European Union (Altinyelken & Sozeri 2018). Whether or not official policies existed, individual teacher

education institutions might adopt progressive methods, e.g., a teachers' college in Tanzania (Vavrus 2009). Contracted aid project managers could strongly influence the introduction of progressive approaches as in an Australian curriculum reform project in Papua New Guinea (Guthrie 2012). Non-government organizations could also be very active, such as the Soros Foundation in Central Asia in the 1990s (Silova & Steiner-Khamsi 2008). Despite all such efforts, the outcome of the curriculum reforms was failure to generate sustained classroom adoption of deep progressive practices, i.e., of paradigm shift from TCP to LCP. Policy is one thing; implementation is a different matter.

III. Cultural Complexities

Where direct classroom observation occurs in developing countries, the overwhelming evidence in the analyses of the research literature cited in the Introduction and in the examples in Typology Category 4 below is that progressive curriculum reforms have not achieved fundamental, systematic, widespread or long-lasting changes in teachers' classroom behaviour despite plentiful examples of teachers who expressed positive attitudes.

Cultural Constructs: Why is LCP not implemented in classroom practice? As discussed in Section V below, many objective classroom, school and system constraints inhibit implementation. However, a more fundamental explanation goes to teachers' deep-rooted cultural constructs, which can undercut system-level change agents who assume incorrectly that teachers will passively implement inappropriate reforms in the classroom even if facilities are suitable. Rogers' (2003) influential sociological analysis of the adoption of innovation, first published in 1962, provides a coherent explanation. Rogers delineated five distinct attributes of innovations that are weighed up by potential adopters in an organization: relative advantage (the degree to which innovations offer advantages over other innovations or present circumstance); compatibility (the extent to which innovations align with prevalent values, previous experiences or ideas, and the needs of clients in the social system); complexity (the extent to which innovations are considered difficult to learn and apply); trialability (the degree to which innovations can be tried on a small scale); and observability (the degree to which outcomes from adoption are visible to clients). The effect is that classroom changes are more likely to be adopted as long-term practice if they fit teachers' constructs and are successful in their own terms.

Consistent with such analysis, a study of attempted curriculum change in Hong Kong did not treat formalistic teachers as resistors of change (Morris 1985). Rather, teachers weighed innovations according to classroom practicality, fit with existing conditions and professional costs. Teachers' decisions not to use LCP

were rational choices between alternatives in a society where people regarded exams and their selection functions as normal. Exams gave purpose and a framework for TCP in a social and economic context of very unequal distribution of income where exam success was crucial to pupils' life chances. Teachers perceived LCP as inefficient for achieving such important ends. Conversely, an example from Malawi indicated that formalistic teachers could adopt changes compatible with existing methods. Gwayi (2009) used Rogers' attributes to investigate implementation of an innovation that required teachers to use locally-sourced materials but did not otherwise attempt to change TCP. Significant correlations occurred between reported implementation and perceived relative advantage, compatibility with prior experience, ease of use, communicability, measurability, trialability, and professional image.

Espoused Beliefs and Theories-in-Use: In top-down educational systems in developing countries, teachers often claim support for progressive curricula decreed at higher levels. However, they rarely change deeper aspects of their classroom practice. A relevant distinction that shapes the Typology is between two types of mental construct. Espoused beliefs are defined as those we state when asked; theories-in-use are deeper beliefs and opinions governing our actual behaviour (Argyris & Schon 1974; Borg 2018). Based in management theory, the approach considers that the effectiveness of an organization depends on how well the actual behavior of its members aligns with the organization's stated goals and values. However, there can be a disconnect between members' stated beliefs and actual practices. Typology Category 4 (below) refers to studies from 35 countries that showed teachers in interviews stating conformity with organizational goals (i.e., official curriculum policies on LCP) but triangulation with classroom observation found the same people actually used TCP. An illustration relevant to LCP comes from a mixed methods study in Pakistan. Hashmi et al. (2023) sampled 170 elementary teachers. In questionnaires, teachers espoused positive beliefs about providing timely, significant, relevant feedback to students to improve their learning. However, triangulation using oral and written checklists found the teachers' actual feedback practices – their theories-in-use – were either non-existent or nominal.

Why the disconnects between espoused beliefs supporting LCP and TCP as theory-in-action? One interpretation involves research methodology. Participants in research studies can be prone to state the views that they think researchers want or are politic to express (Guthrie 2011: 90-2). Espoused beliefs commonly are identified from questionnaires, interviews and focus groups. These can provide valid data about teacher's attitudes and cultural constructs but they

provide only proxy, second-hand measures of classroom behaviour. Teachers can espouse pictures of their classrooms to researchers that are more consistent with reform ideologies than their real classroom behaviours. While researchers routinely and genuinely state that answers in questionnaires and interviews are confidential, this may carry little weight with respondents. Teachers may repeat progressive jargon and report that they conform with policy from fear of negative feedback to headteachers and inspectors. Focus groups can add to such pressures, especially when groups contain members in positions of authority. Teachers may perceive the role of the educational researcher as embodying a power relationship that could operate to their disadvantage, particularly when the research is evaluating official policies. Scientific values about truth can be less important than social status and authority, especially in communal and collective cultures.

IV. Typology of Teacher Reactions to Curriculum Reforms

How can contradictions in evidence about teachers' knowledge, attitudes and actual practice be identified? Apparent in the extensive literature searches for Guthrie (2021) was that classroom studies in the comparative education literature usually focussed more on the educational substance in theories behind LCP reforms (such as those of Bernstein and Vygotsky) than on theories about adoption of innovation by sociologists and management theorists (such as Rogers and Argyris & Schon) that inform the Typology of Teacher Reactions to Curriculum Reforms in Figure 1. The Typology provides a system of classification to assist interpretation of findings in the classroom literature on LCP in developing countries. The Typology's categories derive from the three domains in the standard educational classification in Bloom's Revised Taxonomy of Educational Objectives (Anderson & Krathwohl 2001). Bloom's three domains are divided here into seven categories. The examples below that illustrate the categories are presented in chronological order, indicating stability of the categories over time.

COGNITIVE DOMAIN			AFFECTIVE DOMAIN		BEHAVIOURAL DOMAIN	
(1) LACK OF AWARENESS	(2) RECOGNITION	(3) UNDERSTANDING	(4) ESPOUSED BELIEF	(5) ACTUAL BELIEF	(6) SURFACE PRACTICE	(7) DEEP PRACTICE
Teachers are unaware of progressive classroom methods and educational philosophies, e.g., because they are isolated from information or there are no such reforms.	Teachers are aware that progressive reforms in methods and philosophies exist but have little understanding of them, e.g., because they have not received in-service training.	Teachers can articulate basic elements of reform methods and philosophies, e.g., that desks are grouped, the approach is student-centred.	Teachers make expedient claims of belief in progressive methods and philosophies, e.g., in the presence of superiors or when interviewers are perceived as connected to authority.	Teachers demonstrate genuine commitment to progressive methods and philosophies, e.g., they consistently articulate them to colleagues over time.	Teachers use visible elements of progressive methods in their classrooms (e.g., wall displays, seating in groups) but operate in knowledge transmission mode.	Teachers use classroom methods to promote engagement with progressive educational philosophy, i.e., lesson planning and classroom methods attempt to implement knowledge construction.

Likelihood of implementation
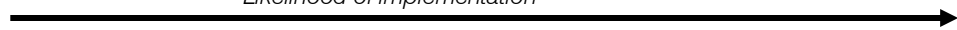
Source: Author.

Figure 1: Typology of Teacher Reactions to Curriculum Reforms

Cognitive Domain: The Cognitive Domain here refers to knowledge and understanding of curriculum reforms. Figure 1 introduces three categories. *Lack of Awareness* identifies teachers who are unaware of LCP classroom methods and educational philosophies. The *Recognition* category is a category for teachers who are aware that LCP reforms exist but have little understanding of them. *Understanding* classifies teachers who can articulate basic elements of reform methods and philosophies, perhaps following in-service. Knowledge of an innovation is a necessary precondition for attitudes to it whether positive, negative or mixed.

Affective Domain: The Affective Domain incorporates attitudes and opinions about reforms. The category *Espoused Belief* identifies teachers who make professionally expedient claims supporting LCP in interviews, questionnaires and focus groups even though their genuine beliefs are different. *Actual Belief* is a category for teachers who demonstrate genuine commitment to LCP methods and philosophies over time. Positive or negative attitudes do not necessarily predict classroom practice. A teacher with positive attitudes to LCP may not implement it fully, while a teacher with negative attitudes may implement aspects because of organizational pressures.

Behavioural Domain: The Behavioural Domain is of observable classroom practices, whether through ethnography or classroom observation schedules. *Surface Practice* identifies visible but superficial LCP classroom techniques for knowledge transmission rather than knowledge construction. *Deep Practice* teachers use classroom methods to promote engagement with progressive educational epistemology involving student construction of knowledge.

Research Applications: Understanding of the interplay between teachers' knowledge, attitudes and behavior is crucial for interpreting research findings on LCP reforms. The disconnects that are possible (indeed prevalent) between teachers espoused attitudes and their theories-in-use indicate the need for caution about interpreting espoused attitudes towards LCP as indications that reforms are on a path to successful adoption.

As the categories move from left to right in Figure 1, the underlying dimension is likelihood that reforms will be implemented. Application of the Typology in a research study that identifies successful implementation of an LCP curriculum would necessarily find adopters who have knowledge of the reform, espouse positive attitudes, are committed to it as a theory-in-use, and implement both surface and deep elements (i.e., fit all the categories 2-7). However, the examples that illustrate the Typology indicate alternative scenarios. The research might also find formalistic teachers who understand a reform and espouse positive beliefs but retain TCP as the actual belief guiding their deep classroom practice as knowledge transmitters although they implement surface aspects of LCP because of higher-level pressures. These teachers fit categories 2, 3, 4 and 6 but not 5 and 7 because of disconnects between their espoused beliefs and theories-in-use. The research might also identify teachers with do articulate negative attitudes but nonetheless implement surface aspects of LCP to conform with organizational directions (i.e., they fit categories 2, 3 and 6 but not 4, 5 and 7). The examples that illustrate the Typology indicate that the likelihood of deep practice of LCP can be very low.

Limitations: A limitation deriving from possible disconnects between attitudes and behavior is that each category in the Typology has binary measurement properties, i.e., teachers do or do not fit a particular category (Guthrie 2023: 54-7). Because teachers can fit more than one category, the categories are not mutually exclusive (a further requirement of the nominal measurement scale) and the categories may not be transitive because teachers may fit some but not all those in the affective and behavioural domains (a further requirement of the ordinal measurement scale). Another limitation stems from the focus on the effects of curriculum reforms on teachers: no attempt is made to incorporate the effectiveness of different teaching styles on student learning. Nor does the Typology identify how educational institutions can use this framework to design more effective professional development or support system to change teachers' attitudes to LCP in order to persuade them to shift from the TCP paradigm.

Examples: The evidence that illustrates the Typology makes use of findings from the two most recent analyses of the research literature on developing country classrooms referred to in the Introduction (Guthrie 2021; Sakata et al. 2022). The Guthrie textbook was based on extensive open-ended literature searches where the sample frame was the 142 countries identified by the OECD as eligible for foreign aid. A 100% coverage of the countries identified 422 studies about school systems and another 424 research reports and evaluations directly on classrooms, including many studies from chapters, books, research reports and the grey literature. Sakata et al. conducted a narrower formal literature search where the sample frame was journal articles published from 2001-2020. Articles on 38 countries were identified through eight international indexes, further delimited by three search terms from among the many labels for LCP. The search identified 461 classroom related articles which were filtered for methodological rigour to provide 94 texts then systematically classified by several variables. The types of comparative education research identified in both analyses usually were case studies and small-scale surveys using teacher interviews and questionnaires, sometimes combined in mixed methods studies using documentary analysis and/or ethnographic or structured classroom observation. The textbook's analyses included the extent of adoption of progressive curricula; the Sakata et al. review more systematically documented classroom studies. Between them, they provide comprehensive analyses of the literature, on which the following draws.

Category 1, Lack of Awareness, is in the cognitive domain. This is a baseline representing teachers without knowledge of curricular reforms.

The estimate in Guthrie (2021, Vol. 1: 244-8) – albeit derived from secondary, English-language sources – was that some one-third of developing countries were without official progressive curriculum policies. The clearest national example of no such policies and teachers cut off from outside influences was North Korea, where no room exists for discretion by schools or teachers and they must adhere rigidly to the nationally prescribed curriculum (Cho et al. 2013). In Sub-Saharan Africa, 83% of Francophone countries did not appear to have such policies (e.g., Burkina Faso, Chad and Mali). In some Islamic countries, progressive policies did not occur (e.g., Iran and Turkmenistan). In other Islamic countries, token polices announced under international pressure following 9/11 could be implemented unevenly under competition from religious traditions and increasingly authoritarian governments (e.g., Azerbaijan and Uzbekistan).

In the estimated two-thirds of developing countries that officially adopted such curricula, some teachers might have no knowledge of them, perhaps because they did not receive formal teacher training, received only basic training long ago, or were in remote areas with scarce professional information. An example of limited training came from large mixed method studies of primary teacher training in Ghana, Kenya, Tanzania and Uganda, which had LCP policies. Documentary analysis, interviews and observation in teachers' colleges in all four countries found that training amounted to apprenticeship systems using didactic teaching without modelling LCP (Akyeampong et al. 2013). Similarly, textbooks may not model policy for teachers: a review by UNESCO (2012) found wide gaps between official curriculum policy documents and school textbooks in developing countries.

Category 2, Recognition, has teachers who have heard about curricular reforms but have little understanding of them, for example when policies have been announced but rollout has not yet provided in-service training.

Two examples illustrate this situation. Sargent's (2009) study in rural China included a mixed method survey in 15 primary schools. Teachers in schools that had not yet begun implementation of curriculum reform policies stated they did not know much about them. Against a long background of progressive policies in Tanzania, a mixed methods study by Anney & Bulayi (2019) used a case study approach to assess knowledge about the use of learner-centred approaches by four experienced maths teachers. The teachers demonstrated little knowledge about the approaches leading to difficulties putting learners at the centre of lessons.

Category 3, Understanding, still in the cognitive domain, involves teachers who are sufficiently aware of progressive curriculum reforms to articulate basic elements of LCP classroom methods (e.g., about simple aspects of classroom organization such as wall displays and grouped desks) or basic elements of the philosophy (e.g., that reforms are student-centred).

This sort of understanding commonly is found in evaluations following in-service training, although Sakata et al. (2022) found 28 studies that identified difficulties understanding LCP reforms even after in-service. Guthrie (2021) identified studies from Albania, Maldives, India, Malaysia, Nepal, Kosovo, and Tanzania with findings that fitted this category. However, understanding of the principles does not necessarily indicate commitment or implementation.

For example, in India Sriprakash (2012) conducted an ethnographic case study of the introduction of child-centred education in two projects in 16 rural primary school communities, including in-depth interviews with 22 teachers. Teachers were unpersuaded that child-centred approaches would help students learn syllabus content. Otherwise in India, Padwad & Dixit (2018) and Mukherjee (2018) reported on recent changes in two different Indian states to English language curricula from TCP transmission to LCP constructivism. Both reports were case studies of one motivated, experienced teacher. Both teachers showed partial understanding of the changes and did implement some aspects, but many contextual factors – such as exams – restricted implementation. In Albania, Vampa (2017) conducted a mixed methods study with 300 educationalists. 90% of teachers interviewed about the student-centred teaching model expressed uncertainty about understanding the philosophy. School leaders and teachers understood it simply as a new technique for putting students chairs in a circle rather than in the classical form where the teacher stood in front of the class. In Kosovo, Zabeli et al. (2018) surveyed 36 in-service teachers about their understanding and use of contemporary and traditional teaching methodologies. Teachers understood the student role in learner-centred education but appeared to have a more teacher-centred than learner-centred understanding of it. Teachers self-report indicated 'a rather superficial view' (49) on classroom implementation.

Explicit examples occur of passive resistance to progressive reforms. In the Dominican Republic, teachers struggled to implement complex curriculum changes. Most teachers reverted to the old curriculum and pedagogy with which they were most comfortable:

> while teachers and the teachers' unions have not organized actively against the reforms, this passive resistance has complicated the ability of the reforms to show success at the local level (Hamm & Martinez 2017: 293).

In Turkey, teachers were aware of and starting to use some different classroom methods. However, because of concern about pupils' exam success, teachers had many positive reasons for covert

resistance to curriculum reforms, which Altinyelken (2013: 111) labelled 'principled resistance to change'.

Category 4, Espoused Belief, is in the affective domain. The category has teachers who, when asked, espouse beliefs that are inconsistent with their classroom actions. Many teachers claim in interviews, questionnaires and focus groups that progressive change occurs but triangulation with classroom observation often finds the same people actually use TCP.

This is another category with many examples. Guthrie (2021) identified studies from 35 diverse countries of teachers who expressed knowledge, understanding and/or support for progressive policies but their actual classroom behaviour was teacher-centred. The studies came from Afghanistan, Argentina, Armenia, Bhutan, India, Botswana, Brazil, Cambodia, China, the Commonwealth of Dominica, Egypt, Indonesia, Kiribati, Kosovo, Kyrgyzstan, Laos, Lesotho, Libya, Malawi, Malaysia, Maldives, Mauritius, Mongolia, Namibia, Nepal, Philippines, Senegal, South Africa, Sri Lanka, Tanzania, Timor-Leste, Turkey, Uganda, Vietnam, and Zimbabawe.

In Tanzania, for example, Barrett (2007) interviewed 32 teachers in 18 primary schools, observed 28 lessons and compared what teachers said was good classroom practice with their actual practice. Teachers' professed beliefs reflected official reform policy but they actually taught much more formalistically. Song (2015) reported that Cambodia and its aid partners had promoted LCP for almost two decades. Drawing on questionnaire and interview surveys with primary school teachers in two districts, the study analyzed teachers' beliefs in and classroom implementation of LCP. Teachers professed change but classroom instruction remained predominantly front-oriented and textbook-based. Zahid's (2019) questionnaires with 100 teachers in Afghanistan found they often claimed to have some variety in their methods however classroom observation found they only read from the textbook and then asked the students to read. The textbooks had an active teaching approach; the classes did not. Omar (2019) studied the English curriculum in Libya through a detailed mixed methods study of 10 secondary teachers. Although the teachers reported positive views about learner-centred teaching, this was not consistent with their practice. Classrooms remained teacher-centred and cooperative learning was almost non-existent. The findings suggested that the Libyan school culture tended to be incompatible with the curriculum principles. A different approach was used in other curricular areas, especially Arabic language learning, where teachers were not expected to use new pedagogy. In Tanzania, a study involving 30 teachers in four schools found national and international education policies influenced what teachers believed they should

value about participatory methods and learning (Sakata 2021; Sakata et al. 2021). However, this was not in accord with what they genuinely did value. The teachers were also affected by the structure of the country's assessment system, leading them to regard memorization as a notable goal.

Category 5, Actual Belief, is still in the affective domain. This involves teachers articulating reform methods and philosophy in sufficient depth and over time to indicate genuine commitment, especially talking with their peers. In contrast to questionnaire studies, information about teachers' deeper beliefs is more likely to be identified from in-depth ethnographic case studies where researchers can have on-going conversations with teachers and observe their interactions with other teachers in a variety of situations. Even so, the teachers may not be able to implement their beliefs fully or practice them regularly.

This type of case study is infrequent in the literature. Two thorough interview studies were in a collection about teachers of English faced with new communicative curricula (Wedell & Grassick 2018). In Argentina, a teacher who supported the spirit of the new language approach became frustrated with it as impractical, in part because it did not fit the long-standing cultural tradition among students and the community of rote learning and summative evaluation (Soto 2018). Another case indicated that committed teachers may reverse their beliefs over time. In China, Yan (2018) detailed a secondary school teacher who, over a 10-year period, went from initial acceptance of reform goals to acceptance of the prevailing culturally-appropriate exam-oriented education because of its importance to students' life chances.

An unusual reformist curriculum not based on Western concepts was the Bhutan government's introduction of a unique Buddhist philosophy, known as Gross National Happiness. The effect of mixed methods studies by Kezang Sherab & Phuntsho Dorji (2013) and Deki Gyamtso et al. (2017) was strong support for the policy in principle by teachers, an indication of adoption in extracurricular activities, but little evidence of change in classroom practice. Over 80% of teachers in one of the studies expressed views in favour of student-centred teaching and learning, however classroom observation found,

> it appeared that they knew the jargon and even believed it, but had not been able to translate their ideas into practice (Kezang Sherab & Phuntsho Dorji 2013: 23).

Category 6, Surface Practice, is in the behavioural domain. Here, teachers demonstrate in their classrooms visible but surface elements of student-centred methods, either because they believe in them or are following instructions. Such methods might involve arranging furniture into groups rather than rows or using

teaching aids and wall displays. Teachers in this category nonetheless typically demonstrate a hierarchical role in the classroom being clearly in charge of formalistic transmission of knowledge rather than progressive construction of it.

This is an area where the literature has wide ranging interpretations of LCP implementation. Sakata et al. (2022) identified 71 texts that discussed the extent to which LCP or TCP was implemented in a reform context. The clear tendency was for 'Predominately TCP' (48% of the studies) to remain in place, followed by 'Balance between LCP and TCP' (34%), with the fewest texts identifying 'Predominately LCP' (18%). 'Balance' referred to reports of a mixture of unspecified LCP and TCP approaches where neither dominated. Other studies refer to 'balance' as 'hybridization' (e.g., Barrett 2007). More specifically, the Typology distinguishes between surface uses of pedagogy and deep uses of epistemology. Dozens of examples of classroom use of LCP methods in Guthrie (2021) were almost invariably of surface features of classroom management. Deeper elements (involving student knowledge construction rather than teacher knowledge transmission) were very rare.

In Mongolia, group work was a minor adaption to student-centred learning in a common formalistic lesson pattern. Instead of having students ask questions individually, most teachers made students gather questions in small groups first and then had group monitors present the questions to the class, which reflected deep Mongolian social structure rather than democratic individualism (Steiner-Khamsi & Stolpe 2006). A sample of 63 teachers in 30 rural secondary schools in Peru occurred after a new national curriculum shifted from highly specified content to outcomes-based constructivist competencies. Observation found changes in teachers' practices but they affected class work and learning at a rather superficial level such as teacher questions involving low cognitive content (Balarin & Benavides 2010). In Tanzania, teachers in general enacted 'more of the form than the substance' of learner-centred activities (Bartlett & Mogusu 2013: 72). In Belize, a mixed methods study of implementation of applied secondary science course in one secondary school found that teachers organized hands-on group investigations in the classroom and field but other classroom methods usually involved didactic note taking (Waight et al. 2018). In China, LCP was well accepted in rhetoric leading to more time on pupil activities, however teaching and learning practices continued to reflect traditional Confucianism (You 2019). In Maldives, classroom observation of 172 teachers in 18 primary schools found the curriculum was adapted to the school settings but teachers did not alter their usual classroom practice. While activity-based lessons such as group work were observed in 70% of the classrooms, all the activities focussed on delivering and assessing content

and did not encourage students to develop critical thinking (Shibana et al. 2019). A mixed methods case study of a primary school in Ethiopia found a peer leadership system seating classes in groups of five or six with academically successful 'network leaders' facilitating group work and supporting the other group members' learning. However,

> the delegation of teaching responsibilities to students does not alter the fundamental relationship between students and the curriculum: schooling is still understood as the transmission of knowledge embodied in the state-authorised textbook (Mitchell 2017: 111).

Other insights into apparent classroom use of LCP came from Indonesia. where PAKEM (in English, active, creative, effective, joyful, and innovative learning) was an educational philosophy incorporated in several donor projects (Cannon 2020). PAKEM was widely implemented by teachers, with consistent reports of improved learning outcomes, motivation and behaviour. However, close observation of PAKEM classrooms suggested it was not commonly implemented in full.

> Classrooms consistently show evidence of improved learning environments. There are displays of teaching materials and student work, reading corners with collections of appropriate books, students sometimes working actively in small groups or working alone on a specified task with a variety of materials or worksheets. But this changed environment is one where teachers can also be observed using didactic methods, asking closed questions, directing student activity and following formal classroom and school routines. It is apparent that many teachers are using more flexible methods, require more student activity, but they are still typically dominant in their classrooms. In other words, teachers have a greater range of teaching behaviours to use flexibly and with confidence. Students certainly have a more active role in class. But their activity is within clear constraints defined by the teacher. Observation suggests that full implementation of PAKEM as intended is not common. However, partial implementation of a more flexible approach to teaching and learning is increasingly common (100-1).

Teachers in this category can also put on artificial demonstrations for outsiders. In Indonesia, Sopantini (2014) found from classroom observation in 10 schools in eight provincial urban and rural locations that teaching was traditional, didactic and teacher-directed. In the two cases observed where teachers made efforts to implement active learning, the changes were mainly cosmetic, consisting of changing furniture to allow for group work and occasionally taking children out of the classroom for activities such as observing plants in the playground:

> it was also clear that these approaches … were not yet integrated into daily practice and were implemented only on certain occasions and for specific lessons – for example when a visiting specialist was observing the class (269).

Bold et al. (2017) compared whether teachers worked harder when observed by researchers inside the

classroom. In Senegal, time teaching was 30% higher when observers were inside compared to when teachers did not know observers were watching from outside the classroom. In Tanzania, teaching time was 10% higher. In China, Yan's (2018) case study found that any adoption of the progressive practices in a secondary school was a pretence during school inspections. In Uganda, Wenske & Ssentanda (2021) found that teachers often disregarded new child-centred teaching methods or used them only when being supervised.

Category 7, Deep Practice, is the final category. It identifies classroom use of LCP to promote engagement with progressive educational philosophy. Lesson planning and classroom methods implement deeper elements of reform philosophy that aim to induct students to scientific epistemology, e.g., teachers might consistently use open questions to encourage students to construct knowledge rather than just receive it. More broadly, such approaches can encourage 'democratization' in the classroom.

Very few examples of this category were identified is a collection of case studies (Wedell & Grassick 2018) or by Guthrie (2021), being of innovative individuals who acted on their own initiative but lacked support from colleagues and students. A very rare successful example was a brilliant innovative teacher who developed and continued to use group learning techniques in his grossly overcrowded classroom in Cameroon (Kuchah & Smith 2011). Kuchah had over 100 students in the class, some crammed into a very hot classroom and others standing outside at the windows, and with very limited access to textbooks, but he managed to develop a process of group learning in which students were active collaborators. This involved them working outside in groups of ten with elected monitors and rules of conduct developed democratically by the students themselves. One of the features of the peer leadership approach was that it developed experientially as a grounded solution to a problem of limited resources. Although this is an inspiring story, no evidence was provided about learning outcomes as a product, nor was there any suggestion that other teachers adopted the methods.

Otherwise, in Pakistan Shamim (1996) wrote up a reflective case study of an attempt to introduce LCP in his own classroom. Students shared community perceptions of teaching as hierarchical and based on transmission of knowledge and did not accept some equalization of power in the classroom. The attempt to innovate met student resistance manifested overtly as boycotting classes and covertly as silent non-cooperation in class. In the Philippines, an 'exceptional and dedicated teacher' (Vilches 2018: 15) believed in the overall approach in a new communicative English curriculum and successfully dealt with it as an experienced master teacher involved in textbook writing,

but offered traditional grammar lessons on the side. The teacher was involved in in-service teams and mentoring colleagues, which met some resistance from the other teachers and the report did not contain any evidence that they adopted the approach. In Maldives, an action research case study was of a single, one-off field study lesson out of normal school hours by a teacher keen to be involved in problem-based learning. The somewhat artificial lesson was successful and had a positive reaction from the students. There was no indication whether the teacher subsequently practiced the approach (Shafeeqa & Shiyama 2019). Otherwise, Willsher's (2013: 263) observation in Laos is relevant:

> … a 'formalistic' approach to teaching is part of the tradition of teaching … where knowledge is primarily 'transmitted'. In those uncommon instances where knowledge is 'constructed' it is always constrained by the over-riding concerns to get on with the 'proper' teaching of textbook content.

Summary of Evidence: The examples that illustrate the Typology were drawn from extensive literature searches and were consistent with the general pattern of findings in Guthrie (2021). Attempts to introduce progressive classroom reforms through top-down curricula policies have occurred in some two-thirds of the developing countries. Under trial conditions some surface appearances of initial classroom implementation can appear. However, any initial impressions of paradigm shift do not survive. Teachers typically were aware of official curriculum policies decreed at higher levels and could articulate knowledge about them, especially following in-service training. Teachers could espouse belief in LCP but did not implement deeper knowledge generation aspects in the classroom; rather, teachers' theories-in-use involved TCP and knowledge transmission. Considerable evidence of increasing surface use of LCP techniques did not demonstrate a likelihood of wide, deep or sustained adoption, i.e., of paradigm change among classroom teachers.

The effect can be interpreted in terms of the Guthrie Teaching Styles Model (Guthrie 2011: 202-8). This Model presents five teaching styles from more to less teacher-centred. No one style is defined as 'better' than another, with such evaluations excluded as an external matter. The Authoritarian, Formalistic and Flexible teaching styles are all founded in revelatory epistemology and intergenerational knowledge transmission. The main role of the Authoritarian teacher is to enforce obedience to organizational norms (e.g., school rules). The Formalistic teacher is also hierarchical, formal and dominant but TCP is a route to transmittal of knowledge rather than to obedience as such. The Flexible style teacher uses limited variation in methods to transmit given knowledge while retaining a hierarchical role. The Liberal and Democratic styles are founded in scientific epistemology and knowledge

construction. Liberal teachers are essentially student-centred and base classroom activities around student needs. The Democratic teacher's role is to coordinate activities that promote students' self-concepts. Students are encouraged to make their own decisions and take responsibility for their own actions.

Teachers in the Cognitive and Affective Domains in the Typology continued to use the Authoritarian or Formalistic styles. In the Behavioural Domain, Surface Practice teachers in Category 6 used minor elements of LCP consistent with the Flexible style and knowledge transmission but deep elements of knowledge construction were not evident. A very few innovative individuals in Deep Practice Category 7 attempted to implement aspects of the progressive Liberal style but usually could not sustain them. Only the Cameroon example by Kuchah & Smith (2011) had elements of the Democratic style.

V. Implementation Constraints

When teachers and teacher educators reported on difficulties facing implementation, they commonly and realistically implicated difficulties from systemic classroom, school and contextual conditions beyond their control. In the 94 articles that Sakata et al. (2022: 10) cross-tabulated, thematic analysis identified a total of 718 LCP implementation enablers and constraints. The constraints, at 77%, far outweighed the enablers at 23%.

The numerous examples of constraints in the literature include a study in Nepal that used questionnaires with 327 primary teachers' and follow-up with 25 teachers in focus groups. Teachers claimed close alignment between their beliefs about classroom pedagogy and progressive reform goals but blamed endemic issues of instability and inequity for limited implementation (Ham 2020). In Eritrea, a qualitative study investigated 12 experienced secondary teachers' perceptions of LCP. The teachers expressed positive attitudes but identified many implementation barriers including a strong authoritarian culture, a content-laden curriculum, large class sizes, exam orientation by the students, lack of professional training, and lack of teacher knowledge about individual students as a barrier to identifying their individual needs (Tadesse et al. 2021). A formative evaluation of a well-supported NGO in-service training programme in five secondary schools in Malawi found from 24 teacher and head teacher interviews that all participants knew key concepts about active learning. Nearly all the teachers claimed they were competent to implement active learning and were doing so. However, all interviews identified key implementation challenges, including large classes, lack of materials, the use of English, long distances to school, and poverty (Altinyelkin & Hoeksma 2021). Claims about practical barriers that classrooms,

schools and systems generate for curricular changes are realistic responses to objective conditions.

Blame-shifting: One qualification comes from Jordan, where internationally influenced neo-liberal curricula included competency-based approaches to change from teacher-centred transmission and memorization to international models of student-centred and active learning to develop a knowledge economy. Al-Daami & Wallace (2007) surveyed 500 primary teachers about their involvement. Tight central control failed to engage allegiance to the changes. Tellingly, officials blamed failures on schools; head teachers blamed parents; and teachers criticized a curriculum that lacked relevance and failed to engage pupils. While practical barriers to classroom change are real issues, they can also provide a blame-shifting excuse for non-implementation of inappropriate reforms.

Conversely, a long-recognized pattern is for curriculum change agents to treat teachers as a constraint and blame them for non-implementation of inappropriate reforms (Vulliamy 1990). A case in point comes from Zabeli et al. (2018: 49), who found 'a rather superficial view' on classroom implementation in Kosovo and asserted that action should ensure,

> the existing but outdated values and practices are challenged in thoughtful but firm ways. Implementing a new philosophy …will not be sustained if previously held values are not changed to ensure that new practices are in congruence with the principles and practices of [LCP] (55).

VI. Research Literature Limitations

While objective conditions do inhibit implementation of LCP, lack of clarity about deeper cultural issues can contribute to confirmation bias in the research, to which some methodological limitations contribute.

Confirmation Bias: Teachers' knowledge of progressive reforms in the cognitive domain in the Typology and their espoused positive attitudes in the affective domain are routinely written up in evaluations and research studies as justifying further implementation efforts to overcome systemic constraints. Optimistic interpretation of weak self-report data as supporting LCP can indicate a propensity to confirmation bias, the well-recognized tendency for researchers to reach positive conclusions and journals to publish positive results that support theories rather than negative results (Oswald & Grosjean 2004).

An example of confirmation bias was a contracted evaluation synthesized case studies of USAID teacher in-service projects in Cambodia, Egypt, Jordan, Kyrgyzstan, and Malawi that assessed teachers' classroom behaviour using data from interviews and focus groups (Ginsburg 2009). Teachers could articulate active learning policies, from which changes in classroom behaviour were inferred. Only the Egyptian

study added systematic classroom observation, however changes were modest. The conclusion went beyond the data to claim that real classroom change did occur and that it should be supported by more targeted financial inputs. Despite lack of classroom take-up, Schweisfurth (2013) argued for an emancipatory role for progressivism on the grounds that human rights arguments rise above research evidence about reform failures so that the effort to implement LCP 'must go on' (5). A somewhat extreme example of optimism was based on the apparently successful introduction of LCP in Iraqi Kurdistan, which involved university researchers working with just three teachers (Burner et al. 2017). On this slim basis, the recommendation for the whole of Kurdistan was that LCP topics should be part of teacher education and in-service practicum, and textbooks and classroom furniture should be adapted to LCP to smooth a transition phase from traditional teaching.

Weak Data: Three research methodology limitations can contribute to confirmation bias. As discussed above in Section III, one limitation is that positive evidence about espoused beliefs can come from questionnaires, interviews and focus groups where teachers may perceive the role of the educational researcher as embodying a power relationship that could operate to their disadvantage, particularly when the research is evaluating official policies.

Lack of Triangulation: A related limitation can be lack of triangulation of claims about classroom implementation espoused by teachers outside the classroom with evidence collected inside their classrooms. When mixed methods research did triangulate teacher self-report data with classroom observation of the same teachers, extensive evidence was of teachers with knowledge of and/or espoused positive attitudes about LCP, however observation found the same teachers' classroom theories-in-use involved TCP (above, Typology Category 4 refers to examples in 35 countries). Even when observation finds teachers apparently use reform methods, caution is needed. Examples occurred of teachers changing their classroom behaviour when supervised or when observed by researchers, including in China (Yan 2018), Indonesia (Sopantini 2014), Senegal and Tanzania (Bold et al. 2017) and Uganda (Wenske 2021).

Hawthorne Effect: A third methodological limitation is that the Hawthorne Effect during pilot projects and curriculum trials can provide an initial appearance of success deriving from the attention the trial brings to participants rather than the substance of the trial itself. Lack of evidence about longer-term sustainability arises in part because the published literature has many formative evaluations of classroom change and few summative evaluations. A major exception was a review of grey literature in Indonesia by Cannon (2017), who identified completion reports on 91 education sector aid projects from 1971 to 2017 using evaluations commissioned by donors about their own projects and therefore vulnerable to positive bias. Even so, only about half the projects were considered sustainable or likely to be (i.e., had identifiable outcomes continuing at or near the completion of donor inputs). The projects that targeted primary or secondary schooling were no more successful than those targeting other sub-sectors. One school example was an ex post facto evaluation of a UK project on active learning by Malcolm et al. (2001), which found some adoption of active learning principles but only in superficial ways, such as arrangement of desks. There was little or no evidence of deeper adoption, change from teacher transmission of knowledge, or sustained usage. Overall, the figures that Cannon identified were highly consistent. With a sustainability rate of only half, different types of project had no more than a random 50:50 chance of long-term success or failure.

VII. Reverse Engineering

Teachers' constructs classify their reality under the influence of their cultural, social and educational environments. The classroom evidence that illustrated the Typology is consistent with Rogers' analysis of adoption of innovation. While espousing progressive attitudes can be professionally expedient for teachers, and while there are real systemic constraints, non-adoption as theories-in-use can be a reasoned response to complex changes that offer no relative advantage, are not compatible with existing methods, are complex, and offer no observable outcomes for clients, such as students and parents concerned about exam results. One implication is that teachers are more likely to adopt classroom methods consistent with their own cultural values rather than foreign ones.

Positive Deviance: The 'reverse engineering' analogy is with engineers who take a product apart to see how it was built and then copy it. The underlying concept is 'positive deviance'. The basic assumption is that better local practices will be more easily adopted than those from elsewhere. The concept came originally from public health (Zeitlin 1991) and was taken up in business studies (Pascale & Sternim 2005), although a study in Palestine that triggered the analysis in this section is rare in education. Yarrow et al. (2014) used a grounded approach to identify successful teaching practices in Palestine. Using data on 122 primary and secondary schools, and after controlling for student, school and community characteristics, teachers with high-performing classes used a different mix of practices compared to teachers with low performing classes. The practical aim of reverse engineering is as a form of action research to identify which teaching methods are associated with high student results and

then to spread those methods to other teachers through in-service training.

Research Design: The starting point for reverse engineering is student learning. The next step is to work backwards to identify which teaching practices correlate positively with student learning in a particular context. This knowledge can then help generate culturally-informed in-service and curriculum development. A research design for field experiments in Figure 2 conceptualizes separating classes into high- and low-achieving ones to establish which teacher practices are associated with high student outcomes compared to other teachers with similar resources but low outcomes. A control group of classes is identified with low learning results, for example classes where mean results are in the lowest quartile on high stakes public exams. An experimental group is identified with mean results in the

top quartile. The two groups are otherwise matched as much as possible on other variables (e.g., school location, student socio-economic status, teacher qualifications and experience).

Classroom observation identifies teaching methods in as much detail as possible, especially time-on-task, percentage of teacher talk, type of questions, types and extent of student activities, and amount and types of assessment and feedback. The teaching methods in both groups are correlated with student results to identify which techniques are and are not associated with higher results. This information can provide the basis for in-service programmes that encourage teachers to use the techniques that do improve student performance and to lessen use of techniques that do not contribute.
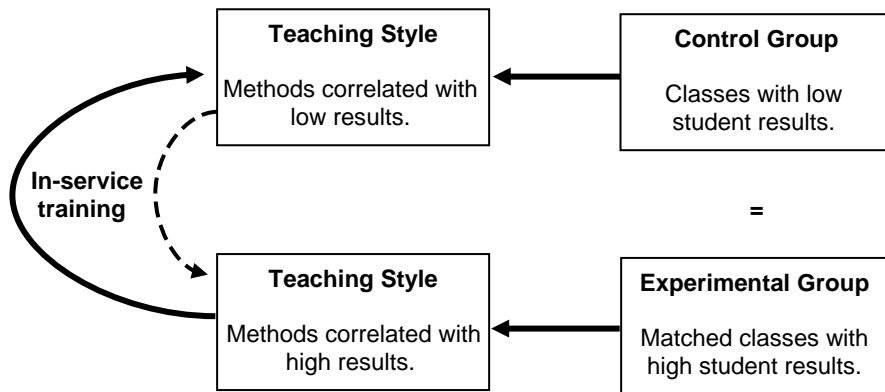
Source: Guthrie (2021, Vol.2: 209).

Figure 2: Research Design for Reverse Engineered Field Experiment

The effect for practical classroom research is a synthesis that takes account of the failure of 'global best practice' LCP policies to generate top-down classroom change in developing countries and recognition that improvements to local versions of TCP are more likely to be adopted by teachers in formalistic systems than are progressive imports.

VIII. Conclusion

The Typology of Teacher Reactions to Curriculum Reforms helps interpretation of the many complexities in the research evidence about curriculum adoption or non-adoption by classroom teachers. While knowledge of a reform is a necessary precondition for attitudes and implementation, conformity espoused in the affective domain may not interface neatly with theories-in-use or classroom practice in the behavioural domain. Expedient responses by teachers to perceived professional pressures may not predict classroom adoption. Objective constraints may provide a blame-shifting excuse for non-implementation. Even genuine commitment by teachers may not be a predictor of successful implementation in the face of overriding

objective realities provided by schools, classrooms, communities and education systems, as well as underlying cultural values. Surface classroom adoption may not reflect teachers' underlying antithetical beliefs, while deep practice may not be sustained.

Serious mismatches often occur between the progressive curriculum paradigm of change agents (with which teachers may find it expedient to express support) and teachers' formalistic paradigm (founded in deeply engrained cultural values and cultural epistemologies that provide foundations for their classroom behaviour). The potential for paradigm shift by teachers becomes mediated through attributes such as Rogers' (2003) perceived relative advantage, compatibility, complexity, trialability, and observability to clients. The effect is that classroom changes are more likely to be adopted as long-term practice if they fit teachers' constructs and are successful in their own terms. The effect seen in the examples that illustrated the Typology was that teachers rarely did more than add minor elements of LCP to their existing TCP. The longer-term perspective is that traditional formalistic paradigm behaviour usually overwhelms the progressive curriculum paradigm and

any initial appearances of paradigm shift do not survive. In contrast, improved formalistic techniques, such as identified through the research design for reverse engineered field experiments could have a relatively easy path to adoption because they are compatible with teachers' constructs.

One effect is a failure for paradigm reversal to occur among adherents to the progressive paradigm despite the widespread evidence of its failure to generate paradigm shift from formalism in developing country classrooms (Guthrie 2015; 2017). Formalistic teachers in developing countries can have culturally-valid reasons not to maintain LCP reforms as routine practice. Any reluctance to change may be heightened when curricula involving LCP require teachers to make fundamental changes to long-standing cultural constructs that value TCP. Such constructs can provide stability in education systems marked by inappropriate curriculum reforms. Lattimer (2019) summarized this perspective:

> rather than criticize the often-blamed 'lack of resources' or 'systems that are resistant to change' or 'teacher intransigence' for reform failures, … the blame [is] squarely on the cultural hegemony of the reforms themselves … the priorities and expectations that guide progressive educational reforms are inconsistent with the traditional and current values of many of the cultures and communities where they are being imposed.

Rather, the Typology can direct attention to treating TCP as authentic and encouraging teachers to improve it.

A sceptical approach to claims about the relevance of and progress on implementation of LCP curriculum reforms seems justified. The need is to understand how teachers and students perceive innovation so that change efforts are consistent with their beliefs about education and how to improve teaching. As Chafi et al. (2016: 135) wrote, 'cultural models are not true or false, may or may not be logical or rationale, may not be realized or conscious, but are very real and instrumental in guiding thought and behavior'.

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Unveiling Radical Mediation: Navigating Body- Mind, Affect, and Technology in Media Literacy

By Fátima Regis

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Abstract- Combating disinformation, fake news, and hate speech has become one of the main challenges for media literacy studies. Recent research reveals that affective/emotional factors and confirmation bias prevail in how users interact with media content. This paper draws on the conceptions of the affective turn (Clough, 2010), the embodied mind (Varela 1990), and the concept of radical mediation (Grusin, 2015) to demonstrate how the body and affect act in interaction with the media, producing a kind of intensification of affective interpersonal relationships, generating states of mind that circulate and influence people's reactions to facts and opinions. It highlights how non-conscious aspects affect conscious thinking. It is concluded that strategies based on rhetorical and sociolinguistic structures are insufficient to combat disinformation. It is necessary to carry out inter and transdisciplinary research that adds bodily and affective factors to the ways in which users engage with the media.

Keywords: media literacy, afecctive turn, embodied cognition, radical mediation, fake news, disinformation, hate speech, cognitive psychology, media consumption, information processing.

GJHSS-G Classification: LCC: P87-96

UNVEILINGRADICALMEDIATIONNAVIGATINGBODYMINDAFFECTANDTECHNOLOGYINMEDIALITERACY

Strictly as per the compliance and regulations of:

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I. Introduction

Combating misinformation, fake news and, hate speech have become a main challenges for media literacy studies today. The proliferation of fake news and disinformation campaigns has prompted the emergence of new terms – news literacy; news appreciation; news media literacies (Fleming, 2014) – and new theoretical-methodological approaches to media literacy to investigate how people deal with news from different media (Murrock et al., 2018; Sangalang et al., 2019; Walter and Murphy, 2018; Moravec, Minas and Dennis, 2018).

Moravec, Minas, and Denis (2018), for example, conducted an experiment collecting behavioral and EEG data from 83 social media users to understand whether they could detect fake news on social media. They found that confirmation bias prevails and that most users cannot distinguish true from false information. The findings showed that users have more significant cognitive activity when news aligns with their political opinions. They also demonstrated that users are more likely to believe news that converges with their beliefs. The findings by Moravec, Minas, and Dennis show that people "stop thinking" about topics that go against their pre-established beliefs, as stated below:

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First and foremost, future research needs to understand how we can overcome confirmation bias in the use of social media. Our results show that once users recognize that a headline challenges their a priori beliefs, they stop thinking about it. In other words, confirmation bias is so strong in social media use that users simply stop thinking about information they don't like. In the era of fake news and intentional disinformation campaigns, people may be more reluctant than ever to challenge their closely held beliefs when presented with new information that may or may not be true. Yet, in a democratic society, we need to base our discussions and decisions on facts, not on what we want to be true. Unfortunately, social media users are often in a hedonistic mindset (Johnson and Kaye 2015), and individuals in a hedonistic mindset may be less likely to consider information critically than those in a utilitarian mindset, as their consumption is tied to what they desire reality to be (2018, p. 20).

The prevalence of confirmation bias in the phenomenon of misinformation and fake news in social media directly affronts efforts in the field of media literacy. People seek information that confirms their beliefs and reject divergent information and content, thus producing a stagnation in the possibility of critical reflection and qualified debate of ideas. This refusal of a reflective and critical discussion on the content conveyed by social media is intensified by the modus operandi of the algorithm that feeds back the contents that reinforce similar opinions, making it difficult to dialogue between different ideas and thoughts. Ultimately, as Moravec, Minas, and Dennis (2018) and Fleming (2014) argue, confirmation bias threatens democracies, the plurality of speeches, and diversity of opinions, favoring hate speech, fear, and intolerance.

As the spread of fake news and disinformation content grows, so does research looking for strategies to counteract misinformation, such as Murrock et al., 2018; Walter and Murphy, 2018; Sangalang et al., 2019. The point to which we intend to draw attention in these Media Education studies is that, although they demonstrate that there is the primacy of affect/emotion and confirmation bias in people's interpretation and engagement with the news in their daily lives, they promote actions of combat misinformation without engaging in a broader and more up-to-date discussion of affect/emotion concepts and how they affect media interactions.

The studies build their strategies to combat disinformation based on rhetoric, storytelling, and media planning (analysis of message characteristics and

information design; narrative structures, knowledge about media companies; knowledge of the target audience, and others). Thus, proposals on combatting this type of discourse and which media education strategies to adopt do not include the affective and material factors that condition media consumption. In doing so, they ignore recent research findings that discuss how affective intensities modulate individuals and collectivities in interactions with contemporary media systems (Massumi, 1995; Ahmed, 2004; Clough, 2010; Grusin, 2010; 2015). Brian Massumi, Sarah Ahmed, e Richard Grusin are some of the authors who have published theoretical and experimental research arguing about how sensory and affective factors affect, in a non-symbolic way, engagement with the media, that is, how non-conscious factors interfere in the media consumption process.

Researchers of the autonomy of affect (Massumi, 1995) and the media (Grusin, 2010) explain how modulations of affective intensities occur in links with the media. Grusin draws on Daniel Stern' (1998) studies on affective attunement to show that our interactivity with the media produces a type of intensification or reduplication of affective interpersonal relationships that he called distributed mediation (2010) and, later, radical mediation (2015). Brian Massumi draws on experimental research in neurosciences to demonstrate that affects not only DO NOT converge with the production of meanings (sociolinguistic and intersubjective field) but are opposed to it. We learn from these authors that theories that give primacy to content factors, sociolinguistic approaches, and sociocultural representations are NOT sufficient to explain the processes of learning, communicating, and socializing. This statement is game-changing because, in the social and human sciences, due to the strong tradition of privileging more qualitative, symbolic, and subjective approaches and methods, there is a resistance to adhering to studies that explain how non-conscious factors affect our decision-making processes and conscious states. This paper aims to fill this gap in the collaborate with studies on media literacy, bringing to the debate how bodies and affects act in the interaction with the media, thus highlighting how non-conscious aspects affect consciousness. The proposal is not to disregard the importance of conscious thinking and critical reflection. It is about refining the debate by highlighting vital factors that have been ignored when we prioritize interpretation, symbolism, and representation.

The research question that will guide the present text is how radical mediation and affect theory can help us understand non-conscious interactions between people and media, opening up new research possibilities for media literacy studies.

The text is organized into two sections. The first presents the main concepts and authors of a new approach to affects and emotions: the affective turn. Theorists of the affective turn counter-argue the socio-constructivist approaches (which explain the formation of opinions and construction of meaning only from the discourse, the symbolic, and the sociolinguistic) and bring to light how bodily, material, and affective factors act in the conscience. In this section, we will also discuss how the theorists of the affective turn are aligned with the current precepts of the discussion about the embodied mind, which demonstrate that the body/mind acts in constant tune with the material and social environment, through the flows and exchanged intensities, including affects and other non-conscious factors. This discussion allows for new formulations involving modulations between body-mind and media technology. For this reason, in the second section of this text, we will approach how technological devices, including social media, permeate the exchanges between body-mind, media, and environment. Thus, the media system can intensify the proliferation of affects and moods between humans and non-humans, producing what Grusin calls distributed mediation (2010) or radical mediation (2015), that is, the production of dynamic assemblages and heterogeneous, composed of various technical, social, aesthetic, economic and political elements that merge and regroup in changing, but relatively stable formations, distributed throughout society.

II. The Affective Turn: Tuning in with Body-Mind, Affects and Environment

Studies on affect and emotion have a long tradition in the humanities. Over the centuries, they were treated by philosophical approaches, with Aristotle, Baruch Spinoza, Gilles Deleuze, and Félix Guattari being some of their greatest exponents. Recently, cognitive psychology and neurosciences have developed experimental research, launching new perspectives for these studies. Today, even researchers in the social sciences and humanities rely on empirical research findings to address these issues. Since at least the 1990s, neuroscientists such as António Damásio (1994; 2004) and Joseph Ledoux (1996) have defended the inseparability between cognition and affect and/or emotion, emphasizing the importance and precedence of affect and/or emotion concerning aspects of conscious thought.

In the early and mid-1990s, a new approach to affects and emotions – the affective turn – gained expression in critical theory and cultural criticism studies. Theorists of the affective turn counter-argue socio-constructivist assumptions (which privilege structures of meaning, discourse, and sociolinguistic factors), and emphasize the importance of the materiality of the body and the world in the cognitive

processes. In opposition to socio-constructivism, according to Patricia T. Clough (2010, p. 207):

> The turn to affect points, instead to [socio-constructivism] a dynamism immanent to bodily matter and matter generally – matter's capacity for self-organization in being informational – which, I want to argue, may be the most provocative and enduring contribution of the affective turn.

The originality of the contribution of some thinkers of the affective turn, such as Brian Massumi, Sarah Ahmed, Eve Sedgewick, and Patricia Clough, was to be inspired by the conceptions of body, virtual, and affect present in the philosophical works of Henri Bergson, Deleuze & Guattari and Spinoza and, to integrate them with the concepts of self-organization of the matter present in the researches of experimental science of Ilya Prigogine and Isabelle Stengers (1997), in the ideas of enaction of Francisco Varela (1990) and the works of psychic, biological and collective individuation of Gilbert Simondon (1958). This theoretical-methodological approach gave concreteness to the discussion about the interactions between body, matter, and thought, understanding them as concrete, situated, and coupled to the surrounding environment. In other words: by relying on complexity theory, the precepts of embodied cognition, and the principles of individuation/ontogenesis, thinkers of the affective turn brought the philosophical discussion about the actual/virtual to the concrete. They allow thinking about the virtual-actual relationship in the concrete, in the field of self-organization of matter; enable us to understand that bodily matter (and matter in general) encompasses the environment and is self-organizing, that is, it can alter its own structure. In this way, the affective turn combines the philosophical discussion of the virtual with the sociotechnical discussion of interactions between humans and non-humans, allowing a new formulation of body-mind affectations with media-technology.

If one wants to understand how the affective turn became possible, it is necessary to understand the changes in conceptions about what is a body and what is a mind that occurred in recent decades.

Patricia Clough (2010, p. 206) explains that the affective turn, as well as post-structuralism and deconstruction, points to the discontinuity of the subject with himself, to a discontinuity of the subject's conscious experience with the non-intentionality of emotion and affect. The difference from previous approaches (such as post-structuralism and deconstruction) is that the affective turn proposed a substantive change in that it brings the bodily matter back to debates in critical theory and cultural criticism. This process of bringing bodily matter back will allow us to understand how organic factors and affective intensities interfere with conscious processes, favoring the formation of moods that, in turn, will produce the propitious terrain for fake news and misinformation. This return to the bodily matter was inspired by the scientific advances that have taken place since the mid-twentieth century.

In 1950, Norbert Wiener, the father of cybernetics, published *The Human Use Of Human Being* (*Cibernética e Sociedade,* 1954), a work in which he made an innovative appropriation of William Shannon's concept of information. François Jacob sums up Wiener's ideas this way:

> In an organized system, living or not, the exchanges, not only of matter and energy but of information, unite the elements. (...) any interaction between the members of an organization can then be considered a communication problem. (...) Any organized system, a society, an organism, or a machine, can be analyzed by referring to two concepts: the message and the feedback regulation. (1983, p. 255).

What was innovative in Wiener's thinking is that, by treating the concept of information as an entity for the organization of systems, living or not, the father of cybernetics climbed an essential step to think about the continuity between life and inert matter and between body and mind, inspiring other sciences.

In *The Logic of Life* (*A lógica da vida*, 1983), François Jacob explains that biology was inspired by the cybernetic concept of information to advance studies on the interpretation of chromosomes, thus revealing how information is processed at the molecular level. At that time, biology divorced itself from the idea of vital energy shared by all living beings and it began to explain the living being as a system that processes and exchanges information with its environment. According to François Jacob, since then, biology postulates that organs, cells, and molecules exchange messages through biochemical interactions, creating a communication network.

François Jacob explains that today the organization of living systems obeys a series of physical and biological principles: natural selection, minimum energy, self-regulation, and construction in 'levels' by successive integrations. Any living system is the result of a certain balance between the elements of an organization that is ordered based on the idea of architecture in levels. Components at a lower level interact and integrate with each other while integrating at a higher level. Instead of being an inexplicable product of "vital energy", life emerges from the association of inorganic elements that undergo a series of enzymatic reactions, transforming into specific molecules. Several stages of successive interactions follow until the constitution of a living being. The variety of the living world, the extraordinary diversity of forms, structures, and properties observed at the macroscopic level are created from the combination of a few molecular species, that is, in extreme simplicity at the microscopic level (Jacob, 1998, p. 112-113).

By discovering how information is processed at the molecular level, biology eliminated the possibility of vitalism. Today, there is no other explanation in biology

for the phenomena of life other than physical-chemical reactions. By using concepts from cybernetics, molecular biology helped build the theoretical and practical foundations of a non-classical physics, the physics of complex systems. For complex systems, life is understood as a self-organized system whose complexity emerges from the interaction between the simple elements of matter, which, under conditions of dynamic equilibrium, generate properties that are irreducible to the simple parts of matter *(Prigogine and Stengers, 1997; Oliveira, 2003)*.

As Patricia Clough (2010, p. 207-208) ponders, the concept of body is always a historical construction that arises from the organization of material, political and economic forces, from scientific and technological discourses and innovations, and reconfigure our subjectivities, bodies, work, and reproduction. Thus, the rearticulations in the technical, cultural, aesthetic, political, and economic spheres from the mid-twentieth century to the present day give rise to a new conception of the body: the self-affective or self-organized body, that is, the body inseparable from its medium, capable of self-organization, which is coupled to the environment, exchanges information with the environment and modifies its own structure from the modulation with the environment. (Oliveira, 2003, p. 162; Clough, 2010, p. 208). Patricia Clough calls this new conception of the body the biomediated body. Luiz Alberto Oliveira explains how this biomediated (or self-organized or self-affective) body, which is in a constant exchange of matter, energy, and information, impacts the interaction between individuals and their environment: "The theory of complex systems will therefore invoke not relations between already constituted, finalized individuals – relations defined from the properties of these 'ready' individuals –, rather what can be called *connective potentialities*, the foundation of an immanent capacity to engender structures, to produce forms" (2003, p. 156).

The new concept of the body (and of a living being) also brings matter and thought into contact. The body that processes and exchanges information with the environment also remaps the human cognitive domains, opening new perspectives for mind-body articulations.

Also in the wake of the cybernetic wave, in the period between 1946 and 1953, the Josiah Macy Foundation promoted a series of 10 conferences, bringing together mathematicians, logicians, engineers, physiologists, neurophysiologists, psychologists, anthropologists, economists, and other specialists. The purpose of the conferences: to build a general science of how the mind works (Dupuy, 1996, p. 9). Thus, were born the cognitive sciences: a broad field of knowledge made up of different disciplines, composed of theoretical and experimental approaches, sometimes contradictory to each other. Cognitive sciences call into

question important precepts, some millenary, about the nature of the human mind, its way of operating and its relations with the world, and, consequently, the very definition of human.

What we might call a proper cognitive turn would come in the 1970s and 1980s. At that time, researchers in cognitive psychology, evolutionary biology, neurosciences, and artificial intelligence observed that it was relatively easy to simulate on computers tasks that required traditional intelligence (decision-making, logical-mathematical reasoning), but it was extremely complicated to automate activities that humans do without thinking (walking, handling objects and recognizing a person). The long tradition of Western thought leads us to believe that the activities of the higher intellect, in particular those that require logical-mathematical reasoning, are more challenging to carry out than tasks that depend on the body and sensory functions. Studies in cognitive science and evolutionary biology have added new shades to the problem.

These studies claim that the sensorimotor system of humans – responsible for the activities we do automatically, such as breathing, walking, and handling objects – occupies most of their brains and results from two billion years of evolution *(Moravec, 1988)*. Daniel Dennett (1996, p. 13) explains that, while walking over rough terrain, our body performs – organically, non-consciously – various calculations to adjust the length of our stride. Therefore, many tasks that we perform "without thinking" depend on complex calculations that, after two billion years of evolution, have become automatic. Hans Paul Moravec estimates that the process we call "mind" is only possible because it is supported by the oldest and most potent knowledge of sensorimotor mechanisms. Human intelligence is developed on the solid rock that is the sensorimotor system. Therefore, our higher cognitive faculties are sustained in the lower layers: "Organisms that do not have the ability to perceive and explore their environments – such as plants – do not seem to acquire the capacity to develop intelligence", concludes Paul Moravec (1988, p. 16).

Cognitive science demonstrates that our mind is embodied and situated. It relies on non-conscious processes originating from the solid rock that is our sensory-motor apparatus and modulates itself according to the surrounding environment. Thus, the operations we call reason and/or mind encompass conscious and non-conscious factors, and the concept of cognition can be understood in a much broader view than the traditional one. In the words of Lakoff & Johnson:

> In cognitive science, the term cognitive is used for any kind of mental operation or structure. (...) Thus, visual processing falls under the cognitive, as does auditory processing. (...) Memory and attention fall under the cognitive. All aspects of thought and language, conscious or unconscious, are thus

cognitive. Mental imagery, emotions, and the conception of motor operations have also been studied from such a cognitive perspective.

(...)

Because our conceptual systems and our reason arise from our bodies, we will also use the term cognitive for aspects of our sensorimotor system that contribute to our abilities to conceptualize and reason. (1999, p. 11-12)

Based on the authors of the cognitive sciences (specifically the embodied cognition and enaction approaches), we were able to relate the principles that characterize a cognitive turn in Western thought: 1) the mind is embodied and infolds the environment: it is the product of the complex interaction between brain and body (including intensities, affects and perceptions), added to the attunements with the environment (people and objects); 2) cognition is situated and depends on the context and lived experience; operates from our relationship (with objects and people) and exploration of the world around. In short: the mind involves the environment, and conscious cognitive processes are affected by affective and non-conscious intensities of our body in constant modulation with the environment. (Clark, 2003; Varela, 1990; Varela and Thompson and Rosch, 2001; Oliveira, 2003; Massumi, 1995; Stern, 1998; Grusin, 2010; Lakoff and Johnson, 1999).

The biomediated or self-organized body is the body that, under the theoretical foundation of complex systems, can connect with the environment, exchanging matter, energy, and information, allowing itself to self-affect and change its own structure. It is this capacity for connectivity of the self-organized body that theorists of the affective turn invoke to understand how affect and other non-conscious bodily intensities affect conscious processes. It is important to highlight so we make no mistakes: the flow of information and the potential connections here do not refer to any kind of symbolic, representational, or sociolinguistic field. It is about intensity and flow at non-conscious levels, organic and non-organic intensities, putting life, matter, and thought in contact, that is, body-mind, technology, and world.

Despite the fact that the advances in cognitive sciences and the affective turn already accounted for decades, in studies on media and education, we do not usually give due importance to this cognitive and affective revolution. In a seminal work for the area of Media Literacy, Joan Ferrés and Alejandro Piscitelli make a reflection that seems to go unnoticed: the authors question whether any proposal for debate on media education that does not consider changes in the concepts of mind is insufficient:

Among educators, there tends to be much more predisposition to incorporate the changes produced by the technological revolution in the teaching-learning processes than to assume the contributions of the neurobiological revolution.

Neuroscience has turned many of the beliefs about the functioning of the mind held for centuries in Western culture upside down. Based on neuroscience, we are urged to change the way we think about ourselves forever. In educational praxis, we seem much more willing to change the way we think about the media than to change our view of ourselves as interlocutors of those media.

The changes that neuroscience refers to have to do especially with the influence that emotional and non-conscious processes have on the conscious mind. In the practice of media literacy, attention is only paid to these processes. Therefore, education for the media is insufficient and focuses exclusively on conscious processes, because today we know that consciousness can only be understood if we study the non-conscious processes that make it possible, in the words of neurobiologist LeDoux (1999, 32). (Ferrés & Piscitelli, 2012, p. 78)

Ferrés and Piscitelli call for discussing emotional and non-conscious processes in the conscious mind. However, despite the great repercussion of the text in more than 20 countries in Portuguese and Spanish, we did not find evidence of such a debate in the areas of Communication and Education.

a) On Affects, Emotions, and Society Moods

The concepts and interrelationships between the terms affect, and emotions have been studied by researchers from different areas, such as philosophy, psychology, and health sciences, who attribute different meanings to them.

We start from the phenomenological philosopher Nathalie Depraz (1999) to differentiate affect and emotion. Depraz (1999) begins from the etymological roots of the Latin word affectio to explain that the words affection, affectation, and affectivity originated from it. Depraz (1999, p. 122) explains that affect is everything that reaches us from the environment in which we are inserted, it is what arrives, what is imposed. Thus, affect is relational, that is, it is shaped in the environment surrounding, in relationships with other people and material objects. Emotion, on the other hand, derives from the word ex-mover, the same origin as moving, putting oneself outside oneself. Emotion is a way of expressing our body. Before we can reflect or even name what we are feeling, we already express ourselves bodily, through emotions. According to Depraz, what affects us produces some kind of movement or emotion, and this emotion is not separated from the affect that created it. Affect is caused by a situation/environment that evokes an emotion.

Aligned with this distinction, says the American researcher Jonathan Flatley: "emotion suggests something that happens inside and tends toward outward expression, affect indicates something relational and transformative. One has emotions; one is affected by people or things." (Flatley, 2008, p. 12).

Brian Massumi also differentiates affects from emotions, but Massumi goes further. In his work, *The Autonomy of Affect* (1995), which has already become a classic of the affective turn, Brian Massumi brings together data from experimental research in the neurosciences with the philosophy of the virtual to defend his thesis of the autonomy and precedence of affective intensities over conscious factors.

For the Canadian theorist, affects are characterized as bodily responses, autonomous responses; they are intensities that overflow the conscious states of perception and point to a "visceral perception" prior to conscious perception (Massumi, 1995). But this visceral perception is not to be confused with bodily effects, as explained by Clough:

> But if this reference to autonomic responses seems to make affect the equivalent of the empirical measure of bodily effects, registered in activity such as the dilation of pupils, the constriction of intestinal peristalsis, gland secretion, and galvanic skin responses, Massumi uses such measures for a philosophical escape to think affect in terms of the virtual as the realm of potential, unlivable as tendencies or incipient acts, indeterminant and emergent (Clough, 2010, p. 209).

Patricia Clough explains that, for Massumi, the affective turn is an opportunity for the body to open up to its indetermination, the indetermination of autonomic responses. The author defines affect in terms of its autonomy in relation to conscious perception, language, emotion, and any attempt to capture its meaning symbolically. He proposes that if conscious perception is to be understood as the narration of affect – the case of emotion, for example – there is always, however, an autonomous remainder that will never be conscious, "a virtual remainder," an excess of affect (Massumi *apud Clough*, p. 209). Furthermore, it is this excess from which the narration of emotion is "subtracted", retrospectively smoothing it "to fit conscious requirements of continuity and linear causality" (Massumi *apud Clough*, p. 209). Consciousness is "subtractive" because it reduces complexity. Affect and consciousness participate in a virtual-actual circuit, in which affect is virtual and emergent. Massumi takes up Bergson's pair virtual/actual (1988) to characterize affect as virtual, with the duration of a fraction of a second (precisely because it lasts) that becomes present, updates itself into something new, transforming what is current. Affect thus operates in the ambiguity between virtual/actual (Massumi, 1995, p. 96). Patricia Clough points out that Brian Massumi, and also Francisco Varela, treat this fraction of a second, this ambiguity between virtual/actual, as a phenomenon of self-organization (2010, p. 213). Clough relies on Mark Hansen to explain Massumi's analysis through Varela's neurophenomenological research. For Hansen, Varela's analysis opens "to the microphysical domain in an unprecedented way" (*apud* Clough, 2010, p. 250) and, therefore, it shows the function of affectivity" in the

genesis of time-consciousness: "as affectivity" the effort of human beings to maintain their identity with the basic body of (human) life. In short, affectivity comprises motivation of the (human) organism to maintain its autopoiesis over time" (Clough, 2010, p. 213).

Affect is synesthetic and acts beyond the body, encompassing the environment. Emotion, on the other hand, is confined to the body and is likely to be expressed, represented, and/or captured by sociolinguistic configurations. The interest of the affective turn to the fields of communication, education, and media literacy is that, as it is relational, affect carries the potential to produce moods, that is, a kind of affective atmosphere under which intentions are formed, designs drawn, and particular affects can be attached to specific objects. Flatley ponders that "If a person is anxious, for example, things in the world are more likely to seem frightening to him, if he is curious, new objects may seem interesting to him" (Flatley, 2008, p. 19).

To understand the importance of affect to the scenery of the proliferation of fear, hatred, and fake news through social media sites, for example, it is helpful to consider Flatley's reflection that "Mood provides a way to articulate the shaping and structuring effect of historical context on our affective attachments" (Flatley, 2008, p. 19). Thus, retweets and shares on social networks are duplicated and amplify trolls, making them occupy space and become the mood of society.

In the last two decades, cultural, literary, and media theorists have dedicated themselves to studying affect as a component of cognition in interacting with the media. These authors understand the action of affect as "pre-individual bodily forces augmenting or diminishing a body's capacity to act and who critically engage those technologies that are making it possible to grasp and to manipulate the imperceptible dynamism of affect" (Clough, 2010, p. 207). Brian Massumi, to take an example, relies on philosophers (Gilles Deleuze and Félix Guattari, William James, Henri Bergson) and on the neuroscientist Hertha Sturm to elaborate his theory of the autonomy of affect and defend the primacy of affect in the interaction with images of video (Massumi, 1995). Massumi's interest in the research developed by Sturm is to show that not only the body is affected by images, but also that the meaning of a conscious content is affected by bodily and non-conscious states. Both levels, quality of the image (image's content; its intersubjective context; sociolinguistic meaning) and intensity (strength or duration of the image's effect on the body), are immediately embodied. In other words, what the theory of the autonomy of affect teaches us is that the (conscious) interpretation we make of the image does not coincide with the (non-conscious) ways in which the same image affects our body. This ambiguity between conscious interpretation and how a message affects our body (and therefore consciousness) may

help to explain, for example, opacity and even a lack of rationality and critical reflection in situations of sharing disinformation, speeches of hate, and fake news today.

III.   Media and Radical Mediation: Connecting Body, Mind, Affect, and Technology

Seeking to understand the relationships between affect and media in contemporary society, especially after September 11, 2001, media theorist Richard Grusin (2010) used the research of Andy Clark and Daniel Stern to propose his conception of a distributed mediation (in 2015, became radical mediation) from the concepts of distributed mind and distributed affect.

Grusin builds on Andy Clark's ideas in *Natural Born Cyborgs* (2003). In this text, Clark explains that the mind/body, technologies/environment interaction is not a linear division of tasks, but a process of connectivity, made possible by the incredible plasticity of our brain/body that is modulated in contact with technology and the environment (self-organization). Based on experimental research in the field of cognitive psychology and neuroscience, Clark (2003) explains that the thumbs of young people under 25 years of age are more muscular and dexterous than other fingers, simply as a result of the extensive use of electronic controllers of portable games and cell phones. Clark argues that from these thumb adaptations, new generations of phones will be designed around this greater agility, leading to more changes in manual dexterity.

Clark establishes this integration between mind/body and the sociotechnical environment with the concept of feedback loops:

> In all the cases we have examined, what matters are the complex feedback loops that connect action-commands, bodily motions, environmental effects, and multisensory perceptual inputs. It is the two-way flow of influence between brain, body, and world that matters, and on the basis of which we construct (and constantly re-reconstruct) our sense of self, potential, and presence (Clark, 2003, p. 114).

According to Clark, it is through influence flows (action commands, body movements, multisensory perceptual data) between the brain, body, and world that the mind/body tunes/modulates with the environment (material and social environment).

Grusin starts from studies on feedback loops developed by Clark to work on his concept of distributed mediation. The American theorist observes that the feedback loops described by Clark (2003) operate in the same way as what the neuropsychologist Daniel Stern (1998) called affective attunement. According to Grusin, from his groundbreaking research on child psychology in the 1980s, Stern demonstrated that in the child's

interpersonal world, the sense of self arises through cross-modal affective sensations or experiences, both with other people and with other things. Stern holds that the child's sense of distinction between self and other, as well as the unity of perception and the connection between perceptions and a world of people and things, is created and grounded at a very early level of psychological development and affective experience of the baby (Stern *apud* Grusin, 2010, p. 95).

Grusin relies on this description of affective attunement studied by Stern to assess the impact that this mode of operation of affects can have on media environments. The media theorist ponders that what is particularly intriguing in Stern's account is that he considers "that the pattern or cross-modal affective mapping is basic to our interactions with the world since childhood" (Grusin, 2010, p. 95). He explains it like this:

> From the perspective of affective attunement, sound film or TV become crucial forms of affect modulation because of the way in which they couple visual and auditory patterns or sensations, as well as the way in which they present audiovisual images of the affective states of other people. Even more complexly in some sense, video games (and interactive media generally) would seem to work as modes of trans-modal or cross-modal affective and cognitive modulation by adding touch to sight and sound, so when you move your avatar in a game, for example, or use your mouse to move the cursor on the screen of your PC, or manipulate the touch screen on your iPhone, you are adding cross-modal patterns of touch to the coupling of sight and sound. That is, the haptic movement of hand on controller, along with other bodily/muscular movements involved, produces a change in the medial other, in both the user's avatar or cursor and the other human and nonhuman actors on screen. In this way our media interactivity provides a kind of intensification or reduplication of affective interpersonal relations". (Grusin, 2010, p. 95-96).

Research on the embodied mind and the affective turn demonstrate that the body/mind acts in constant attunement/modeling with the material and social environment, through exchanged intensities and informational flows. Once the media permeates these exchanges, the media system can intensify the proliferation of affects and moods.

Grusin considers that contemporary media operates in a distributed mediation logic, that is, it produces dynamic and heterogeneous assemblages composed of various technical, social, aesthetic, economic, and political elements that merge and regroup in mutable formations but relatively stable, distributed throughout society. With the concept of distributed mediation, Grusin draws attention to a distribution of affect between human and non-human actors: "(...) I will address the affective feedback loops that structure our 'media in everyday life,' the ways in which we interact with multiple media in almost every aspect of our everyday lives" (Grusin, 2010, p. 90). For Grusin, thinking of mediation in terms of affect:

(...) is to think of our media practices not only in terms of their structures of signification or symbolic representation but more crucially in terms of the ways in which media function on the one hand to discipline, control, contain, manage, or govern human affectivity and its affiliated things "from above," at the same time that they work to enable particular forms of human action, particular collective expressions or formations of human affect 'from below' (Grusin, 2010, p. 79).

These "particular collective expressions or formations of human affectation 'from below'" refer to the bottom-up interactions of complex systems.

Grusin builds the idea of distributed mediation from the notion that the mind and affect distributed across the network of media systems intensify collective habits and behavior. For the author, "our interactivity with the media provides a type of intensification or reduplication of affective interpersonal relationships" (2010, p. 96). This idea converges with Sara Ahmed's study on the economy of affects. Ahmed argues that emotions/affects are not psychological dispositions, nor do they reside in a subject or object. They circulate between subjects and objects, mediating relationships between the psychic and the social, the individual and the collective, expanding the intensities of these affects in sociocultural contexts (2004, p. 119).

This conception of mediation leads us to rethink the concept of medium. Medium and mediation are recurrent topics in Communication Theory studies. Most theories start from the premise that there are physical supports (paper, film, DVDs) that operate as vehicles for the contents (ideas, contents, and representations) be conveyed. The representational approach supports "the belief in the ontological distinction between representations and that which they purport to represent." (Barad *apud* Grusin, 2015, p. 128). The representationalist approach is binary, it separates humans and non-humans, Grusin explains that:

> In these traditional representationalist accounts, mediation is understood to come between, or in the middle of, already preformed, preexistent subjects or objects, actants or entities. The role of mediation in such accounts is precisely to connect, or negotiate between, actants, categories, and events (or subjects and objects), which would otherwise have no way of understanding or interacting with one another. Especially in post-Hegelian, Marxian thought, mediation has been opposed to immediacy, functioning as what might be called an agent of correlation, which filters, limits, constrains, or distorts an immediate perception or knowledge of the world or the real. Mediation has in these accounts been understood both as enabling our knowledge of reality and as preventing or making impossible the direct and immediate relation with the world that Brian Massumi (and others) insist upon as a fundamental component of human and nonhuman experience. In many traditional philosophical accounts we cannot experience the world directly or immediately because we cannot know the world without some form of mediation (2015, p. 128).

We saw above how complex systems theory blurs the boundaries between life, matter, and thought. Through the flows and potential connectivity of information, the action of technology echoes and encompasses the human. Oliveira considers that "the supposed clear separation between the internal and the external, between subject and object and between entity and artifact remains abolished" (2003, p. 167). We can no longer think of technology separately from our own experience.

Media theorist Richard Grusin proposes the concept of a radical mediation. Inspired by William James' idea of radical empiricism and Brian Massumi's proposal, Grusin proposes that mediation begins in the middle.

> Mediation should be understood not as standing between preformed subjects, objects, actants, or entities but as the process, action, or event that generates or provides the conditions for the emergence of subjects and objects, for the individuation of entities within the world. Mediation is not opposed to immediacy but rather is itself immediate (Grusin, 2015, p. 129).

Grusin's proposal resonates with Gilbert Simondon's thought in his theory of the individuation process. In *Du mode d'existence des objets techniques* (*On the Mode of Existence of Technical Objects*, 1980), Gilbert Simondon discusses the genesis of technical objects and their role in the formation of culture. In opposition to the substantialist approach, Simondon proposes that individuals, whether natural or technical, never present themselves in a definitive configuration. They are always in process. And this characteristic is due to the constituent role of the environment in the formation of the individual. Simondon argues that there is a pre-individual stage, prior to individuation itself, which remains as a plethora of virtuals susceptible to actualization. Even after individualization, this virtual repertoire is not exhausted, because individuation makes not only the individual appear, but the individual-environment pair. Thus, the environment is never just a neutral vehicle, it is an associated milieu that constitutes and is constituted by the individual.

> The associated milieu is the mediator of the relationship between manufactured technical elements and natural elements within which the technical being functions. (Simondon, 1980, p. 49-50).

The associated milieu is an ambience; it is a condition for connectivity, exchange, and flow of information It is a space for communication and sociability; it is a space inseparable from reality. Also, through the theory of complex systems, we can reach the same conclusion since, through connectivity, the information allows a new relationship between the whole and its parts, insofar as the whole (an organism, for example), through signals, guides its elementary components (cells, molecules) in choosing how to connect/associate.

We consolidate below what we have learned from the cognitive and affective turns that are of interest to communication, education, and media literacy studies.

From studies of embodied cognition and enaction, we have learned that the mind is embodied and coupled to the environment. It encompasses the brain, the body (intensities, perceptions, and sensory factors), and the material and social environment (people and objects). The cognitive process is situated and is a continuous process of attunement to the environment. This means that the cognitive process encompasses sensorimotor, non-conscious factors and that, therefore, factors such as message content, and its intersubjective and sociolinguistic context are not enough to explain how we learn, communicate and socialize.

Studies of the affective turn have taught us that affect is corporeal and relational, operating through affective attunements/modulations with the material and social environment. Affect infolds the environment; bodily intensities are coupled to the material and social environment and co-evolve with it (in it). Affect acts in the construction of individual and collective meaning. So, it is not possible to explain everything by language, subjective or intersubjective context, and/or socio-linguistic meaning.

The cognitive and affective turns go a step further. They incorporate the materiality of the body and bury the division between matter and thought once and for all. They deconstruct the idea of the universal human being as a rational, conscious subject who owns his or her free will. These advances abolish the boundaries erected by the moderns between subject and object; nature and culture; reason and affect; body and mind. They demand research methods, knowledge, and subjectivities supported by complex systems and inter and transdisciplinary perspectives.

IV. Final Considerations

We started the paper by presenting recent studies on media literacy that seek strategies to combat fake news and disinformation content. We observed that despite admitting that affective factors and confirmation biases prevail in the way people interact with the media, these studies propose discursive and representational strategies (rhetoric, storytelling, and media planning) as proposals to combat misinformation.

We presented recent advances in the Theory of Affects, which explains the primacy of affects over conscious and critical thoughts in media reception. We also present the concept of radical mediation (Grusin, 2015), which describes how our interactivity with the media provides a type of intensification or reduplication of affective interpersonal relationships, producing moods that circulate and influence people's reactions to facts and opinions.

Thus, we ponder: if the sciences of the mind postulate that reason is affected by affective intensities and non-conscious processes that are impossible to explain by sociolinguistic and/or symbolic factors, would it not be the case for us to start projects to improve our research methods to embrace these changes?

In their research, Moravec, Minas, and Dennis (2018) used methods from human and social sciences and neurological methods as a strategy to obtain more accurate results on the reception of fake news.

Researcher David Beer, when exploring the power of algorithms in society, considers the importance of bringing together efforts from the social and human sciences (which study individual and social behavior) and computer science (which examines the way algorithms operate). Beer suggests researchers submit collaborative work:

> That is to say that there is a sense that we need to understand what algorithms are and what they do in order to fully grasp their influence and consequences. This is where we can hit blockages in our understandings. It is quite hard to be versed in social theory and in the technical minutiae of coding. It is not that this combination is impossible, but it is more likely to require collaborative work than being within the scope of the lone scholar. (2017, p. 5)

Supported by positive results such as the research by Moravec, Minas, and Dennis (2018) and the lucid consideration of David Beer (2017), we propose the question of whether it is not the case that we make inter and transdisciplinary efforts to improve theoretical-methodological approaches in the field of media literacies, communication, and education.

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Influence of Semantic Referent in the Fast Mapping Paradigm on L2 Vocabulary Learning

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Abstract- Complementary learning system believes that the acquisition and consolidation of new information is a relatively slow process. Contrary to the traditional theory, recent studies have shown that new words learned by fast mapping (FM) paradigm can be rapidly integrated into neocortical memory networks, inducing neural mechanisms different from the complementary learning system. However, factors affecting rapid cortical integration through FM are still under debate. This study thus explored the influences of semantic referent on L2 English vocabulary learning in the FM paradigm. Fifty participants were randomly assigned to the fast mapping or the incidental encoding learning condition, and completed three vocabulary tests shortly after learning and again about 24 hours later.

Keywords: fast mapping, incidental encoding, semantic referent, second language vocabulary learning, memory network.

GJHSS-G Classification: LCC Code: P118.2

Influence of Semantic Referent in the Fast Mapping Paradigm on L2 Vocabulary Learning

快速映射范式下语义参照对二语词汇学习的影响

Chen Zhang

Abstract- Complementary learning system believes that the acquisition and consolidation of new information is a relatively slow process. Contrary to the traditional theory, recent studies have shown that new words learned by fast mapping (FM) paradigm can be rapidly integrated into neocortical memory networks, inducing neural mechanisms different from the complementary learning system. However, factors affecting rapid cortical integration through FM are still under debate. This study thus explored the influences of semantic referent on L2 English vocabulary learning in the FM paradigm. Fifty participants were randomly assigned to the fast mapping or the incidental encoding learning condition, and completed three vocabulary tests shortly after learning and again about 24 hours later. The results showed that (a) in the lexical integration test, only the FM group produced lexical competition effects, which proved that the semantic referent in the FM paradigm can promote the rapid lexical integration of new words into the pre-existing mental lexicon, (b) in the semantic integration test, only the FM group produced semantic priming effects, which proved that the semantic referent in the FM paradigm can promote the rapid semantic integration of new words into the semantic network. The results indicated that the semantic referent is driving factors for rapid cortical integration through FM. The study has important implications for vocabulary instruction and provides a new perspective for L2 vocabulary learning.

Keywords: fast mapping, incidental encoding, semantic referent, second language vocabulary learning, memory network.

Abstract- 传统的记忆理论——互补学习系统认为，新信息的习得和巩固是一个相对缓慢的过程。不同于传统的记忆理论，近期的一些研究表明通过快速映射范式学习的新词可以被快速整合到大脑新皮质层的记忆网络中，诱发不同于互补学习系统的神经机制。然而，影响快速映射范式下新词快速整合的机制仍处于争议中。因此，本研究考察快速映射范式下语义参照对英语二语词汇学习的影响。50名英语二语学习者分别接受快速映射和偶然编码两种学习条件，并完成考查目标词汇词-图联想记忆、 词形整合及语义整合学习效果的即时测试和延时测试。研究发现：1) 在词形整合测试中，仅快速映射组产生了词汇竞争效应，证明了快速映射范式下语义参照能够促进二语新词词形在原有心里词典的快速整合；2) 在语义整合测试中，仅快速映射组产生了语义启动效应，证明

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了快速映射范式下语义参照能够促进二语新词语义在原有语义网络中的快速整合。研究结论证明了快速映射范式下已知的语义参照是促使二语新词在大脑新皮质层快速整合的关键因素。该研究为二语词汇教学提供了新的思路，具有重要启示意义。

Keywords: 快速映射， 偶然编码， 语义参照， 二语词汇学习， 记忆网络.

I. 引言

显性编码（explicit encoding） 是最常见的二语词汇学习方式，如背诵新词列表，看图记单词等。显性编码要求学习者在语境缺失的条件下记忆新词，而学习者也明确知道自己在学习新词，因此是一种显性学习（explicit learning）方式。传统的记忆理论认为，当人们进行显性编码学习时，新词首先在海马体（hippocampus）进行快速编码，随后经过一定的时间（如一夜的睡眠）才被逐渐整合到大脑新皮质层的长时记忆网络中（McClelland et al. 1995；Tamminen & Gaskell 2013）。 也就是说，新信息的习得和巩固是通过海马体和新皮质层的交互作用完成的。而近期的一些研究表明，如果新词是通过快速映射（fast mapping） 方式获取的， 那么就可以绕过这种耗时的海马体-新皮质层巩固 过程而直接被整合到大脑新皮质层的记忆网络中（Sharon et al., 2011； Merhav et al., 2014, 2015; Himmer et al., 2017）。在典型的快速映射范式中（如图1），呈献给学习者的是两幅不同物体的图片，其中一幅是已知的（如图1右侧蟋蟀"cricket"），而另一幅是未知的（如图1左侧陌生昆虫），学习者的任务是回答一个问题（如图1"Are the antennae of the Torato pointing up?"），这个问题中包含了一个新指称，学习者可以据此推断新词所指对象为未知图片中的物体。依赖已知语

境下的推理行为，快速映射任务中的词汇学习不**涉**及外部指导或刻意记忆，因此是一**种**隐性（或偶然）学习（implicit or incidental learning）方式。 自Carey和Bartlett（1978）提出"快速映射"的概念后，大量研究已经证明快速映射范式能够加快新词在记忆网络中的整合速度（Halberda, 2006; Coutanche & Thompson-Schill, 2014; Greve et al., 2014; Merhav et al., 2015; Cooper et al., 2019b; O'Connor & Riggs, 2019; Vasilyeva et al., 2019）。 然而， 快速映射范式下新词实现快速整合的因素还不清楚。
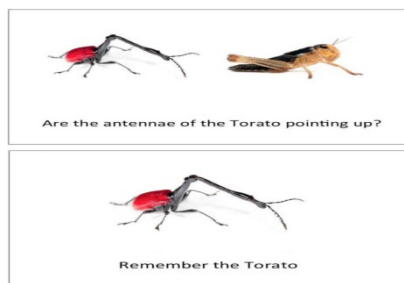
图1: 快速映射学习方式示例

Sharon等（2011）的一项研究引起了学界的广泛讨论，该研究的受试为海马体受损的四名失忆症患者，当学习方式为引导他们有意识的对新的图片-名称联结进行记忆时，受试表现出严重的学习障碍；但通过快速映射方式进行学习后，受试获得了几乎正常的学习表现。这是一项惊人的发现，研究结果表明快速映射学习可能依赖一**种**独特的神经认知加工机制，这是对传统互补学习系统的巨大挑战。基于研究结果，Sharon等（2011）首次提出影响快速映射范式的三个**关**键因素：（1）学习过程是偶然的；（2） 新指称与指称对象的联结需要学习者通过拒绝已知和推断未知主动建立；（3）新联结的建立需要已知的语义环境。随后，Coutanche & Thompson-Schill（2014：2296） 指出"快速映射可将新概念快速整合到大脑皮层的记忆网络中"。为验证该假设，Coutanche & Thompson-Schill让健康成人分别通过快速映射和显性编码学习陌生动物的名称。此外，为验证Sharon等（2011）提出的的第三个**关**键因素，Coutanche & Thompson-Schill（2014） 首次创设了偶然编码（incidental encoding）学习方式。 偶然编码与快速映射的根本区别在于有无熟悉图片作为已知语境。他们认为，如果新词在被检索时能够激活其记忆网络中在语音或拼写上与其相似的其他词项， 才能 被称为真正习得了该词。因此，Coutanche & Thompson-

Schill（2014） 不仅保留了以往实验中对 新词陈述性记忆（declarative memory） 的考查， 还通过记录受试对与新词拼写相似、语义相**关**的熟悉词汇的反应时来分别衡量新词的词形整合（lexical integration）和语义整合（semantic integration）。 结果发现，显性编码条件下，受试在即时和延时测试中的陈述性记忆都优于快速映射条件，但未产生词形和语义整合效应。 相反，快速映射条件下，受试在即时和延时测试中都出现了词形整合效应，但仅在延时测试中观察到语义整合效应。这表明，快速映射能够帮助成年人将新信息快速整合到大脑新皮质层的记忆网络中。另外，与快速映射相反，偶然编码条件下学习的一语词汇并未产生词形和语义整合。这一结果表明了熟悉图片作为已知语境在快速映射任务中的重要作用。Cooper等（2019）更深入地提出了语义参照（semantic reference） 和语义推理（semantic inference） 作为快速映射范式的两个**关**键因素。在快速映射任务中，学习者将已知图片作为参照，通过对比推断出新事物和新词之间的联结关系。同时，任务中的感知判断问题为推断新联结创设了特定的语义情境。因此，快速映射任务中的熟悉图片即为语义参照，感知判断问题即为语义推理。Cooper等(2019)对比了快速映射（FM）， 显性编码以及快速映射的三个变体（FM-r：无语义参照的FM；FM-i：无语义推理的FM；FM-ir：既无语义参照又无语义推理的FM） 五种学习条件对成年人一语词汇学习的效果。结果显示，语义参照和语义推理均非快速映射任务的**关**键因素。此外，Coutanche & Koch（2017） 发现快速映射任务中熟悉图片的典型程度与运用不同记忆系统的倾向都对成人一语词汇的词形整合有重要影响。综上所述，影响快速映射范式下新词的快速巩固机制尚未成定论。

基于上述研究，为了进一**步**探究快速映射范式下已知物体作为语义参照对新词在记忆网络快速整合的影响，本研究设置有两个实验组分别接受两**种**学习方式，即快速映射和偶然编码。在快速映射条件下，一张未知物体的图片、一张同类已知物体的图片以及一个区别两事物不同特征且**涉**及未知图片名称的感知问题同时呈现。通过识别并排除已知图片，受试可推断出感知问题中的新词即为陌生图片的指称，从而建立新的生词-图片联结。与快速映射条件相比，偶然编码条件中的已知图片被剔

除，仅一张未知物体的图片以及包含未知物体指称的感知问题同时呈现。

值得注意的是，快速映射在成人一语词汇习得中的作用为二语词汇习得研究提供了新的思路。然而，现有研究多**关**注快速映射范式在一语词汇习得领域的应用及发展，少有研究**关**注其在二语词汇习得领域的发展。洪炜等（2018）以中等水平的成年汉语二语学习者为受试，探究显性编码、快速映射对汉语二语词汇学习的影响，结果发现，显性编码更有利于目标词陈述性记忆的学习，而快速映射对目标词的词形和语义整合更有效，而且，快速映射＋显性编码的词汇学习效果优于单一学习方式，不仅可实现对新词表征的准确记忆，还可实现词形和语义的快速整合。该研究表明，显性编码和快速映射可对成人二语词汇学习产生不同影响，快速映射与显性编码可能依赖不同的认知神经机制。洪炜等（2018）**开**创了快速映射在成人二语词汇习得研究领域的先河，同时他们指出，一语和二语的词汇学习存在本质区别，与多**种**心理认知过程相**关**，且目前该方面的研究极少，因此快速映射和显性编码对二语词汇学习的影响有待进一**步**考察。目前，尚未有研究在二语语境下探索影响快速映射范式实现新词快速皮层整合的影响因素。因此，本研究旨在探究快速映射范式下语义参照对英语二语词汇学习的影响。

II. 研究方法

a) 研究问题

本研究旨在回答下列3个研究问题：

1) 快速映射与偶然编码是否会对成人二语词汇的图片-词形联想识别记忆产生不同影响？

2) 快速映射与偶然编码是否会对成人二语词汇的词形整合产生不同影响？

3) 快速映射与偶然编码是否会对成人二语词汇的语义整合产生不同影响？

b) 研究设计

本研究采用 2（学习方式）×2 （测试时间） 双因素混合实验设计。其中，学习方式为组间变量，包括快速映射和偶然编码两个水平；测试时间为组内变量，包括即时测试和延时测试两个水平。因变量为三个词汇任务的表现，即一项外显测试（explicit tests） （词汇识别测试） 的成绩和 两项内隐测试（implicit tests）（词形整合测试和语义 整合任测试）的成绩。

c) 受试

受试为中国某高校50名英语专业大学生，年龄为19-21岁，视力或矫正视力正常，没有学习或阅读障碍。受试分为两组，**每组 25 名**， 分别通过快速映射和偶然编码两**种**方式中的一**种**进行词汇学习。各组受试的母语背景和英语学习经历基本一致，实验前进行的英语水平测试显示两组受试的英语水平没有显著差异（p＝.564）。

d) 实验材料

通过网络图片库分别选取120张动物和植物的彩色图片，并将其剪裁为清晰的白底图片。随后，另外20名与受试英语水平相当的学生按照李克特五级量表（1＝完全不熟悉，5＝非常熟悉）对这些图片进行评分。最后，选取16张（动物：8；植物：8）被评为"完全不熟悉"的图片作为学习材料，另有32张被评为"非常熟悉"的图片（动物：16；植物：16）作为快速映射任务的配对实验材料。

之后，需要给16张"完全不熟悉"的图片随机配上16个陌生名称（选自Coutanche & Thompson-Schill, 2014）。陌生词汇是通过替换现有英语名词中的某个音素（如由cradle得到cragle）人为创造的、符合英语发音规则的假词。最后，邀请10名英语母语者按照李克特五级量表对假词的熟悉度、假词与图片的匹配度评分，结果显示假词均为陌生词汇，所选图片均能很好地匹配假词。由此，我们得到了16个生词-图片的组合作为本实验的学习材料。

e) 实验步骤

图片和文字刺激通过E-prime 2.0呈现在计算机屏 幕正中央。受试在安静的实验室内单独进行实验，并根据要求通过键盘按键完成实验任务。

f) 学习阶段

整个学习阶段历时20分钟，两组受试分别在不同的条件下学习相同的英语新词，具体处理如下：

1) 快速映射组

在快速映射条件下，两张同类物体（动物或植物）的图片与一个**涉**及两张图片不同特征（如植物果皮的颜色、动物脚的数量等）的感知判断问题同时呈现（见图2）。其中一张为陌生图片，另一张为熟悉图片，感知判断问题提及目标生词（即陌生图片的指称）。受试需要通过检索和排除已知图片，推断出问题中提及的生词是陌生图片的指称，从而建立新的生词-图片联结并通过按键回答问题（F代表"是"，J代表"否"）。陌生图片出现在屏幕左侧或右侧的几率相等，问题的正确答案为"是"或"否"的几率也相等。图片及问题同时呈现10秒，要求受试在10秒内通过按键作出回应。16对图片-生词组合共呈现三轮，**每**轮呈现顺序随机。

图2: 快速映射组学习材料示例

2) 偶然编码组

偶然编码组与快速映射组的学习过程完全相同，唯一区别为偶然编码组的学习材料中删除了熟悉图片（见图3）。

图3: 偶然编码组学习材料示例

g) *测试阶段*

学习结束后，受试休息4分钟，随后进行3项词汇测试。词汇识别测试用于考查对词汇和图片的联想记忆，词形整合测试考查词汇竞争效应，语义整合测试考查语义启动效应，在正式测试前分别设有 8 个练习试次帮助受试熟悉测试流程。三项测试的设置如下：

1) 词汇识别测试

三张同类图片（动物或植物）和一个目标词同时呈现（见图3）。受试通过按键（A、B或C）选择与目标词相对应的图片。16张陌生图片在词汇识别测试中共出现

3次，**每**次分别在电脑屏幕的不同位置，一次作为正确答案出现，两次作为正确答案的陪伴材料（foil）出现。**每**组测试材料随机呈现，呈现时间不限（直至受试给出答案），并以600毫秒的白屏隔**开**。

图4: 词汇识别测试材料示例

2) 词形整合测试

测试目标词为32个熟悉的英语单词，其中一半是本实验中16个人造假词的原始词汇（如真词cradle为假词cragle的原始词汇，在实验中被称为"已用词汇"），另一半是实验未**涉**及的英语单词（被称为"未用词汇"），已用词汇和未用词汇中人造物与自然物各占一半。而且，为实现词汇竞争效应的最大化，已用词汇均选自英语中的隐士词（hermit words），即在英语中无法找到与其有一个字母之差的其他真词。该测试的具体呈现方式如下（见图6）：屏幕中央首先呈现 600ms的注视点"＋"，随后注视点消失，目标词呈现，要求受试通过按键 （F代表人造物，J代表自然物）尽可能快速并准确地判断目标词是人造物还是自然物，目标词随机呈现，**每**个试次都在受试按键给出答案后结束并自动跳转至下一试次。
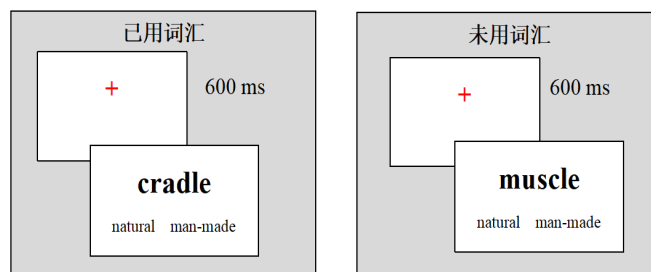
图5: 词形整合测试材料示例

3) 语义整合测试

共包括32个词对（启动词-目标词），其中启动词为学习阶段的16个生词，**每**个启动词配有两个熟悉单词作为目标词，其中一个单词与启动词语义相**关**（如cragle-monkey，同为动物），另一个与启动词语义无**关**（如cragle-orange）。因此，共有16个语义相**关**的启动词-

目标词词对和16个语义无**关**的启动词-目标词词对。**每**组词对展现方式如下：屏幕中央呈现注视点"+"800ms，随后注视点消失，启动词随即呈现600ms，之后是100ms的空屏，最后呈现目标词，要求受试尽可能快速准确地判断目标词属于动物还是植物（植物按F键，动物按J键）。**每**组词对呈现顺序随机，并在受试给出答案后自动跳转至下一试次。
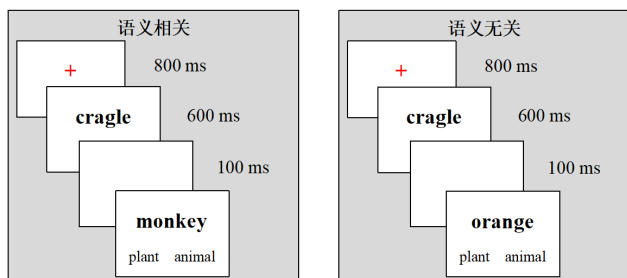
图6: 语义整合测试材料示例

为检测受试对所学新词的保持程度，大约24 小时后，所有受试再次完成以上三项词汇测试任务，任务内容、方法与即时测试完全一致。

III. 数据处理

词汇识别测试的正确率、词形整合测试和语义整合测试的反应时通过E-prime 2.0记录， 词形竞争值由已用词汇反应时减去未用词汇反应时得到，语义启动量通过语义无**关**启动的反应时减去语义相**关**启动的反应时得到。三项测试中平均正确率低于75%的受试数据以及超过±2.5个标准差的极端反应时被剔除后，各组的测试成绩和反应时通过SPSS 26进行数据分析。 首先对各组数据进行描述性分析，随后进行重**复**测量的方差分析，若自变量间的交互作用显著，则进行简单效应检验。

IV. 实验结果

a) 词汇识别测试结果

两组受试的词汇识别测试成绩见表1。对词汇识别测试的成绩进行学习方式 × 测试时间（2× 2）

的双两因素方差分析后发现， 学习条件的主效应显著，$F_{(1, 48)}$ =11.81，p =.001， 快速映射组的成绩 显著高于偶然编码组。测试时间的主效应显著，$F_{(1, 48)}$ =5.70，p =.021， 即时测试的成绩显著高于延时测试成绩。学习条件与测试时间的交互效应不显著，$F_{(1, 48)}$ =1.02，p=.319。

表1: 词汇识别测试的均值及标准差

学习方式	即时测	延时测
快速映射	12.40（2.43）	9.52（2.02）
偶然编码	9.00（3.03）	8.28（1.02）

b) 词形整合测试结果

各组对已用词汇和未用词汇的反应时均值、标准差以及竞争值如表2所示。对反应时数据进行学习方式 × 词汇类型 × 测试时间 （2×2×2） 三因素方差分析。结果显示，词汇类型的主效应显著，$F_{(1, 48)}$= 17.81，p <.001，已用词汇的反应时显著长于未用词汇；测试时间的主效应显著，$F_{(1, 48)}$ =33.47，p <.001， 即时测试的反应时显著长于延时测试的反应时；学习方式的主效应不显著（p>.1）。学习方式与词汇类型的交互效应显著，$F_{(1, 48)}$ =11.28，p=.002。学习方式与测试时间以及词汇类型与测试时间的交互效应均不显著（ps>.1）。对词汇类型与学习方式进行简单效应检验后发现，在快速映射条件下，已用词汇的反应时显著长于未用词汇（p<.001）；而在偶然编码条件下，已用词汇与未用词汇的反应时无显著差异（p>.1）。

表2: 词形整合测试的平均反应时及词汇竞争值

学习条件	即时测试			延时测试		
	已用词汇	未用词汇	竞争值	已用词汇	未用词汇	竞争值
快速映射	1679.02 (192.08)	1498.68 (199.38)	180.34 (277.40)	1316.88 (388.87)	1220.28 (298.91)	96.60 (178.23)

偶然编码	1511.04 (213.94)	1504.29 (136.11)	6.76 (128.64)	1327.09 (218.42)	1302.34 (177.25)	24.75 (159.91)

c) 语义整合测试

各组在语义相关和语义无关启动条件下的反应时均值、标准差以及启动量如表3所示。对反应时进行学习方式 × 启动类型 × 测试时间 (2×2×2) 三因素方差分析。结果表明，启动类型的主效应显著，$F_{(1, 48)}=15.19$, $p<.001$，语义无关词汇的反应时显著长于语义相关词汇的反应时；测试时间的主效应不显著 ($p>.1$) ； 学习方式的主效应显著，$F_{(1, 48)}=$

6.45, $p=.014$。学习方式与启动类型的交互效应显著，$F_{(1, 48)}=16.93$, $p<.001$ ； 学习方式与测试时间以及启动类型与测试时间的交互效应不显著 ($ps>.1$)。对启动类型与学习方式进行简单效应检验后发现，在快速映射条件下，语义相关启动的反应时显著短于语义无关启动 ($p<.001$) ；而在偶然编码条件下，语义相关与语义无关启动之间的反应时均无显著差异 ($p>.1$)。

表3: 语义整合测试的平均反应时及语义启动量

学习条件	即时测试			延时测试		
	语义相关	语义无关	启动量	语义相关	语义无关	启动量
快速映射	750.44 (122.57)	861.55 (108.38)	111.11 (52.20)	757.44 (117.53)	821.38 (158.54)	63.94 (91.83)
偶然编码	898.62 (158.67)	893.77 (171.84)	-4.85 (92.03)	862.29 (155.43)	862.38 (172.79)	.88 (170.77)

V. 讨论

为了探究快速映射范式下影响新词快速皮层整合的因素，偶然编码学习条件删除了快速映射任务中的熟悉图片以验证语义参照的影响。也就是说，快速映射和偶然编码的根本区别在于有无熟悉图片作为语义参照。词汇识别测试的结果显示，快速映射组的成绩显著优于偶然编码组，说明快速映射比偶然编码更有利于二语词汇的联想识别记忆。在词形整合测试中，如果新词能干扰受试对心理词典中已有词项的提取，从而产生词汇竞争效应，就可以得出结论，新词已经被成功地整合到受试的词汇网络中。词形整合测试的结果表明，仅在快速映射条件下，已用词汇的反应时显著长于未用词汇，产生了词汇竞争效应。也就是说，仅快速映射组实现了新词在记忆网络的快速词形整合。在语义整合测试中，语义启动效应可衡量学习者是否将新词整合到了已有的语义网络中。根据激活扩散模型 (Quillian, 1967; Collins & Loftus, 1975)， 心理词典中各词项的概念层通过词的语义关系相互联接，两个概念具有的语义相似性越多，联系越紧密。一个语义节点的激活会扩散到与之相连的其它概念，因此如果两个词已在心理词典中建立起语义联系，那么启动词（先呈现的词）就能预激活与其语

义相关的目标词（后呈现的词），从而加快目标词的提取，产生启动效应。如果两个词没有在词汇网络中建立起语义联系，则不会产生启动效应。语义整合测试的结果显示，仅在快速映射条件下，语义相关启动的反应时显著短于语义无关启动，产生了语义启动效应。也就是说，仅快速映射能够促进二语新词在心理词典中的快速语义整合。研究结论证明了快速映射范式下已知的语义参照是促使二语新词在大脑新皮质层快速整合的关键因素。

研究结果支持Halberda（2006）的结论，即快速映射任务中，新词与陌生图片之间的联结是通过学习者积极拒绝已知参照物建立的（disjunctive syllogism），而不是简单地将新词与任意新刺激联系起来。在快速映射条件下，熟悉的同类词的图片作为语义参照能帮助学习者推理并建立新词与陌生图片之间的强联结，同时帮助新词与心理词典中原有同类概念建立联系，加速其在语义网络中的定位，进而实现新词在记忆网络中的语义整合。例如，通过快速映射学习新词cragle（动物）时，学习者首先需要提取并排除同时呈现的已知概念tiger（老虎），随后通过推理来确定cragle的指称物（陌生图片），这个过程不仅激活了tiger的概念，还不同程度地激活了与之语义相关的其他动物概念，使cragle被定位在"动

物"类别的语义网络中。相反，偶然编码条件下，由于语义参照物（熟悉图片）的缺失，学习者不能有效地建立起新词与陌生图片之间的联结；即使学习者能够建立起新词与陌生图片间的联结，由于同类概念图片辅助激活作用的缺失，新概念也需要一定的时间才能够被整合到新皮质层的记忆网络中。快速映射范式中已知图片作为语义参照对二语词汇快速语义整合的促进作用还可用神经生理学的结论进行解释，已有研究发现前颞叶对快速映射学习至**关**重要（Sharon et al., 2011; Greve et al., 2014; Atir-Sharon et al., 2015；Merhav et al., 2015；Zaiser et al. 2021, 2022），该结构主要负责来自特定模态皮质（modality-specific cortices）信息的语义整合（Lambon Ralph et al., 2017），是一个模块化的语义枢纽。因此，快速映射学习所依赖的前颞叶结构为新词的快速语义整合提供了可能，而偶然编码学习由于缺少已知熟悉图片作为语义参照未能刺激前颞叶结构的加工机制，因而无法实现新词的快速词形和语义整合。

VI. 总结

通过比较快速映射和偶然编码两**种**学习条件下受试的词汇测试成绩可知，快速映射范式下已知熟悉图片作为语义参照对新词的词-图联想识别记忆、快速词形和语义整合具有促进作用。本研究对二语词汇学习具有启发意义，提供了一**种**更为有效的二语词汇学习方式。在二语词汇教学中，除常用的显性编码学习方式，还可有机融入快速映射方式。本研究还具有重要的理论意义，证明了快速映射中熟悉图片作为语义参照在促进新词实现快速词形和语义整合过程中的重要作用。

虽然本研究努力优化实验设计，但仍存在一些局限。首先，学习材料**涉**及的词汇类型和语义类别有限，只包括动物和植物两类具体事物名词。其次，本研究采用了三项词汇测试考查二语新词的学习效果，未来研究可采用更加先进的技术衡量二语词汇的学习效果。最后，本研究仅通过控制有无已知熟悉图片作为语义参照，初**步**探索了影响二语词汇在快速映射学习中实现快速整合的因素。未来研究可通过控制快速映射中的其他变量（如学习意图、已知图片与未知图片间的语义**关**系以及推理问题的加工深度等）探究其内在加工机制。

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Polysemy of English "But" and Challenges in its Translation into Kurdish

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Abstract- This study demonstrates an innovative method/ practice of utilizing translation to study the linguistic phenomena, connectives (cf. Moeschler, 1989; Degand, 2009;). Based on the Relevance Theoretic Framework and polysemy approach, this paper consolidates research that examines the polysemy of English but (cf. Wilson and Sperber, 2004; Fischer, 2006) and rejects the ambiguity account by Anscombre, and Ducrot (1977) and Hall (2004), and also establishes a paradigm of correspondences for but in Kurdish. Data for this study consists of 50 opinion articles from English and Kurdish online newspapers. All the occurrences of but and its equivalents in Kurdish are examined and translated, in order to build the paradigm of correspondences. The study suggests that there are four different interpretations of a general procedure encoded by but, namely; contrary to expectations, contrast, correction and dismissal, and that these procedural meanings are translated into Kurdish as: keçi, bełam, be pêçewanewe and bełkû respectively.

Keywords: discourse analysis, relevance theory, connectives, translation.

GJHSS-G Classification: DDC: 410

POLYSEMYOFENGLISHBUTANDCHALLENGESINITSTRANSLATIONINTOKURDISH

Strictly as per the compliance and regulations of:

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Introduction

In between the two possible ways of dealing with the multi-functionality of connectives (monosemy and homonymy), the polysemy approach assumes that 'there are different distinct readings of a connective and that these different senses are related' (Fischer 2006: 13). I will adopt this latter position in this paper with respect to the analysis of *but* and its Kurdish equivalences. The current study explores the various meanings encoded by the connective *but* in English such as 'contrary to expectations', 'contrast', 'correction' and 'dismissal' (Lakoff 1971, Blakemore 1987, 2002; Hall 2007, Horn 1989, Bell 1998 and Iten 2005). This study suggests that *but* is not an ambiguous connective and to argue the ambiguity account of *but* claimed by Anscombre and Ducrot (1977) and Horn (1989). Based on the Relevance Theory's (RT) procedural meaning, the paper gives a unified account of the meaning encoded by *but*. Then it argues that *but* encodes a general procedure that can be implemented in four different situations to generate four different meanings. This is illustrated by its translation into Kurdish. Thus, *but* is not ambiguous but it is rather a linguistic expression with a general sense. The argument is supported by data from

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Kurdish language. The data show that there are four different linguistic expressions that can translate *but* in Kurdish. These are *keçi, be pêçewanewe, bełkû* and *bełam* which represent the four different procedural meanings of 'contrary to expectations', 'contrast', 'correction' and cancellation' respectively.

I. Theoretical Background

The English connective *but* has been dealt with widely by several researchers such as Lakoff (1977), Fraser (1995), Blakemore (1987, 2002), Iten (2000) and Hall (2007). It has been described with various labels such as 'discourse marker', 'connective', 'pragmatic marker' and 'cohesive device'. I will be drawing on the existing accounts of *but* and show how translation can disambiguate the polysemy of connectives especially the case of *but* in light of the *Relevance Theory* (RT). According to Wilson and Sperber, relevance theory is 'an inferential theory of communication, which aims at explaining how the audience infers the communicator's intended meaning.' (1995: 176). In this sense, human cognition is thought to be directed towards the maximization of relevance between two inputs, in a way that the information an input carries has a relation with information already stored in the cognitive system to strengthen an existing assumption or to contradict and eliminate an assumption, and 'the higher cognitive effects the input has, the more relevant it is' (Ibid: 177). Thus, relevance can be thought of as a positive function of effects achieved, and a negative function of effort incurred. That is, the relevance needs to be achieved with minimum efforts. This is in line with Wilson and Sperber's claim that 'use of an obvious stimulus may create precise and predictable expectations of relevance not raised by other stimuli.' (Wilson and Sperber, 2004: 617). For instance, successful communication is a matter of the reader recognizing the writer's communicative intentions, typically by utilizing suitable connectives in order to help the reader get to the point faster.

The meanings associated with the connectives are context-dependent, thus connectives should not be examined in isolation. For instance, it is very difficult to answer a question like: What does *but* mean? Whereas it is easier to answer a question such as: How is *but* used in a given context? Schiffrin claims that 'discourse markers' - here named connectives- could have semantic, syntactic, and pragmatic roles simultaneously

but they are not 'structural or semantic components in the sentence' (1987: 190). Nonetheless, this multi-functionality is different based on the categories of the DM group. For example, conjunctions have pragmatic effects that are closely associated with the type of meaning they signal, such as the case of *but* which reflects a difference between two text segments S1 and S2. The semantic meaning implied by the connection could be contrary to expectation, contrast, correction or cancellation as proposed previously in the text.

Blakemore (1987) analyses *but* and regards it as a linguistic expression that does not contribute to the content of the sentence. Adopting the RT framework, she focuses on two different specific relations, namely 'denial' and 'contrast'. Blakemore argues that *but* means 'and + something else'. I will attempt to explain the 'something else' through translating *but* into Kurdish. The different procedures; denial of expectation (S2 denies an expectation forwarded in S1), contrast (S2 contrasts a state of affair or an action in S1), correction (S2 corrects a proposition in S1) and dismissal (S2 cancels what has been mentioned in S1), as shown in Figure 1, in which *but* plays a role as a connective, have been translated into four Kurdish adversative connectives; *keçi, bełam, be pêçewanewe* and *bełkû.*

II. TRANSLATION AND LINGUISTICS

As far as translation and linguistics are concerned, the assumption is that translation data contain texts that are intended to express the same meanings and have identical or at least very similar textual functions in the two languages concerned, here English and Kurdish. Dyvik was one of the first to argue in favour of the use of translation data to establish the precise semantic values of words. He suggests that 'by successively using the source and target language as a starting-point, we can establish paradigms of correspondences: the translations can be arranged as a paradigm where each target item corresponds to a different meaning of the source item' (1998: 12). Simon-Vandenbergen likewise states that 'translations of pragmatic markers can serve as a heuristic for discovering contextual dimensions or for making more fine-grained divisions in these dimensions, because the translations force one to account for the contextual factors that lead to particular choices.' (2006: 111). These choices would pose a challenge for translators when translating a polysemous connective such as *but* into Kurdish. As of yet, there is little linguistic research regarding Kurdish connectives and hence there is no recognised list of Kurdish connectives from which to select an equivalent connective to *but*. The four choices available to translators are described in detail in sections (4-1, 4-2, 4-3 and 4-4).

III. DATA AND METHODOLOGY

The data comprise of translation of all occurrences of *but* in 30 English newspaper opinion articles along with all the equivalents' occurrences in 30 Kurdish newspaper opinion articles. These examples result in a corpus that can be used to identify the possible meanings of *but* in Kurdish. However, using translation corpora as base for analysis seems to be biased, because of the diversity of results and according to Degande 'not only is there a problem of context and typological differences, one should also be careful not to generalize individual instances of language use' (2009: 178). Nonetheless, in terms of the correspondence paradigms, it is possible to obtain suggestive results in assigning certain meanings to words, especially connectives. Aijimer et al argue that 'such semantic fields can be established by checking back and forth' (2006: 111). Thus, the correspondence paradigm is built by double checking the equivalences, i.e, through translation and back translation we can assign correspondence values to the functional equivalences. For instance, if *but* in English is translated by *bełkû* and *keçi* in Kurdish, then using Kurdish as a source language, we should be able to check for the translation of *bełkû* and *keçi* in English, which will become the target language. Such an analysis, Aijimer et al state would allow us 'to show how the pragmatic marker X is related to other pragmatic markers, or to other linguistic items such as modal particles or response words, in the same language' (Ibid.: 112).

Also, Dyvik states, in favour of this approach, that 'translators have no theoretic concern in mind, evaluate the interpretational possibilities of linguistic expressions […], and then try to recreate the same interpretational possibilities in a target text serving a comparable purpose in another language' (1998: 7). Finally, a translation approach to examining linguistic phenomena seems to meet the criteria for most of the demands of contemporary linguistics, as Noël states that 'it is corpus-based, it is contrastive and thus has typological relevance [...], it is task-based, in as much as it treats translation data as a collection of informants' judgments about the meanings of the linguistic forms in the source text' (2003: 759). Thus, I will adopt Degand's approach which she calls 'mirror analysis' which takes 'back-and-forth translation as a way of establishing semantic field of equivalents in one language or across languages' (2009: 179). This will help me establish what is the most suitable Kurdish equivalent for English *but,* subject to relevant context, and also what semantic values can be linked to each connective.

IV. *BUT* IN TRANSLATION

This paper suggests that there are four distinct Kurdish connectives corresponding to these four

implementations of the general procedure encoded by *but* which are: *keçî, bełkû, be pêçewanewe* and *bełam*. These findings are in line with Simon-Vandenbergen's claims that 'translations of connectives can serve as a heuristic for discovering contextual dimensions or for making more fine-grained divisions in these dimensions, because the translations force one to account for the

contextual factors that lead to particular choices.' (2006: 111). This paper seeks to answer questions such as: Is the English connective *but* polysemous? What can translation add to linguistic studies? How are the Kurdish equivalences for the English connective *but* accounted for by a relevance-theoretic approach?
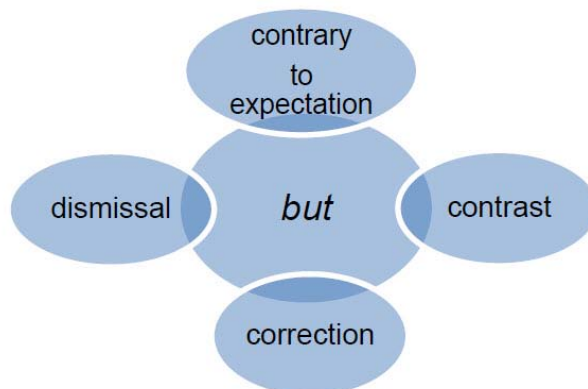

Figure 1: Procedural meanings of *but*

One way of accounting for the functions of *but* and its meanings is to analyse it as encoding a procedural meaning rather than as a concept or conceptual representation. According to Hall the 'function of *but* is to guide the hearer to the intended interpretation of the utterance' (2007: 200). The type of the implementation of *but* constrains the type of implicatures to be communicated in the text. I agree with Hall concerning the assignment of a superordinate meaning of *but* as 'contrast', because the other meanings seem to be more complicated and that all of the other three meanings of *but* have some degree of contrastive meaning in common apart from their main, more specific, procedural meaning. So, based on the general procedure encoded by *but* which creates the superordinate meaning as:

> Treat the proposition communicated by the *but*-clause as contrasting with the assumption explicitly or implicitly communicated by the utterance of the preceding clause. (Iten, 2005: 147)

The next sections are going to examine the different implementations of this general procedure of *but* and will translate each implementation into Kurdish in order to disambiguate *but* and establish the Kurdish equivalences systematically.

a) 'Contrary to expectation' *but*

Allerton states that the connectives signaling the sense of contrary to / denial of expectations 'show that the sentence has to be seen as detracting from what went before and thus either reducing the impact of the previous point or replacing it with a different one' (1979: 277). The typical connectives that signal this subtype of adversative relations in English is *but* and its equivalence in Kurdish is *keçi*. The implementation of

the general procedure for this type is: what follows *but* denies and replaces an assumption or expectation communicated by what precedes it.

Depending on the RT framework, Blakemore states that *but* means denial, because 'it encodes a constraint that triggers an inferential route involving contradicting and eliminating an assumption' (2002: 95). However, this claim is not entirely true and it does not apply to diverse uses of *but* (See sections 4-1, 4-3, and 4-4). The S1 message in 1 (below) implies that 'the rebels' heroic actions were the cause of overthrowing the tyrant'. So, the reader expects the writer to elaborate on that. However, this expectation is denied in S2, as it is contrary to the expectations to see that 'Nato had overthrown the tyrant'. This sense of 'contrary to expectations' is introduced by *but* as in 9.

1) Watching al-Jazeera television, it might appear that heroic rebel militiamen had overthrown a tyrant *but*, in reality, military victory was almost wholly due to the Nato air assault. (Online 1)

    Katêk sairî kanałî telefzyoni aljazîre dekeit, wa pêde çêt ke pyawe pałewane milişyakan zordarêkyan leser desełat ladawe, *keçi* le řastîda serkawtıni milişyakan tenha behoy hêřşe asmanyekani Nato bû.

keçi (but)

According to Tofiq's (2002) claim, there is no difference between keçi and other adversative connectives. However, he had studied the 'conjunction particles', as he labels them, in a rather general sense and does not give detailed accounts for each connective. The data from opinion articles suggest that keçi signals a different relation from other adversative connectives such as bełam, be pêçewanewe depending on the different procedures implemented in the text. The Kurdish connective corresponding to the 'contrary to

expectations' meaning of but is keçi as shown in 2. None of the other adversative connectives can substitute keçi in a procedure such as in 2.

2) Eger anjûmen azadbûaye deitûani le bûdjey emsał (4 ta 5) hezar ganj dabmezrênêt, keçi řêgri bo drûstkırawe. (Online 2)

if council-of governorate free was-it would-able-it in budget-of this-year (4 to 5) thousand youth employ-would-it on budget-of development-of regions-the, but obstacle for it made-has-been

If the provincial council was independent, they could employ 4 to 5 thousand youths on the regional development budget. But there were obstacles.

Thus, the implementation of the general procedure for *keçi* is: what follows *keçi* denies and replaces an assumption or expectation communicated by what precedes it.

b) 'Contrastive' but

According to Schwenter, 'contrast' is different from the other subtypes of adversative relations, as it guides the reader to find 'incompatibility between P and Q' (2000: 260) and indicates the writer's viewpoint as the only relevant one. Looking at the relation signaled in 3a, it is not about denial of / contrary to expectations. However, by using *but,* the writer guides the reader in S2 to interpret the relation between S1 and S2 as a contrast between two states: 'unrepresentative' and 'representative'. The implementation for the general procedure in this case is: what follows *but* contrasts a proposition communicated by what precedes it.

3a) …the problem with Iowa is not that it's unrepresentative of the party's mindset but that it's too representative... (Online 3)
The connective *but* in 3a is represented in Kurdish as *be pêçewanewe*, because it is the typical connective to be used to convey contrast between S1 and S2 in Kurdish texts, such as 3b.

3b) Kêşey Iowa ewe nîye ke nwênerayeti bîruřai ḧizbeke nakat, *be pêçewanewe* zor nwêneraneye.
Lakoff claims that when *but* is used in these contexts; showing contrasting ideas or features, it can only signal 'semantic opposition'(1971:133), and it is simply a contrastive relation between S1 and S2, which is also signaled by *be pêçewanewe* in 3b.

be pêçewanewe (but)

According to Tofiq, *be pêçewanewe* is the typical 'conjunction particle' that signals contrast between two sentences (2002: 230). His claim is based on the fact that the word is a prepositional phrase consisting of (*be* = with, *pêçewanewe* = contrast). However, there are reasons why it is considered as a connective and to suggest that it signals a contrastive relation. The data from Kurdish opinion articles suggest that *be pêçewanewe* operates in a procedure where S2 contrasts S1 by presenting incompatibility between two view points as in 4.

4) Serçawekani opozisyon prupagandei ewe dekan ke sarokayati heremi Kurdistan basi le jyabûnewei Kurdistan kırdûe le Êraqda. Be pêçewanewe le çendîn boneda seroki harem jexti leser yek parçeî Êraq kırdotewe. (Online 4)
Source-of opposition propaganda this make-they that presidency of region Kurdistan talk about separation-of Kurdistan has-done in Iraq. But in many occasions president-of region Kurdistan insisted on one-piece-of Iraq have-done-he.
The opposition sources argue that the Kurdistan Region presidency intends to detach Kurdistan from Iraq. *But*, in several occasions, the Kurdistan Region's president has insisted on a unified Iraq.

In 4, *be pêçewanewe* signals an incompatibility between two viewpoints; opposing unity' and 'supporting unity'. This incompatibility is a sense of contrast as it can be stressed contrastively with the presence of negation. Thus, there is a contrastive relation between S1 and S2 in 4, and it is explicated by using *be pêçewanewe*. So, the implementation for this Kurdish connective will be: what follows *be pêçewanewe* contrasts a proposition communicated by what precedes it.

c) 'Correction' but

Correction relations are recognised in the procedure such as: S1 is a misconception or a misunderstanding and is corrected by the correct information in S2. Hall claims that the correction may be in the conceptual content of the assumption in S1 and/or 'some aspect of the linguistic form used to express it' (2007: 201). The connectives that signal correction relation and replace the previous proposition in discourse with another include: *but*, in English and *bełkû,* in Kurdish. The English connective *but* can also signal correction relation as a subtype of adversative relations. For instance, the procedure implemented in 5a is; what follows *but* (S2) corrects an assumption put forward in what precedes it (S1). That is S1 is a false assumption and S2 is a correction of this false assumption with the help of *but*.

5a) All sorts of games have hat-tricks these days, not merely football but hockey as well... (Online 5)

This function is verified in a procedural account from the RT, in which the implementation is (what follows *but* corrects a statement in what precedes it). Regarding the procedure in 29a, S2 'Hockey has hat-trick' corrects a proposition in S1 (Only football has hat-trick'. Contrary to Fraser's claim that *but* 'cannot signal a corrective contrast' (2005: 18) between S1 and S2, it is observed in the translation data that *but* does signal correction between two text segments and as such it is translated into Kurdish as *bełkû*. Kurdish *bełkû* operates in a similar procedure to the one of 'correction but' as in 5b:

5b) Lem řožgareda, le hemû jore yariek yarizan detwanê sê gołi leser yaktır tomar bıkat, nek tenha le yari topi pê *bełkû* le hokiş.

bełkû (but)

The Kurdish connective corresponding to 'correction' *but* is *bełkû*. The adversative relation signalled by *bełkû* is specifically correction. That is, S1 presents an assumption which is ordinarily false and S2, with the help of *bełkû,* corrects that false assumption, such as in 6:

6) Her ştek bedîhatbêt bo Kûrd xer w sedeqe nebûe. Bełkû beri mandûbûni xoyane deidûrnewe. (Online 6)
Any think-a achieved for Kurds charity was-not-it. But product hard work-of theirs-was-it harvest-it-they.
All achievements of the Kurds are not given by charity. But the Kurds are harvesting their hard work.

Bełkû has been studied in Shwani's (2003) work. He states that '*bełkû* is a conjunction particle that has the function of signalling contrast between two sentences' (2003: 99). According to the data in this study, however, *bełkû* signals a correction of a previous statement. That is, the procedure in which *bełkû* operates is as such (S2 corrects a misunderstanding in S1). For instance, S2 in 6 which is introduced by *bełkû* is forms a correction to a misunderstood situation. Thus, the implementation of the general procedure is also applicable to *bełkû* such as: what follows *bełkû* corrects an assumption communicated by what precedes it.

d) '*Dismissal*' *but*

The implementation of the procedure in which *but* signals dismissal or cancellation is: what follows *but* (S2) cancels and dismisses the importance of what precedes it (S1). This type of relation is typically signaled by *but* in English and the Kurdish equivalence is *bełam*.

Consider *but* in the translation procedure implemented in 7a, in which S2 cancels or dismisses the importance of the topic forwarded in S1. The proposition expressed by S1 in 7a and indirectly contradicted and dismissed by S2, and it is introduced by *but.* So, in terms of RT's procedural approach, *but* can also signal dismissal in English texts. This claim is supported by the fact that in such contexts *but* is translated into Kurdish as *bełam* as in 7b. This type of relation is not found in other procedures in which *but* signals other subtypes of adversative relation. Bach (1999) claims that the different interpretations of *but* have proven *but* to be ambiguous. However, these different readings of *but* should not be considered as ambiguous, because each interpretation can be attributed to different procedures.

bełam (but)

The procedure in which belam is used is similar to the one where 'dismissal' but is used. S1 is cancelled and dismissed by a more important statement in S2. For instance, bełam in 8 introduces a positive statement 'the region is now trouble free' which dismisses a negative statement put forward in S1 'catastrophic events happened'.

7a) Our troops will be stuck in the front line of a strategy that has an end date but has no clear end game. (Online 7)
7b) Hêzekanman le hêłi pêşewei stratižiyêk gir dexon ke kotai heye *bełam* çoniyeti kotayekei řun nîye.

8) Ew řûdawane zor karesatbar bûn, *bełam* êsta doxi herêmakeman zor arame. (Online 8)
that events very unpleasant were-they, but now situation-of region-the-our very quiet-is-it.
Those events were catastrophic, *but* now our region enjoys tranquility.

Considering the procedural meaning of *bełam* in 8, it is obvious that implementation of the general procedure in 8 is: what follows *bełam* cancels an assumption communicated by what precedes it. Thus, *bełam* is the most suitable Kurdish equivalent for dismissal *but.*

V. Conclusions

The claims about the 'ambiguity' of the English connective *but* are not entirely true (Anscombre and Ducrot, 1977: 26). Based on a relevance-theoretic approach and according to the different translation options, this paper concludes that *but* is a polysemous connective and that it has four distinct, yet interrelated, procedural meanings. These meanings shall cause minimal ambiguity when translating from English into Kurdish, because each of the four distinct meanings fits into a specific interpretation of the general procedure. However, having no detailed research about Kurdish connectives would pose a challenge to translators, as they need to be aware of the textual functions of each connective and the contexts in which they are used in order to have a flawless final product in their translation. Based on the Relevance Theory's procedural account, there are four distinct interpretations of the general procedure associated with *but,* namely; denial, contrast, correction and cancellation, which are translated into Kurdish as *keçi*, *be pêçewanewe*, *bełkû* and *bełam* respectively as shown in Figure 2.
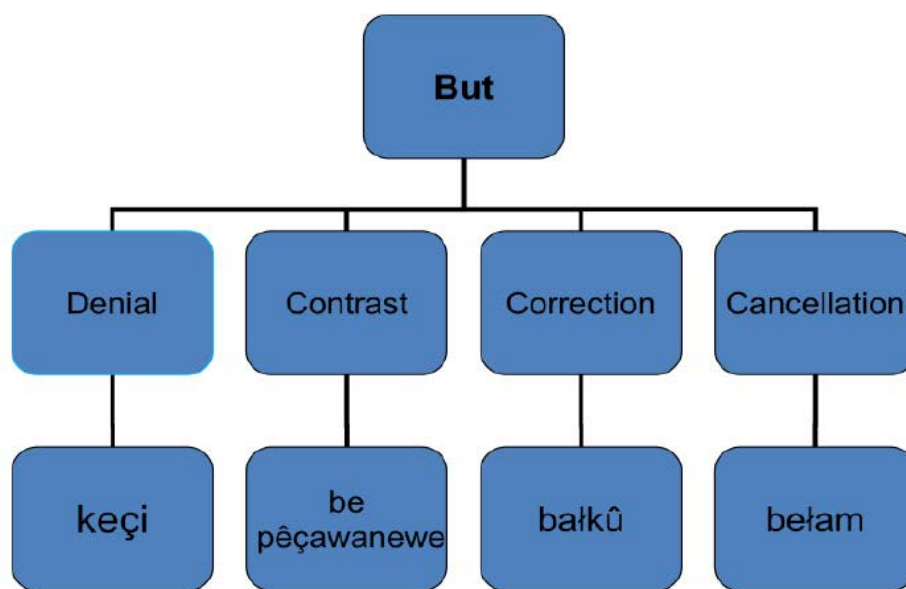
Figure 2: Translations of the implementations of the general procedure encoded by *but*. 10

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The Influence of Learning Workload on Schoolchildren Health/ Development and Teaching Motivation

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Abstract- Based on Lithuanian and foreign scientific, pedagogical and psychological literature and normative state documents, the article identifies a disproportionate educational workload depending on the age of children. The influence of workload on schoolchildren's motivation and health/development is examined. Exhaustion of the nervous system due to an irrational daily routine, reasons for non-compliance with the daily routine and lack of healthy sleep due to an inadequate amount of homework exceeding the hygiene norms of the student's "safe" mental work are identified. The author analyses the learning workload, motivation to learn and health problems in the development of children's social competencies. This paper also examines the education system's shortcomings (lesson schedule, methodology/ didactics, amount and complexity of homework corresponding to the age of the schoolchildren), which depend on the health/development of students and the motivation for learning and the desire to attend school. The survey results of students, teachers and parents are being presented.

Strictly as per the compliance and regulations of:

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Keywords: learning workload/motivation, desire to attend school, child/student health/development, sleep/adolescence, daily routine, positive thinking/positive emotions, values, self-confidence, "transparent education and plans", updated (UTA) programs.

I. Introduction

Every nation puts all its hopes in children. As teachers, parents and active community members, we can impact the lives of young people every day. We can help young people become active members of society. We change their future by caring for them, understanding their problems, showing them possible solutions and teaching them. <...> We encourage our children to be the best version of themselves <...>. We must teach them more than the names of state capitals and mathematical functions. They must learn to respect themselves and others. We can help them build strong relationships with family, peers, school, community and the world around them. Our children need the self-confidence they can gain by developing their talents. They need to learn to control their emotions constructively and set positive goals. Children must acquire the knowledge and skills necessary to lead a healthy and safe life <...>. We can help them develop this essential knowledge and skills (International LIONS QUEST Association, 2019). By the State Education Strategy 2013-2022 (from now on - the Strategy), the strategic planning of Lithuanian education

continues, the efforts of the educational community are mobilized for fundamental changes in education that meet the expectations of society, the primary needs of the state, and global educational trends. Taking into account the aim of the Lithuanian progress strategy "Lithuania 2030" to create an intelligent, active, solidary, educative society, the strategy sets a fundamental task for education - to mobilize the educational community and all the people of Lithuania (solidarity) to constantly train purposefully, to achieve personal and national success, ensuring equal opportunities <...>to form a positive public attitude towards the family. Generational solidarity is fostered in society; a harmonious family is strengthened as the essential community cell and a guarantor of the nation's survival, where a free, creative and responsible person matures. Education is an activity aimed at providing a person with the basics of a full-fledged independent life and helping him/her constantly improve their abilities. Learning is the natural right of every human being. Education protects and creates the nation's identity and transmits the values that make human life meaningful, society's life harmonious and solidary, and state progress and security. It is a priority area of public development supported by the state (EDUCATION LAW OF THE REPUBLIC OF LITHUANIA (summary version), 2022. In Article 40 of the Republic of Lithuania Law on Education: material provision of Education and learning workload, it is claimed that the learning environment at school and the learning workload of students must comply with hygiene norms and safety health requirements of students established by legislation and guarantee the implementation of educational programs. However, long-term studies show that the current academic workload of Lithuanian students is not compatible with real students' physical and mental abilities to maintain the implementation of educational programs, it contradicts the performance of a healthy daily routine for students, does not meet hygiene standards, and also require human logical correction. The hygiene standards for the preparation of the school education plan have been determined- LITHUANIA HYGIENE NORM HN 21: 2017, must be helpful for students, educate/teach students within their capabilities as children, not to increase, but to shorten their time at school. Analyzing the long-term situation of homework in Lithuania, the most beautiful thing that has been done for children's future - for their healthy development- is that a system was created in the elementary grades that allow children

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not to be assigned to do homework and not be evaluated by grades. However, research shows that grades are written in individual institutions, and reading is assigned in all public schools and levels. More than ten years ago, the links between the learning workload and students' psycho-emotional well-being were established: students who assess the learning workload as too high are more likely to feel tension at school, their motivation to learn is weaker, they have a worse image of the school as an institution, they feel a greater fear of teachers and their peers, the general well-being of students is often negatively affected. Better relations with parents are indicated by those students who think that the learning workload corresponds to their capabilities. Too much learning workload harms the elements of the daily routine (Sketerskiene; Šurkiene, 2009). However, it was not possible to adjust the training workload.

In Lithuania, there have been no significant studies on effectively teaching various subjects to students of different genders and ages. Also, in the last decade, there has yet to be a thorough study of the workload of schoolchildren, which corresponds to real-life hygiene norms. Schools must understand how to effectively teach various subjects to students of different genders and ages. It is difficult for "schools" to adjust the teaching/learning workload purposefully because they lack knowledge and understanding of children's development and daily routines. Schools "feel perfectionist" that children can work at an adult's pace and have no information about children's actual sleep and rest. There is an increase in the number of children with special needs because, at a particular stage of development, children are not required depending on their age (starting with the methodology in kindergarten, where the lessons are not in a "game" form; in primary schools, grades are used, which significantly traumatizes children's psychological state due to a lot of negative evaluation and the reason is that a child does not know something, and by the way, it is not child's job to know; children "do not have time to fall in love with science", because from early childhood they already develop a fear of science; psychological aspects are not taken into account when transitioning from primary to primary school; the importance of the teenage period is missing, when significant changes take place and physiological personality changes).

For this reason, one of the prior directions for updating the educational content is developing scientific potential on this topic in Lithuanian higher education institutions that train pedagogues. It is essential to build a purposeful path, not to put all the decisions "on the shoulders of the school". All innovations must be implemented with the help of significant research, scientifically verified, so that children have as little stress as possible. It will help overcome differences in student achievement, increase social inclusion, and, most importantly, preserve children's health. It is necessary to provide scientifically based methods and tools that would allow this practice to be successfully implemented and developed.

An actual problem of the organization of the modern education process is the effort to create a healthy daily routine, to choose ways of presenting educational content that help reveal the individuality of the students, their self-expression, help to accept information and integrate into the educational process according to personality differences, individual learning style (Statauskiene, 2009; Juralovic 2018, 2021), and most importantly according to the student's age, not exceeding the possibilities of his age, so that he feels emotionally safe as he grows. However, this can only be achieved if there is a fundamental teaching load that corresponds to the age of the child/student.

The goal is to analyze the impact of the training workload on students' health/development and training motivation.

Tasks:

1) Analyze the concept of healthy development according to Humanistic pedagogy;
2) Analyse psychological and pedagogical literature on practice;
3) To determine the total learning workload of various subjects at various levels and its impact on the health/development of schoolchildren (daily routine, motivation to learn, sleep, compliance of the workload with the age of the schoolchildren to learn "safely" and preserve physical and mental health);
4) Identify the aspects of inadequate/defective didactics/ methodology in schoolchildren's education and their consequences;
5) Identify factors that promote positive/healthy personality development, promote learning motivation, desire to attend school, develop self-confidence and human value thinking.

The concept of healthy development according to Humanistic pedagogy: Child development can be defined as a sequence of biological, psychological and emotional changes that occur from birth to the beginning of adulthood. In society, we talk about what specific actions and things a child needs, and we forget to talk about what the child's spirit needs. The most important thing for a child is absolute, unconditional love that does not demand anything and does not judge the child's actions: *I will love you always, even when you do not behave as I expect.* It is necessary to help the child to grow up as a person with developed emotional intelligence, socially skilled, self-conscious and happy person so that he can recognize and name his own and others' emotions, that can be empathetic, ready to do good things, < ...> would care not only about himself but also the interests of others, be cooperative, feel responsible for the impact of their lives for the future generations <...> would know what is good and what is

bad <...>. Philosophy claims, and its practitioners observe, that babies come into this world with a strong sense of justice, a need for beauty <...> and an instinct to live rightly. The environment helps the child develop the skills to forever realize or suppress this instinct. We should pay attention to 1) Goodness is cultivated by goodness; 2) Peace develops peace; 3) Only love develops love; 4) Only patience develops patience; 5) Politeness is cultivated only by politeness; 6) Personality is developed only by personality; 7) Only generosity develops nobility. These simple axioms mean that our behaviour as parents and teachers is an essential lesson in emotional intelligence, social skills, and morality. <> It is important to realize that even if our moral teachers are perfect, schoolchildren's ability to act as they please is limited. The main reason is the low level of brain development. Even if the child's consciousness has received the signal *not to eat candy until dinner,* it does not mean he will do so. The signal does not always travel to the behavioural coordination centre because the corresponding brain pathway is not yet firmly established. But repetition is the mother of science. Patience is a virtue. In addition, you will save a lot of energy if you stop demanding impossible things from your child. <u>Humanistic pedagogy</u> can help us to understand who a child is. It is a philosophy of approach to the child. Maybe that is why everything cannot be that simple. Humanistic pedagogy is primarily the opposite of authoritarian pedagogy, in which the teacher can command, force, and explain how to live but not necessarily be an example. Humanistic pedagogy encourages one to look at the child as a person even before birth and to delve deeper into what a person is and how to help him become a person. It is a way of approaching the child and his education process. A philosophy that encourages the teacher to be conscious, to think about who the child is, who the teacher is, and to teach the child the most important truths about life and its meaning. This philosophy also tries to accept the child as a teacher, a source of truth and light. Goals and values of the educational process of humanistic pedagogy <...>: love and respect your neighbour, treat people the way you want to be treated, speak nicely, do good things, be sincerely polite, sympathize and help. This is the unshakable basis of the main message of every session, every moment of work and creativity with children/students. However, everywhere and always, we, teachers, parents, and everyone who surrounds the child's life, must fulfil three necessary conditions: 1) be especially patient; 2) love children unconditionally and tenderly; 3) feel responsibility for their future, for the impact of their actions on their lives. *<u>It is important to understand what laws affect the child's behaviour. Remove</u>* from the child's environment poor examples and activities that lead to regression of emotional intelligence, hinder the development of normal social skills and develop

immorality instead of morality. *<u>Fill</u>* the child's environment with good content: exemplary teachers, good fairy tales/books, sayings <…>. All these moral principles must be implemented proactively <…>, and at the same time, remember that the world is diverse. It will not be possible to completely clean a child's life and try to make it unnatural, but good role models must dominate. A child has a natural right to learn and improve, but he also has the right to freely choose, to discover himself, and to engage in those things that seem most important to his spiritual development. Interesting fact: phones, movies, and tablets, used too much, weakens intellectual capacity. In developing fine motor skills and all other skills, the rate of improvement is determined by the amount and nature of practice. <…> A child's Physical development greatly affects all other areas of development. If a child moves a lot, he is physically and intellectually strong. And vice versa, if a child has a considerable intellectual load and studies a lot, you must consider his kinesthetic (body, physical) intelligence. Mobility reduces the amount of stress hormones in the body, so movement is suitable for reducing and preventing stress. Our efforts, books, toys, activities, words of support and love are like soil, water and sun that help strong plants/plants grow and bloom. Scientists have agreed that genes play a role, but practice (by its very nature) allows some genes to manifest and others to remain dormant. A child of a family of composers who grew up in a coal miner's family will not become a composer. Therefore, as you look at the beautiful jar of seeds, keep asking yourself which seeds of your child's potential will germinate. (Goleman, 2009).

Concept of learning workload. Practice shows that the workload of training is understood as the student's presence/teaching at school, the duration of the lesson, the duration of breaks, the performance/duration of homework, as this is the activity/task assigned during the lesson and is an integral part of the training. , therefore, it counts towards the school/teaching workload. So it can be said that students work at school for about 7 hours plus at home less often 2 (more often 3-4) hours with assigned homework, the total workload is about 9-10 hours, the rest of the time is for extracurricular activities, spending time with family, nutrition/meals and sleep. In the documents of the LRSMM, it is established that the learning workload is growing for several reasons: 1) *Organization of the educational process in schools (setting up lessons, tests, timetables).* 2) *The documents regulating the educational process - General programs and educational standards - are too large.* 3) *Organization of the learning process in the lesson.* Instead of selecting the most necessary subjects, teachers provide students with many additional facts and concepts. The learning workload also arises from insufficient differentiation and individualization of the learning process in lessons <...>. 4) *More isn't always*

better. Each student achieves results according to individual capabilities at his own pace. The school should make a monthly or trimester control schedule. *The test can take various forms - not necessarily a written work but also an experiment, a musical project, or a work of art. It is also important to plan the time of control tasks - you need to consider whether the child/student will be active and not tired. Controls are advised to allocate the most productive time of the day - the second and third lessons. It is best to write them in the middle of the week - on Tuesdays and Wednesdays.* Very often, the tests are shifted to the end of the trimester. It is important to arrange the checks evenly so that the child is not overwhelmed by an avalanche of payments at the end of the trimester. *Homework in the fifth grade* takes about 1.5 hours to prepare (or they might not). During this time, the fifth grader should be able to complete all the tasks. If there were six lessons that day, each of them has 15 minutes for homework. Nevertheless, some subjects, for example, mathematics, mother language, and homework, are usually assigned longer, so nothing is given for other subjects that day. <...> *Homework is not assigned during holidays and days off.* It is not advisable to start preparing lessons immediately after returning from school. There should be a 1.5-2 hour break between lessons and their preparation at home. It happens that the student leaves the lesson without understanding anything. If this continues for a long time, unlearned things begin to accumulate. To catch up with the peers, a child has to sit with books longer at home, and sometimes the opposite happens –a child becomes disappointed with himself and loses the desire to learn. The backlog increases, and the achievements deteriorate. For the educational process to be successful <...>, the pedagogue must try to find out what the child knows and does not know, whether he understood everything during the lesson and whether he is less successful. The teacher must use the class time as effectively as possible so that the student achieves the learning result and has as little work as possible at home. Children are different - some need more, and some need less time to learn new things and develop skills. <...> *The teacher must individualize the teaching methods* - try to adapt the lesson's content to each student individually so that he/she successfully achieves the learning outcomes. *People are different* - with different talents and inclinations. Only 10 per cent of gifted children do everything perfectly. *The workload also increases* when teachers work only according to the textbook, but the authors tend to put much more into them than the educational documents require. Only elements which will help to achieve the learning result should be selected from the textbook. The general educational programs provide that children must be able to work with information - search for it, and draw conclusions (LRŠMM. PENKTOKAS). *Learning*

motivation increases when the student feels that what he is doing is interesting, relevant, useful, necessary, and understandable, and he feels satisfaction with his work and results. *The learning workload also depends on the complexity and quantity of tasks. Motivation can be increased by reducing the workload - it is higher when the tasks seem manageable to the student and lower when the workload is too high.* There could be no homework. It is best that children are given no more than 15 minutes daily for each subject and give 100 per cent. Homework should be checked. *By reducing the amount of homework, the student would have time to focus on the desired field.* Increase not by grade but by the number of subjects evaluated for credit. At least for a day, and preferably a week, to be "in the child's shoes" performing the assigned tasks of all subjects. <...> With the start of remote education, to get a 10, it was necessary to study for 18 hours per day; teachers left part of the work to the children to complete independently (EDUCATION NEWS). Meaningfulness and motivation of students' learning).

The impact of learning workload on children's health/ development. After analyzing the learning workload, it can be said that the change in the education system should start with the planning/regime of the student's day, and only then programs, methodology and the work of teachers should be discussed. It is important to study carefully the very simple things and ensure that appropriate educational rules that are valuable to children and teachers are followed. No one has ever carefully analyzed the student's schedule, how long he stays at school, how much time he has, what time his classes end, and what the are activities during breaks. A common school has three breaks of 20 minutes each, the reason for such long breaks, managers say, is that all children have to eat, but studies show that children waste time, they usually eat at the same time and, of course, food in a box is sometimes better than food to grab. Surveys of parents show that the number of children with digestive and spinal problems is increasing. We are restoring the school environment, but the most important thing is the health of students and teachers, relationships, and, last but not least, education. The conclusion is: shorten the breaks and the number of lessons so that children have the opportunity to eat a warm lunch at home and can engage in additional education in "school time" and sleep more than 6 hours every night (optimally includes 9/10/11 (at least 8 hours) hours of sleep, so that all phases of sleep are covered. Melatonin and serotonin are produced in the child's brain). Research has shown that most of the schoolchildren's lessons end at 15-16 hours (starting with primary and fifth/sixth graders), in the best case, at 2 o'clock. An ordinary elementary or fifth grader works even 7 hours a day; not all adults are capable and work that much. Unfortunately, the modern

school usually prepares two schedules: one for the state, the other for the children and parents, because the wrong thinking is still rooted in the fact that it is not the quality but the quantity that matters; the more lessons, the more knowledge the child will "get", become smarter and pass exams. However, such schedules are detrimental to the daily routine of schoolchildren. The school schedule usually does not correspond to the daily hygiene norms of the student; the student cannot work/study at school for 7 hours. during the day. It is already the second shift, and the child "works" like an adult. Appropriate methodology and useful, comprehensible, not overloaded subject content can save class time. It is not the quantity but the quality that determines the student's knowledge acquisition, learning motivation and personal progress. Keeping students in schools "as they see fit" is unnecessary. The student must engage in extracurricular activities according to their interests. When the children return home, they still have to prepare their homework, the complexity of which not every parent will explain - there is no logic and the goals of such education and science are unclear. The amount and complexity of homework do not correspond to the age of the children. For example, usually for a student, even in primary and basic education, 4-5 are scheduled for the next day, there are even six tasks for six subjects, and the homework for one subject usually covers several methods (reading, writing, repeating, memorizing), which means that one subject must at least a few more tasks. _Thus, it can be said that one thing often turns into "multiple things" and takes much time to complete._ This is already a "student" methodology. There is a lot of stress on the child's growing personality because every child wants to catch up with everything and remain positively evaluated. Negative grades, disappointment with education, and, most importantly, their personality appear. As a result, the student develops fears and loses the motivation to learn. He knows he is " unsuitable" because he cannot maintain the full workload. As a result of such a pace of life, many children with special needs appear because this nature of science in education systems is already in the first grade, and it greatly "damages" children's psychological state and exhausts the nervous system. Studies have shown that, on average, a gifted student does homework for less than 2 hours. more often 3-4-5 hours. Negative grades are demotivating. Where teachers do not feel the student's age and do not find the appropriate methodology according to the child's way, there is an irrational giggle of negative grades for class and homework, control and independent work, various tests, etc. The vague terms "control and independent" work hurt children's psyches. The term "control" and its interpretation have depreciated and are "barren" because they cause a feeling of fear in the student. A child should be valued first for his efforts and then for his

knowledge. It is important for the psychological safety of children to comply with the rules of the Education Act: several checks are not allowed in one day, but they are common in schools. Consequence: Children hate school and feel as if they are "imprisoned by education". Education experts suggest changing the tests to be accessible, passable and positively evaluated by every student and teacher. It can be concluded that the hygiene norms of Lithuanian schoolchildren corresponding to the healthy development of the schoolchild have been violated: the student's feelings, sleeping hours, and extracurricular activities (time for revealing abilities/talents, becoming a personality). A happy, peaceful, warm presence in the family is important for children so that homework does not become a reason for quarrels in the family. The most important thing is the family's well-being, not how much is "crammed" into the child's head according to a rigid educational plan. _During the pandemic, many parents and teachers saw a real "system/life science/learning(s)" in which our children/students "exist". The excuse that the "pandemic" caused such a burden on the children is meaningless. Paradoxically, the "pandemic" only highlighted and showed all the shortcomings of the Lithuanian education system and especially showed the enormous workload our children should handle, which is why it was difficult to teach children because basic science is based on homework and about 50% of students master basic knowledge with the help of tutors._ Meanwhile, teachers say that general programs are too complicated for students. There are excellent teachers/ leaders in Lithuania who were "broken" by an inappropriate/defective education system/strategy. Today's teacher has daily contingencies, which are "nerves". A teacher cannot create qualitative lessons, having to teach his subject and also participate in various projects, seminars, exhibitions, integrate with other subjects, organize excursions, presentations and "sit" at school over time, when the brain has to rest. The next day the brain has to function by devoting oneself to pedagogy. It is a pity, but the modern teacher works like robots and constantly "something is demanded" from them, and they "must" smile. Of course, children need a smile. The wisdom and calmness of teachers of a respectable age educate children much more than ICT - that needs to be understood and respected. Most students are addicted to smart technology. Training seminars will not help; the best Lithuanian teachers who are teachers by nature "disappear" (leave their jobs) because both the teacher and the student are human and have "limited" opportunities for work and rest. Schools have been trying to regulate workload for decades, but long-term research shows that it is impossible without a specific system. Children's psychological state and harmonious relationships in families are still affected because the most important thing is the regime of children so that they develop

according to their age and become happy individuals. In schools, it is impossible to regulate the amount of homework; it must be specific/concise/accessible and manageable for every student or there should be no homework at all. The most important thing is the emotion when learning and absorbing something new. Just as teachers' plans must be "transparent". This means what (thing), in what environment (office, theatre, museum, nature), how much (information), in what ways (mostly three to suit each kinesthetic, visual, audio) and in what time (e.g. during one lesson or more) children will learn, absorb, what knowledge, skills they will acquire and whether they will be positive at that time, whether learning will bring them joy and self-confidence and whether they will tell their parents that they hate school and do not want to attend it anymore. For some reason, educational innovations are placed on the school's shoulders; schools must themselves accept, implement, and stabilize "somehow". Then, the students become the object of a new experiment. By the way, there are facts that pre-kindergartner groups work similarly with "non-childish homework", as well as little fine motor skills are developed, there is a lack of variety of activities where children have to work a lot with their fingers, not only drawing but also sculpting, construction, where both hemispheres of the brain develop at a certain age. The child's language development, coordination and mental awareness depend on it. In primary schools (especially those of ethnic minorities), teachers are forced to teach the creative technology subject during breaks and in an extended group; children have no idea about real happy creativity because the minimum mandatory number of lessons in all subjects in the general programs is higher than in only Lithuanian schools and teachers that teach "over-teach, pressure" children, without even integrating creative subjects/methods. Children hide in themselves before they have time to adapt. *In this place, the hygiene norms are severely violated; it doesn't matter that there are more things; there must be a "healthy" load*. It is difficult, but it is possible to choose the right way by including all three main senses of training: hearing, sight, and feeling (kinesthetic, visual, audio). For the well-being of children, it is important to adjust the minimum number of lessons per student per week in the updated curricula (UTA), which were also "old" (the year 2008), so that it is the same in all schools and those where teaching in the language of the national minority is legalized. For example, fifth graders have five (5th) extra hours/lessons. *It is just another working day for a student, but there are seven days a week, two of which are for the student's mental and physical rest. This seriously disrupts the daily routine.* More classes, more homework, a child's backpack is heavier (some fifth/ sixth graders reach 5/7 kg), classes end late (around 3– 4 pm), sleep late, parents restrict extracurricular activities, chronic fatigue appears, immunity weakens,

lack of joy of life, because children feel imprisoned by science. Then there is a feeling of inferiority and a feeling of hating school, not attending it, and quarrels arise in families, misunderstanding each other, because some parents think that their child cannot study, while others "press" them to be able to. However, studies show that the workload for children is simply inadequate; it affects children's nervous system and development - health. *There are facts that those "scientists" and pioneers, to whom the whole class is being compared, are mostly children engaged in one scientific activity, under much pressure from their parents, usually with no additional education (groups) and physically weaker - they are one group of susceptible children, as if "trained "only for victories. Sadly, we are raising a generation of very vulnerable perfectionists.* In Lithuania, dividing students into groups according to abilities is common in basic education institutions. When admitting students to schools based on educational results, there is a risk that the division of students not only according to ability but also according to social and economic status will take effect. In 2018, a new (UTA) ability-based educational program was started in Lithuania. Its purpose is to help improve student learning outcomes. Preparatory work included training of teachers and school leaders. It is planned to start implementing the new educational program in primary and secondary schools from the 2023-2024 academic year. Implementing this reform will also change the achievement evaluation system, according to which the main focus is currently not on complex skills but on subject knowledge <...> (Lithuania. Education and Training Monitor, 2022). It should be emphasized that school leaders are usually "obeyed" by educational documents, and schools are given too much freedom, responsibility, and "burden" when drawing up a school/gymnasium education plan in deciding the future "fate" of children's education. Therefore, all science is based not on quality but on quantity. When renewing/changing the general programs of Lithuania, it is important not to increase but to reduce the workload of education because the UTA is too complicated for children/students, too demanding of what students should be able to do when completing primary, basic/secondary education. Also, developing information technologies in primary school will only increase the workload on schoolchildren's education and health risks will increase, especially the needs of students. By implementing the latest programs into the current workload of Lithuanian schoolchildren and teachers, it can be said that there will be "neither healthy teachers nor healthy students". Such requirements will encourage even more children with special needs, teachers will conform to the requirements, and children's psychological state will be damaged.

Aspects of flawed educational strategy/didactics/ methodology: Here are a few examples. Could each of us adults memorize, twice a week, a few texts in English (when it is not the mother tongue), without even retelling, being in the fifth grade and getting two fours in one day for evaluation? For today's fifth grader, regardless of age, it is a huge test of his feelings, stress and, as a result, regression in other subjects. Fifth graders are in a transition period, not just from fourth to fifth grade. It is probably not even necessary to state conclusions. This is a common methodology used by teachers. What do parents do in such a case - they hire a tutor if they can afford it, others try to make "pointless" agreements with teachers, and others pressure their child as best they can, depriving the child of all his hobbies. It is a "salvation" for children if the teacher differentiates the tasks, but then he lowers the grades. The problem is that most teachers teach, "over-teach", and set goals that are not age-appropriate, claiming that this is what the general curriculum says. Meanwhile, children's development is affected, and what kind of learning can we talk about here? These are sad facts. Educational specialists/teachers must take into account the psychological characteristics of the adolescent period and emphasize the transition from primary school to primary school, which coincides with the transition period from junior school age to adolescence (11-12 years old), during which physical, psychological and social changes are important. Another example of a similar methodology is answering on the blackboard in front of the whole class. *Case study.* One gifted fifth-grader was so worried when answering at the blackboard for the first time that her mother calmed her down only with the help of sedatives. However, the teacher told the following lesson to bring a chair to the blackboard and answer while sitting, and only for her to facilitate answering. Another case was when another fifth grader had to answer in front of the whole class as well, and then he was unable to answer during other classes. Such methodologies should be abandoned forever. These are just a few cases, and there are many more. *The important role of teachers is delicacy and clear and reasonable requirements that correspond to students' abilities. It is necessary to notice the smallest achievements of the child to praise him for his merits and work. Assessment should promote personal development, positive self-awareness and self-motivation to learn. Lots of positive reviews. Abandon the phrase "students evaluate each other" methodology, which disrupts the creation of friendly relations and the socialization of students. A commendable method of self-assessment. "Experimental projects" with teenagers, where any negative evaluation exists, disrupt their perception of the world because it affects their feelings. Abandon "answering at the blackboard" because when standing in front of the class, children are more vulnerable; let them answer at their desks and of their own volition.*

Ugly writingreasons: Research shows that by the fifth grade, the student tries very hard to write down in the notebook everything the teacher tells him during the lessons, and then some students' writing becomes "terrible" because they cannot keep up and are very worried about it. Of course, teachers always deduct grades for "crooked letters." A student does not have to write quickly after finishing primary school; quick writing makes the writing messy and wrong. On the other hand, some children's handwriting is beautiful and neat, others are not yet formed, and this is absolutely normal. It depends on several reasons: the level of development of fine motor skills, the child's development, and the teachers' requirement - the pace of work for children to perform one or another task. Also, by demanding certain notebooks with "big" lines, teachers are doing a "disservice" to themselves and their children because research has shown that writing in a primary school notebook at a student's pace is a big help in forming/consolidating beautiful handwriting and orderliness. Sometimes, it takes all the "spare" years for the child to move to another notebook, which is the norm. This process is called adaptation and humanity. Knowing that children's handwriting has nothing to do with their intelligence is important. These are intelligent, gifted, advanced and high-achieving children/people.

Number of notebooks in one subject: When a child enters the fifth grade, another world opens up, similar to how a twelfth grader should immediately defend a research paper. It is hard to pick the right example, but the jump is huge. Many new things, new teachers, different methods, and a new environment and if it is still a school for ethnic minorities, then the child immediately moves as if from the fourth to the seventh grade because several other things contribute to him, and it is a heavier burden not according to age. Studies have shown that some subjects, that is, one subject has 3 5 five notebooks. It is not clear why so much is needed. A student's backpack is heavy. One thing is one notebook and no notebooks for tests. Children are much calmer when it is "just" a notebook. By the way, teachers are required to check all notebooks; this is a small part of their salary and additional, but research has proven it does not always necessarily work. It is common for a student to receive "red-painted" notebooks as feedback. Tired teachers mean tired kids, which continues like a "vicious" cycle for many years. A person said to be empty inside will certainly not "give" anything to children. And it is no longer a secret that the emotion with which we give or receive information when we explore something new and when we acquire new skills is important. The result depends on how you feel. Positive thinking is a driving force in all areas of life, and our

children will be stronger when they realise it. We can only instil it in them through our examples. *"Excessive" use of smart technologies negatively affects the development of fine motor skills*. According to British doctors, smart technologies slow down the development of children's fine motor skills. <...> Lithuanian pedagogues and specialists also notice that more and more children, when they start school, hold their writing instruments incorrectly. They advise developing fine motor skills for small children and older children because trained finger movements increase children's *self-confidence and self-esteem*. British paediatricians claim that modern children find it more difficult to hold a pencil or pen because their finger muscles are not sufficiently developed due to the frequent use of phones and tablets <...>. *The fine motor skills of children who started attending school ten years ago were much better developed*. The tendency to hold the writing instrument irregularly and the number of left-handed people is increasing. Children without additional education and training now find it more difficult to hold a pencil and a pen, write and draw. Unfortunately, *technology is changing the development of fine motor skills.* At an early age, the development of fine motor skills *is related to the development of language*, and as the child grows up, it is related to *the ability to independently perform various tasks*, fasten buttons, use tableware, pick up something, turn it, open it, construct it. It is a mistake to think that the movements of the fingers are trained by themselves. Specialists at the Child Development Center say that children who are fully educated from infancy have much better fine motor skills than those whose education is given less attention and time. The development of finger muscles is also slowed down by the fact that technology too often distracts children from activities important for developing fine motor skills. Children who are immersed in technology are less likely to engage in other activities, especially drawing or building, which are important for hand and finger development. Tablets and phones should be given to children minimally and purposefully. The development of children's skills in schools is changing. The rapid development of technology forces us to teach children in such a way that they adapt to new conditions and easily manage and understand the new tools that appear. Developing fine motor skills <...> to employ the fingers properly in early childhood and school age is important. <...> If fine motor skills are not developed, children often do not know how to hold a drawing tool correctly; they have difficulty drawing shapes and signing numbers and letters. They have a harder time cutting with scissors. Developed fine motor skills influence children's independence skills: the more activities a child can do by himself, the more confident and happy he will be. At school, the child will feel fulfilled and confident. It is extraordinary to get today's kids away from their screens and engage them

in other skills-building activities. Children of this generation need *engaging, creative and tangible results*: drawing, cutting, sculpting, and building. While constructing, children play and develop their fine motor skills and other abilities <...>. Much attention should be paid to the development of modern children's fine motor skills (Medicine. lt, 2018). According to R. Kėvala (2021), excessive and excessive use of information technology can cause serious damage not only to mental but also to physical human health. Therefore, it can be concluded that it is important to use ICT (information and communication technologies) in moderation during lessons, taking into account the permissible norms of ICT hygiene. Pay particular attention to mobile phones, which are boldly used (during online and contact learning) for educational purposes in all classes and subjects, regardless of the children's age, health, capabilities and knowledge. Mobile phones emit negative radiation, and the dependence of school children on this means of communication and communication is increasing. Allow the phone to be used only for its intended purpose and outside of class.

The importance of "happiness" hormones: Melatonin is a hormone of the pineal gland which is produced during the dark hours of the day. Light at night suppresses melatonin production. Melatonin is an important biological regulator of the body. It regulates daily and seasonal biorhythms, glucose metabolism, activity of gonads, activity of the cardiovascular system, activity of the gastrointestinal tract, activity of other endocrine glands, and activity of the immune system. *The name "melatonin" is made up of two words: (mela-) because of its effect on melanocytes, (-tonin) part of the word "serotonin" because it is from serotonin that Melatonin is produced.* Studying at night suppresses melatonin production, which disturbs the body's homeostasis (Černyšiov et al., 2014). According to D. Stravinskienė (2021), <...> *serotonin* is one of the neurotransmitters (neuro carriers) present in our body, which is involved in the transmission of nerve impulses between neurons. Serotonin is produced from the essential amino acid tryptophan, which our body receives through food. Most serotonin is produced in the intestine (about 95%), and the other part in certain brain structures (about 5%). Accordingly, it is divided into peripheral and central. The produced peripheral serotonin enters the blood - it is stored in platelets and combined with blood plasma proteins, metabolized in the liver and eliminated through the kidneys. In this way, the blood's free peripheral serotonin is regulated. Central serotonin is stored in certain presynaptic neurons in the brain. Peripheral serotonin produced in the intestine regulates intestinal motility, determines the absorption of glucose in the intestine, delays the action of insulin and, through certain mechanisms, regulates the function of the pancreas - the release of digestive enzymes. As it accumulates in platelets, it participates in blood

coagulation processes - it promotes the sticking of platelets, the contraction of blood vessels, and causes their spasms. *It acts as a certain growth factor, as it is a protein-derived substance* that stimulates cell proliferation and promotes wound healing. Serotonin stimulates the release of nitric oxide from vascular endothelial cells and thus dilates blood vessels. Central serotonin also regulates the flow of glucose into the brain to meet the energy needs of brain cells. At the same time, it affects our psycho-emotional state - it makes us feel happier, calmer, more focused, more emotionally stable, less anxious, and sleep better. It is essential to have a balance between central and peripheral serotonin. <...> The body's central and peripheral serotonin levels must be maintained at 5 and 95 per cent. When the brain produces too little serotonin, a person's self-esteem decreases, a sad mood prevails, apathy appears, it is more difficult to concentrate, memory deteriorates, which makes it more difficult to study/work, an individual is more sensitive to pain, insomnia most likely to appear, because the sleep hormone melatonin is not produced in the absence of serotonin. The need for simple carbohydrates also increases, and then weight increases. People with low self-esteem and who cannot adapt to the influence of various stressors tend to develop depression <...>. Serotonin production is stimulated by light through certain parts of the retina. Vitamin D produced in the sun increases the production of serotonin. <...> An important factor is physical activity, which supports physical and psycho-emotional well-being *because serotonin* and other hormones are released during physical activity - dopamine (hormone of satisfaction) and euphoria -causing endorphins. Another important factor is food, which stimulates the production of serotonin. It ensures a sufficient amount of tryptophan in the diet, which is obtained from protein-rich food - meat, fish, eggs, legumes, grains, seeds, nuts, and milk.

The importance/lack of physical activity is one of the main problems of the society of this age (Tannis, Senerat et al., 2019).The human body has a biological need to move, which is necessary to maintain the proper functioning of the human body. According to research, the physical activity of people today has decreased significantly, by 59 per cent. The population of the European Union is not physically active enough. The sedentary position is a health risk factor independent of the level of daily physical activity, provoking chronic non-infectious diseases and increasing the risk of early death. Even 90 per cent of sedentary workers have experienced symptoms of musculoskeletal disorders of varying intensity. A strong association between daily sitting time and physical frailty has been found. Therefore, it is necessary to reduce or limit sitting time if an individual wants to improve their well-being and daily lifestyle. During the Covid-19 pandemic, many people complained of disorders caused by reduced metabolism, which happens precisely because of sedentary work and reduced physical activity (Ignatavičiūtė, Dadelienė, 2022). Reduced physical activity and prolonged sedentary work are associated with increased mortality (Ekelund, Tarp, et al., 2019; Stamatakis, Gale et al., 2019; Patterson, McNamara et al., 2018), decreased social connections, increased anxiety, isolation and with an increase in the feeling of loneliness, deterioration of mental health, and with a decrease in work productivity <...>. R. Kėvalas (2021) states that a lack of physical activity promotes postural disorders due to muscle weakness, deformation, and morphological body asymmetry. The consequences of little physical activity can accompany children for the rest of their lives. According to international studies, 34-50 per cent of children and adolescents worldwide are characterized by irregular posture. The incidence of postural disorders in Chinese children and adolescents is 65%. In Poland, the frequency of postural disorders is higher among obese children and adolescents and reaches as much as 74%. As the age of children increases, posture disorders are detected more often. *The cause of all acquired postural disorders is low physical activity, long-term sedentary work and bad posture that has become a habit. Maintaining correct posture requires strong, agile muscles that can easily adapt to the changing environment and position. However, without engaging in any physical activity, these muscles begin to disappear, they cannot maintain the correct spine position, and they begin to bend* (Niparavičienė, 2006). Thoracic kyphosis, one of the children's most common postural disorders, is related to children's habit of using computers/ICT 4 (four) or more hours a day. This posture disorder is caused by an irregular sitting position at the work desk, usually *slouching.* Thoracic kyphosis is more common in children who engage in physical activity once a week or less. Acquired spinal deformities account for 95 per cent. all postural disorders. 2020 of the Institute of Hygiene, according to the data, various posture disorders (lordosis, kyphosis, scoliosis posture) were identified in 19.52 thousand children per population. Scientist R. Kėvalas (2021) states that low physical activity, sitting for long periods, high-calorie foods, snacking, and abundant consumption of biologically inferior products also significantly influence obesity (up to 90%). Also, childhood obesity is associated with psychological problems - anxiety and depression, low self-esteem, poorer quality of life, and bullying. Experiencing stress and negative emotions is associated with a tendency to overeat and to choose more sugary foods. The main methods of treating obesity are nutritional correction, physical activity, not eating while watching TV, using smart devices or reading a book, *and regularly spending at least 60*

minutes actively per day *or walking at least 10 thousand* steps per day, limiting sitting at the computer (Kėvalas, 2021). Two stages of a child's life are distinguished, during which physical activity significantly decreases: when children start attending school and during adolescence (Steene-Johannessen et al., 2020). *Puberty* is an integral part of the human growth cycle. This period is very complex and can vary from person to person, and is characterized by changes in emotional, behavioural or brain activity, body, strength and appearance (Mendle et al., 2019). In Lithuanian schools, if the child/adolescent is not assigned a special education, all children play sports according to the same program. By comparing physical capacity indicators (balance, flexibility, leg and arm muscle strength, speed, dexterity, cardiovascular endurance) of adolescent schoolchildren who play sports and those who do not, it was found how the physical capacity indicators of adolescents differ depending on whether they engage in after-school activities additional sports activities or not (some organized sports training is attended at least 2-3 times a week). It was found that in all tests, the average test scores of students who played sports were better than those who did not play sports (INTERNATIONAL SCIENTIFIC CONFERENCE, 2022).

Importance of sleep/impact on children's health. Even before the pandemic, it was established that the sleep duration of Lithuanian children was insufficient. In a 2016 study, it was observed that only 8 per cent of children sleep enough. The trend of shorter sleep is found worldwide and is associated with the increasing use of information technologies in everyday life (Jusienė et al., 2021). In Lithuania, this is associated with schoolchildren's workload/anxiety, especially with assigned homework. *Studies show that most students do homework until late, even midnight when it's time for a deep sleep.* Loud neuroscientist and sleep expert Walker, 2020, claims that limiting sleep duration in developed countries affects health, life expectancy, safety, productivity *and especially children's learning*. Sleep is one of the most important phenomena in life. Sleep enriches many brain functions, including learning, remembering, and making logical decisions. It recalibrates our emotions, strengthens the immune system, harmonizes metabolism and regulates appetite. People do not just sleep but experience two different phases of sleep. Scientists have named them according to eyeball activity: NREM, or low-eyeball-activity sleep, and REM, or high-eyeball-activity sleep. The phase of REM *sleep, during which the brain is almost as active as when awake, is closely related to the experience we call dreams* and is therefore also called *the dream phase*. Dreams create a space of virtual reality where the brain combines past and present knowledge and generates creativity. The NREM phase is divided into *four more separate periods*, during which sleep becomes more

solid. The two sleep phases, NREM and REM, compete tirelessly throughout the night for the decisive influence on the brain. The NREM sleep phase first controls the brain, followed by REM sleep. *An unbalanced diet and a carbohydrate-only diet lead to a lack of protein, and by preventing the brain from experiencing deep NREM (most of the first half of the night) or REM (second half of the night) sleep, both of which have essential but different functions in the brain and body, there are many physical and mental health problems*. The difference between infant, child and adult sleep is the number of its phases. Adults typically have a continuous, monophasic sleep pattern, while infants and children have polyphasic sleep patterns, with many short sleep fragments per day. REM sleep in the early stages of human life is not optional but mandatory. As the baby grows, his sleep periods become more stable and longer, and their number decreases. *The daily rhythm determines this change, it is also called the circadian rhythm. Everyone has it* (Latin *circa* means "around", Latin *diem* - "day"). The internal twenty-four-hour clock in our brain transmits its daily circadian rhythm signal to all other areas of the brain and every organ in the body. The circadian cycle determines when we want to be awake and when we sleep, and it also regulates other regular processes in the body, including when we eat and drink, our emotions and mood, the amount of urine we produce, our body temperature, our metabolic rate, and the production of many hormones. A six-month-old baby sleeps fourteen hours a day, and NREM and REM sleep phases share this time equally. A five-year-old child sleeps eleven hours a day, and NREM sleep accounts for 70 per cent of that time, while REM sleep accounts for only 30 per cent. In late adolescence, the ratio of 80 per cent and 20 per cent NREM to REM sleep settles and remains this way throughout a person's youth until reaching middle age. As childhood ends and adolescence begins, the influence of deep NREM sleep becomes stronger. The intensity of NREM sleep increases during middle and late childhood, peaks before puberty and then declines. *The NREM sleep that occurs during this transitional period of life is exceptional.* The formative effect of deep NREM sleep is becoming increasingly felt. Among the many functions attributed to deep NREM sleep, adolescents' thinking is not as rational as that of adults; they are more inclined to take risks, and their ability to make decisions is relatively poor. As the brain matures, and children often have a difficult transition from adolescence to adulthood, the intensity of deep sleep changes, which *helps to overcome the difficulties of adolescence and later safely enter the realms of adulthood*. In the study of the maturing brain, the neuroscientific equivalent of nature photographs taken at different times was created, in which a tree is captured in spring with its buds (infancy), then with its leaves in summer (late childhood), even

later with its mature and lush green leaves (early adolescence), and finally with the arrival during winter shedding of leaves (end of adolescence/beginning of adulthood). In the Universal Lithuanian Encyclopedia (2023), it is stated that _an age stage_, a stage of human physical and mental development, with approximate duration limits: infancy (0-2 years), early childhood (2-6 years), middle childhood (7-11 years), adolescence (early 11-16 years old, late (about 16-19 years old), young adult (about 20-40 years old)). The nine-year-old (twelve-year-old's) circadian rhythm is such that the child, partially influenced by the rising wave of Melatonin common to all his peers at that time, falls asleep (or should) around the twenty-first (second) hour. During adolescence <...> cognitive abilities and logical and critical thinking strengthen. Changes in deep NREM sleep always precede later stages of cognitive development in the brain by several weeks or months, clearly indicating the nature of the causal relationship: _deep sleep is likely the driver of brain maturation, not the other way around._ When studying the intensity of deep sleep in the brain, it is established that the maturation curve is first visible in the posterior part of the brain, which is responsible for visual and spatial perception. Then, it spreads evenly to the front of the brain in the later stages of adolescence. The last stop on the puberty journey is the part of the frontal lobe that regulates rational thinking and decision-making. Thus, the back part of the adolescent brain was more like an adult, while the front part remained childlike throughout this stage of development. _Teenagers develop rational thinking late, as the part of the brain responsible for this ability is the last to feel sleep's healing and maturational effects._ Sleep is not the only factor in the development of the brain, but it is essential because it creates the conditions for the formation of mature and logical thinking. By recognizing that deep NREM sleep is essential for teenagers, we will not only understand what normal brain development is, but we will also begin to understand what happens when processes do not go as they should and we are faced with abnormal brain development. Most common mental illnesses, such as depression, are now considered medical disorders caused by abnormal development. Sleep enhances various brain functions, such as our ability to learn, remember, and make logical and rational choices. By positively affecting our mental health, sleep rewires our brain's emotional connections and allows us to face social and psychological challenges with calmness and composure the next day. Sleep in our body replenishes the defensive arsenal of the immune system, prevents infections and protects against various diseases. It balances the ratio of insulin and glucose circulating in the blood while restoring normal metabolism in the body. Sleep regulates appetite and helps maintain healthy body weight by encouraging healthy food choices rather than giving in to impulsive eating. A good

microbiome is formed in the body during long sleep. Unfortunately, our society and parents' attitudes do not allow us to appreciate and recognize that teenagers need more sleep than adults. A. Room (2022) also claims that sleep is a necessary pause at the end of the day. An adult needs seven to nine hours of good sleep every night. If a person sleeps less than seven hours a night, the desire for sweets increases. A regular sleep-wake schedule where you wake up and go to bed around the same time is critical. It would be best to wake up around 7 am and go to bed around 10 am. According to Taylor (2021), an 8- to 11-year-old student (especially during adolescence/puberty) should be _getting 9 to 11 hours of sleep per night._ An increased need for sleep is a normal part of puberty. During puberty, the body has important tasks, such as growth spurts (bones grow most during sleep), hormone production and the growth of completely new body parts (breasts in girls), and emotional changes. This is a huge work for the body, so it needs energy. One of the best ways to ensure that the brain and bodywork as well as possible is to provide them with quality sleep. Sport/movement is also impossible without quality sleep. After all, sport helps the brain to produce the "hormone of happiness" - serotonin.

Research shows that all schoolchildren often feel sleepy in the afternoon (around 12–2 pm) for several reasons: 1) they go to bed late, they do not get enough sleep - they do not get enough sleep for a teenager/ student: at least 8/9-10/11 hours.; 2) due to decreased blood glucose concentration, usually after not eating enough at lunch or not eating breakfast at all. Most schoolchildren do not eat in the morning because they do not have time or do not want to, because they are worried before classes (mostly elementary grades, especially fifth/sixth graders). Glucose concentration also decreases when much glucose or simple carbohydrates are eaten during lunch (students give in to impulsive eating). Instead of carbohydrates, it is better to eat a protein snack; 3) Lack of fluids - drinking little water (lack of awareness and skills); 4) Does not move much - often sits on mobile phones during long two/three/four (20 min.) breaks and "sits down" with 6/7 lessons.

II. Research Organization and Results

To find out the problems of the teaching/ learning workload and the _compliance of the workload with the healthy daily routine of the student, the age group (class), the compliance of the load with "safe" learning and maintaining health/healthnervous system and personality development_, from 2016 to 2023, _a long-term study was conducted using various methodologies (by rotation)_: survey/interviews of students, teachers, parents, " _Interviews", various "Case Analysis", "Amount of homework assigned by various schools/ analysis of complexity in electronic diary" and analysis of class time_

and breaks in school timetables. In 2020 - 2023, with the help of parents, the amount and complexity of homework were studied and recorded by teachers in electronic diaries. The amount/complexity of homework in 10 public part-time schools (Lithuanian and ethnic minorities) was investigated, and more than 1,000 students and parents were interviewed. The study included grades 1-10 students and their parents from different Lithuanian schools.

The research *identified the current/defective mode of the schoolchild's day* contrary to the student's healthy development. Most of the schoolchildren lack time for extracurricular activities/informal education/ hobbies (now 10%), time in the family, communication (reflection of the day/expression of emotions, feelings) (now 10%), and time outdoors/in nature. Most of the time - about 7 hours (50%) is devoted to lessons because lessons start at 8 or 9 am, end at 3 pm or 4 pm, and in rare cases, at 2 pm. About 3/5 hours

(30%), less often 2 hours, are allocated to homework. The amount and complexity of homework do not correspond to the age of the children.

In most cases, a student, even in primary and basic education, has 4-5-6 subject(s) assignments for the next day (rarely 2-3(s) subjects). Homework for one subject usually involves multiple tasks/multiple methods (reading, writing, retelling/retelling and memorization), so one subject often turns into "multiple subjects" and takes much time to complete. There is much stress on the child's growing personality because every child wants to do everything on time and remain positively evaluated. As a result of such a lifestyle/tempo, the daily routine, emotional state/physical health/sleep/self-confidence/self-awareness/healthy development are disturbed, more negative grades appear, motivation to study and the desire to attend school disappear, and the student's values change. The number of children with special needs is increasing.
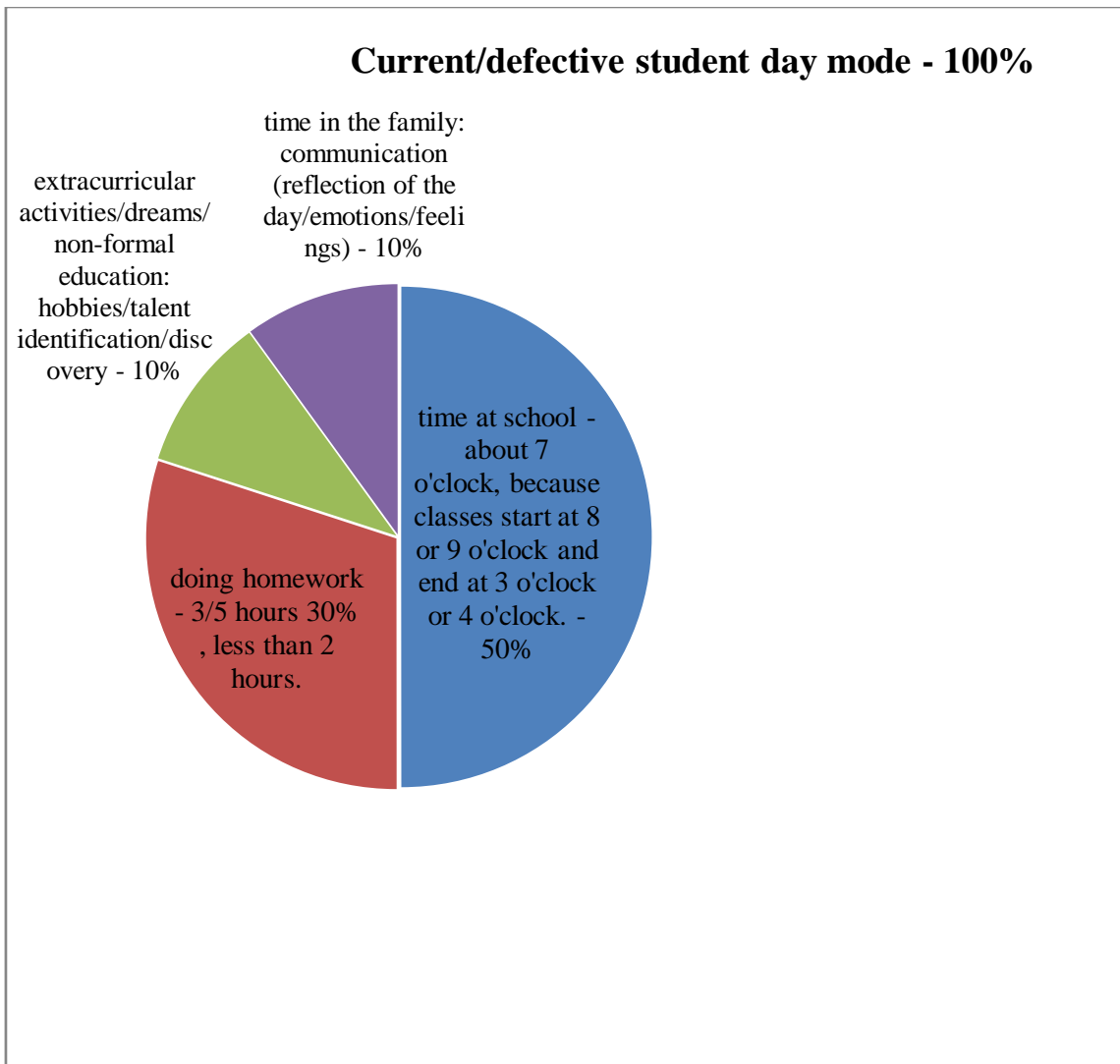
Figure 1: Distribution of answers to the question "How much time do you spend on homework, extracurricular activities/hobbies, family communication/daily reflection, lessons at school/gymnasium and being in nature/ outdoors?", %.

More than ten years ago now, the links between learning load and students' psycho-emotional well-being have been established: students consider the load as too high, they feel tension at school more often, their motivation to learn is weaker, they rate the school as an institution more poorly, they feel a greater fear of teachers and students, general students' mood is more often nervous. Excessive study load harms physical and mental health, elements of daily routine, sleep, physical activity, and extracurricular activities/dreams. However, it was not possible to adjust the training workload until 2023.

The conducted study proved that the current teaching load of Lithuanian students is not compatible with reality/students' physical and mental abilities/ability to respond to/maintain the implementation of educational programs, contradicts the implementation of a healthy daily routine for students, does not meet hygiene standards, and they also require a human/logical correction. The hygiene standards for the preparation of the school education plan have been determined- LITHUANIAN HYGIENE NORM HN 21:2017 must be helpful for the student, allow to educate/teach students within their capabilities as children, not to increase, but to shorten their working/studying time at school.

A daily regime favorable to the healthy development of the student - 100%

- time in nature/outdoors - at least 10%
- time in the family: communication/reflection of the day - 20%
- time at school- 30% - 5 o'clock
- extracurricular activities/dreams- 30%
- doing homework in all tiers/optional 10% - 1-1.5 hours
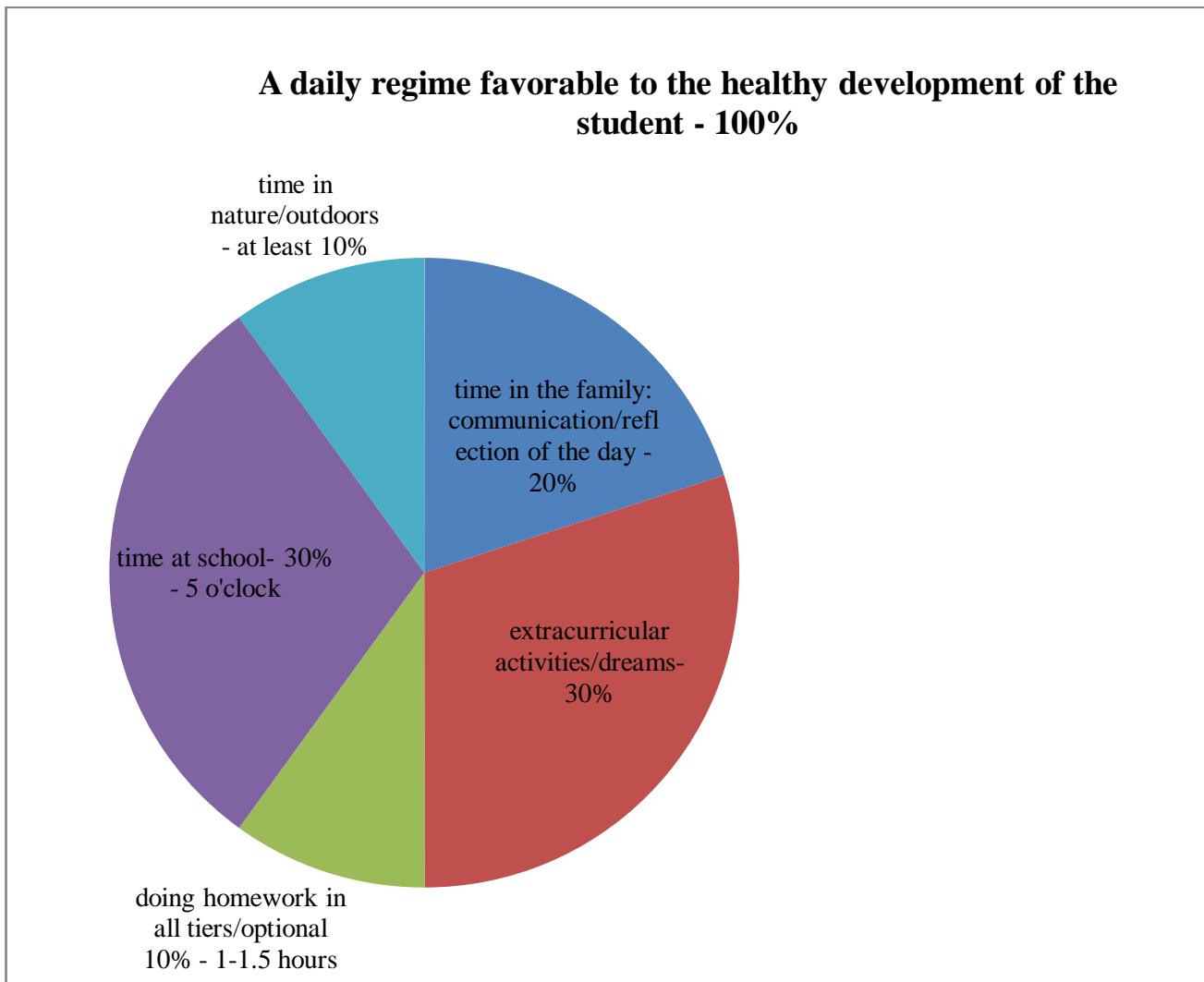
Figure 2: Daily mode/rhythm distribution favourable for the healthy development of the schoolchild, %.

The Most Important Conclusions - In Brief

3 (Three) Factors Influencing The Healthy Development Of A Student's Personality, Successful Learning And Achievements: 1) Subject Content, 2) Adequate/Real Course Workload, 3) Values-Based Science - Tolerance Of Female And Masculine Gender Nature.

- SUBJECT CONTENT(valuable for life-understand able-not overloaded);
- ADEQUATE/REAL/NOT OVERLOADED TRAINING LOAD (positive methodology/didactics in all subjects; observance of scientific hygiene - the same mandatory number of hours of training is

established for all schools regardless of nationality; the lesson schedule is tightened within the student's "working" hours, taking into account the student's age characteristics/opportunities for him to feel emotionally safe as he grows up; provide an opportunity to have a rational-undisturbed daily routine and sleep; clear-short "biting" homework or none; as a priority quality, but not quantity-based education);

- VALUE-BASED SCIENCE - TOLERANCE OF THE NATURE OF GENDER (to take into account the natural different education of boys/youths and girls/girls (their biology-physiology/psychology), not to "separate" morally, but to separate them when learning/educating in certain subjects, thus focusing on standard education (si), by tolerating the natural characteristics of both sexes, allow the girl to develop and develop in a girlish way fully, the boy in a boyish way, as a healthy personality. Emphasize the creation of a traditional family as a societal norm).

III. Conclusions

1. *The motivation to learn in all subjects is reduced not only by the fact that the "nature" and differences in learning between boys and girls are not taken into account but also by the disproportionate distribution of the learning workload according to the age of the children.* Homework is asked equally in primary and basic (secondary) schools. It is evaluated equally in primary and basic (secondary) schools. It violates the rule that grades are not used in elementary school. Homework for one subject usually involves several methods (reading, writing, memorization), so one subject sometimes turns into "multiple subjects" and takes much time to complete. The norms of learning hygiene (Article 40 of the Education Law) corresponding to a healthy lifestyle and a child's healthy development should be remembered. *Therefore, there is much stress on the child's growing personality*—a lack of positive evaluation. Lack of understanding of cumulative assessment (large-scale works remain completely or positively not assessed), improperly practised by teachers. Consequence: The child does much work, and the result/reward is "underestimation".

2. *Practice shows that the workload* of training is understood as the student's presence/teaching at school, the duration of the lesson, the duration of breaks, the performance/duration of homework, as this is the activity/task assigned during the lesson and is inseparable from the training) part, so it counts towards the school/teaching workload. So it can be said that students work at school for about 7 hours, plus less often 2 hours at home, more often 3-4 hours with assigned homework, the total

workload is about 9-10 or more hours, the rest of the time is for extracurricular activities, family communication, nutrition/meals and sleep.

3. The conducted research identified the current/ defective mode of the schoolchild's day contrary to the student's healthy development. Most of the schoolchildren lack time for extracurricular activities/ informal education/hobbies (now 10%), time in the family, communication (reflection of the day/ expression of emotions, feelings) (now 10%), and time outdoors/in nature. Most of the time - about 7 hours (50%) is devoted to lessons because lessons start at 8 or 9 am, end at 3 or 4 pm, and in rare cases, at 2 pm. About 3/5 hours (30%), less often 2 hours, are allocated to homework.

4. After analyzing the teaching/learning workload, it can be said that the change in the education system should start with the distribution of the student's workload during the day, the daily planning/regime and only then analyze the programs (overloaded with unnecessary information, lacking life skills development), methodology/didactics and teachers' work.

5. The student's lesson schedule should be made to correspond to the student's healthy lifestyle - "the student's study hours should not exceed the working hours of adults". The student should not feel imprisoned by education.

6. To stop forming in students a "fear" attitude towards science, that from the first grade, they are being prepared for exams in the twelfth grade.

7. When renewing/changing the general programs of Lithuania, *consider the age of schoolchildren and abandon homework. In educational subjects,* it is important not to increase but to reduce the training load because UTA exceeds students' capabilities as children, demanding too much of what they must be able to do at the end of primary, basic/and secondary education. To take into account the psychological characteristics of the adolescent period, to emphasize the transition from primary to primary school, which coincides with the transition period from junior school age to adolescence (11-12 years old), during which significant physical, psychological and social changes.

8. It is essential for children's well-being to adjust the minimum number of lessons per student per week in the updated curricula (UTA), which were also in the "old" ones (2008) so that it is the same in all schools and those where teaching in the language of the national minority is legalized. For example, fifth graders have five (5th) extra hours/lessons. *It is just another working day for a student, but there are seven days a week, two of which are for the student's mental and physical rest. This seriously disrupts the daily routine.* More lessons, more homework, a heavier child's backpack (some fifth/sixth graders

reach 5/7 kg), classes end late (around 3–4 pm, less often 2 pm), sleep late, parents restrict extracurricular activities, chronic fatigue appears, immunity weakens, joy in life is lacking, because children feel imprisoned by science. Then there is a feeling of inferiority and a feeling of hating school, not attending it, and quarrels arise in families, misunderstanding each other because some parents think that their child cannot study, while others "press" them to be able to.

9. Research shows that "stressed education" takes place due to heavy workload and inadequate methodology, and as a result of education, gifted children become special needs.

10. During the pandemic, many parents saw a natural "system/life science/education" in which our children "exist". The excuse that the "pandemic" caused such a heavy burden on children is meaningless. Paradoxically, the "pandemic" only highlighted and showed all the shortcomings of the Lithuanian education system and especially showed the enormous workload our children work, which is why it was challenging to teach children because basic science "relies" on homework and about 50% students master basic knowledge with the help of tutors.

11. Surveys of parents show that the number of children with spinal problems is increasing. All acquired posture disorders are caused by low physical activity, prolonged sitting, and bad posture that has become a habit. Maintaining correct posture requires strong, agile muscles that adapt quickly to the changing environment and position. However, without engaging in any physical activity, these muscles begin to atrophy, are unable to maintain the correct position of the spine and begin to bend.

12. Studies show that schoolchildren often feel sleepy in the afternoon (around 12–2 pm) for several reasons: 1) They go to bed late, do not get enough sleep - they do not get enough sleep for a teenager/student: sleep at least 8/9-10/11 hours. ; 2) due to decreased blood glucose concentration, usually after not eating enough at lunch or breakfast. Most schoolchildren do not eat in the morning because they do not have time or do not want to, because they are worried before classes (mostly the main links, especially fifth/sixth graders). Glucose concentration also decreases when much glucose or simple carbohydrates are eaten during lunch (students give in to impulsive eating). Instead of carbohydrates, it is better to eat a protein snack; 3) Lack of fluids - drinking little water (lack of skills); 4) Does not move much - often sits on mobile phones during long two/three/four (20 min.) breaks and/or "sits down" with 6/7 lessons.

13. The causes of excessive learning load and its links with students' health have been identified:

incompatibility of educational documents: the general education plan offers too many points/subpoints that mislead schools/gymnasiums, as a result of which the plan can become a formality rather than a practical implementation; make the school education plan clear/concise, so as not to confuse school communities with "set" references, describe it in such a way that it can be immediately applied to each school/gymnasium; general programs are overloaded with unnecessary information that does not apply to life, lack of information necessary for life/lifestyle, so that every child can acquire solid "life" basics and feel emotionally safe while learning.

14. The conducted study proved that the current workload of education of Lithuanian students is not compatible with reality/students' physical and mental abilities/ability to respond to/maintain the implementation of educational programs, contradicts the student's healthy daily routine, healthy development, does not correspond to hygiene norms, and it also requires human/logical correction. The hygiene standards for the preparation of the school education plan have been determined- LITHUANIAN HYGIENE NORM HN 21:2017 must be helpful in the student, allow to educate/teach students without exceeding their capabilities as children, make it possible to have a rational daily regime, not to increase, but to shorten their working/learning time at school. Therefore, reorganizing the learning load's hygiene norms is essential.

15. Review the aspects of the student's lifestyle - study and recreation mode, to devote time to yourself/extracurricular activities/clubs. It is necessary to help regulate the sleep regime of the schoolchild - go to bed at "child's" time and sleep for an average of 8-10 hours, taking into account the period of adolescence when the body requires more sleep of 9-11 hours. Quality/healthy sleep stimulates the production of Melatonin and the "mood hormone" serotonin. A student/parent survey shows that few students get that many hours of sleep, which they say is one of the reasons they "stay up late doing homework because there is a lot of it." It is advised not to use the computer or other smart devices before bed. All this contributes to reducing the body's overall stress level and strengthening the student's health and healthy development.

16. There are facts that those "scientists" and pioneers to whom the whole class is compared are usually children engaged in one scientific activity, under much pressure from their parents, usually no additional education (clubs) and physically weaker - this is one group of susceptible children, as if "trained" only for victories. It is sad, but we educate

<u>and raise a generation of very vulnerable perfectionists.</u>

17. Moderate use of ICT (information and communication technologies) during lessons, considering permissible ICT hygiene norms. Pay special attention to mobile phones, which are boldly used (during online and contact learning) for educational purposes in all classes, regardless of children's age, health, capabilities and knowledge. Mobile phones emit negative radiation, and the dependence of schoolchildren on this means of communication and communication is increasing. Allow the phone to be used only for its intended purpose and outside class.

18. The critical role of teachers is delicacy clear and reasonable requirements that correspond to students' abilities. It is necessary to notice the minor achievements of the child to praise him for his merits and work. Assessment should promote personal development, positive self-awareness and self-motivation to learn—lots of positive reviews. Abandon the "students evaluate each other" methodology, which disrupts the creation of friendly relations and the socialization of students— a commendable method of self-assessment. "Experimental projects" with teenagers, where any negative evaluation exists, disrupt their perception of the world because it affects their feelings. Abandon "answering at the blackboard" because when standing in front of the class, children are more vulnerable; let them answer at their desks and of their own volition

19. No extra diplomas for the first ones at the end of a specific trimester class because all children strive and are different, some go unappreciated, and most importantly, everyone is valuable. It must be remembered that many children remain "missed" without proper methodology. Therefore, it is unfair to notice and highlight only the prime movers. It is an "absolute defeat" in terms of education.

20. Olympiad tasks in all subjects must be created purposefully for the age group and class of students, considering the subject programs. For teachers not to teach students "in advance" because children's brain circuits have a certain period of maturation and are psychologically unprepared for information and load not according to their age.

21. Establish a separate position for a class teacher so that there is no personal interest. Research shows that most classroom teachers experience "teacher burnout." The teacher-educator must not teach a single subject in the class so that the children do not feel pressured as a class teacher or subject teacher. The tutor would perform the following functions: monitoring lessons, adaptation of the student in the new school; adaptation of the student

when returning after the vacation (some students/ talented and healthy have difficulty socializing, mainly primary and basic grades 5-8 often feel anxiety when returning after the vacation; getting to know the character/characteristics of the student as a person; would take care of the student if needed at school, in a spiritual/emotional sense (observe/ implement/encourage positive communication with classmates, creating a family-like classroom community/atmosphere); encourage the formation of healthy eating skills (eating slowly and without food so that the child does not starve); organize excursions/outings gradually moving from smaller to more considerable distances, when traveling by bus, but as a priority would promote getting to know one's city, routes, then other cities of Lithuania (citizenship education); would communicate with teachers and business people on issues of concern to students/mediate; would communicate with parents, helping to adjust the student's agenda, would encourage extracurricular activities/revealing and educating the child's talent, aptitudes/fulfillment of dreams, taking into account the characteristics of the child's age; would know and understand the peculiarities of school age development (early, middle, late adolescence/sex education and emotional maturation issues); I educate parents/ lecturers by observing each child as an individual; would promote positive human spiritual/emotional growth and becoming a happy personality.

22. In schools, implement a positive program for developing reading and writing skills (without evaluation by grades), which would improve students' reading comprehension and writing skills and the quality of education. Inform parents about the benefits of reading and encourage them to read with their children at different ages. Implement *the recommended evening reading of a fairy tale* to a child before bedtime (*for the child's positive development*) as an example. Yes, at any age, it is easier for a child to explain/reflect certain of his feelings/emotions and describe actions at an essential stage of his development.

23. During the excursion, for the sake of psychological safety and socialization, students must be allowed to use the toilet, especially when travelling by bus outside the city limits. There are facts that even if there is a toilet on the bus, it is not allowed to use it or it is suggested not to use it, so after such excursions, students have health problems.

24. There is a lack of time to implement the educational content fully (teachers are burdened with "unnecessary" activities), methodological materials, information dissemination, and insufficient material base and funding.

25. Today's teacher has daily contingencies: "nerves". A teacher cannot create high-quality lessons, having

to teach his subject and also participate in various projects, seminars, exhibitions, integrate into other subjects, share experiences, organize excursions and presentations, "collect evidence of his work", constantly meet qualifications/raise qualifications and still "sit" at school overtime, when his brain has to rest in the family, and the next day he has to come to work devoting himself to pedagogy. The modern teacher works like a robot, and something is constantly demanded of him. The wisdom and calmness of teachers of a respectable age educate children much more than ICT - that needs to be understood and respected. Training seminars will not help; the best Lithuanian teachers who are teachers by nature "disappear" (leave their jobs) because both the teacher and the student are human and have "limited" opportunities for work and rest.

26. As a priority in the scale of values, encourage students and teachers not to compete/envy each other but to develop a safe/positive value/emotional skill in themselves - to rejoice/sympathize with each other's success/failure while communicating willingly to develop respectful human/empathetic mutual relations.

27. When fifth-graders move from the fourth to the fifth grade, allocate all the mandatory school years for adaptation and do not evaluate their achievements with grades or "find" only positive (4/5 in the five-point system, some foreign countries practice such a system perfectly) grades for effort/knowledge. The transition "to grades" must be gradual. Research shows that some elementary schools do not grade students' effort/knowledge but often convert their achievement to a verbal grade. However, emotionally more substantial and more self-confident, smiling/positive more often, more open to communication, more successful in socializing at school and more advanced in science are the students of those schools where evaluation by grades in primary school does not exist either verbally or in writing. A positive evaluation system with grades without negative evaluations is gradually introduced in the sixth grade. The level of their knowledge, encouraged by teachers during lessons, students learn by helping/lecturing each other, thus creating friendly/empathetic/human values-based mutual relations. The classroom creates a "family" community/atmosphere without competition for knowledge or grades. In the seventh grade, a 10-point grading system was introduced. At all levels and for all subjects (apart from physical education, music, ethics, religion, and moral education), Leiner's methodology (materials, visuals, kinesthetics) is perfect for teaching.

28. Research shows that only about 30 per cent attend school in June. Schoolchildren are significantly less productive than usual - their bodies require rest. It is essential to return the holidays to all Lithuanian schoolchildren from the end of May.

29. It has been proven that most of the common mental illnesses like depression are now considered to be health disorders caused by abnormal development. Since a defective daily schedule due to an inadequate learning load promotes the emergence of children with special needs, it is therefore imperative to create and legitimize a teaching workload that is proportional to the children's age and is favourable for the healthy development of the student, and a rational daily schedule that will allow preserving the physical and mental health/development of children and training motivation.

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Waldorf Education and Anthroposophy – A Complex Relationship

By Gilad Goldshmidt

Abstract- Waldorf education (Steiner e ducation) is one of the most well-established and largest alternative education approaches in the world. This educational approach was created out of the Anthroposophical worldview founded by Rudolf Steiner and relies on the teachings of Anthroposophy. However, the relationship between the educational practice in Waldorf kindergartens and schools and the worldview behind it is complex and multi-faceted, both from the internal point of view of those who work from within Waldorf education and from the critical point of view of external researchers. Indeed, Waldorf education has been criticized and attacked in many ways over the years, particularly for these reasons.

In this article, I shall attempt to throw l ight on this connection and explain it from different aspects. First, I shall briefly present Rudolf Steiner's life path and teachings, i.e. the anthroposophical worldview, and then I shall show how Steiner, the founder of Waldorf education, viewed the connection between Anthroposophy and Waldorf education. Subsequently, I shall explicate why and how this connection has been subject to criticism from various sides. Finally, I shall present two ways that try to elucidate this connection and justify it before its critics.

Keywords: waldorf education, rudolf steiner, anthroposophy, steiner education, ideology and education.

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I. Introduction

Waldorf education (Steiner education) is one of the most well-established and largest alternative education approaches in the world. This educational approach was created out of the Anthroposophical worldview founded by Rudolf Steiner and relies on the teachings of Anthroposophy. However, the relationship between the educational practice in Waldorf kindergartens and schools and the worldview behind it is complex and multi-faceted, both from the internal point of view of those who work from within Waldorf education and from the critical point of view of external researchers. Indeed, Waldorf education has been criticized and attacked in many ways over the years, particularly for these reasons.

In this article, I shall attempt to throw light on this connection and explain it from different aspects. First, I shall briefly present Rudolf Steiner's life path and teachings, i.e. the anthroposophical worldview, and then I shall show how Steiner, the founder of Waldorf education, viewed the connection between Anthroposophy and Waldorf education. Subsequently, I shall explicate why and how this connection has been subject to criticism from various sides. Finally, I shall present two ways that try to elucidate this connection and justify it before its critics. I shall also endeavor to demonstrate the dangers and challenges that stand before the Waldorf education movement, with regard to the fact that it is based on the Anthroposophical worldview.

II. Steiner – Anthroposophy – Waldorf Education

Rudolf Steiner (1861–1925), scientist, philosopher, author and mystic (Barnes, 1995; Hemleben, 1984; Steiner, 1986) founded his teaching of "Anthroposophy" in the beginning of the 20th Century (Steiner, 1971; 1972; Zander, 2007). After passing through the customary academic training in his time – a training in Natural Sciences and a doctorate in Philosophy – and after working for several years in established cultural and academic settings (as a journalist, lecturer, literary critic, and scientific editor), he joined the Theosophical movement in the beginning of the 20th century, and then, after a while, became the head of the German Theosophical Society. In 1912, following disputes with the heads of the Theosophic Society, he decided to leave it and founded the Anthroposophical movement (Hemleben, 1984; Steiner, 1986, chapter 31).

Over the years, until his death in 1925, Steiner wrote numerous books and articles and gave thousands of lectures in many countries in Europe on various Anthroposophical topics (Hemleben, 1984). Spreading the knowledge from a source he termed "the supersensible world" or "the spiritual world" (Steiner, 1971; 1973) became his mission in life. He devoted the last years of his life to what he saw as the imbuing of European culture with various spiritual impulses out of Anthroposophy. Steiner created, through lectures, articles, and working with people from a variety of fields the basis for creating art, medicine, agriculture, social movement, science, special education, and education based on Anthroposophy (Zander, 2007; Lachman, 2007).

In his writings, Steiner claimed that only through spiritual development, and the creation of what he called "organs of spiritual perception" (Steiner, 1947) is it possible to truly know the human being and the world.

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According to him, the world that one's ordinary consciousness is aware of is only a minuscule part of a much larger world, which harbors the answers to the deeper questions of human existence. Steiner did not see his teaching as being contradictory to the scientific paradigm and therefore called it "Spiritual science" (German: Geisteswissenschaft). Steiner believed that "Spiritual Science" continues the scientific paradigm that developed in the West from the 15th–16th Centuries onward but expands to other areas of life (Steiner, 1972).

According to Steiner, Anthroposophy does not differ from conventional science in its methods of inquiry – only in the objects of its inquiry: while natural science explores everything perceptible to our senses, Anthroposophical research delves into that which is hidden from our eyes and the other external senses (ibid). Steiner's expansion of natural scientific methods to the transcendental realm was not popular in his time and nowadays has many critics as well (Ullrich, 2015; Zander, 2007). Later on, we shall see that in the field of education, too, this very point occupies a central position in the dispute between Steiner and his followers and various researchers.

Waldorf Education is based mainly on Steiner's books, lectures, and research, over several years during which he was director of the first Waldorf school (Steiner, 1975), as well as on the works of those who followed in his tracks, who work in this field and research it to this very day. This educational path can be characterized by the following principles:

Application of developmental thought: Waldorf education is based on developmental psychology that stems from Steiner's spiritual research (Steiner, 1975b; 1980). At its foundations, we find the division of childhood into three periods of six to seven years each (from birth to age 6–7, from age 6–7 to age 13–14, and from age 13–14 to age 20–21). In each of these periods, educational efforts are directed toward cultivating different qualities, such as activity, the senses, play, and movement in the first one; art and aesthetics, stories, and working with soul moods in the second; and in the third one – abstract thinking, professional handwork in the workshops and various crafts, and involvement in the community (Easton, 1997; Edmunds, 2004; Steiner, 1975b).

A holistic view of the child and educational processes: In his educational writings, Steiner wrote again and again about educating and teaching from the totality of the human being (Steiner, 1983). He is referring to a holistic multi-faceted view, of teaching processes, education, and supporting children. This holistic view is expressed in many characteristics of Waldorf schools (Easton, 1997). These characteristics include, amongst others, a balance between intellectual, artistic, and physical areas; the fact that each pupil goes through all

areas and subjects until the end of school, and is educated through many varied fields of activity and learning, without choice or specialization (not even in high school); if possible, combining all age groups within the same campus, from kindergarten till class 12; and including special education pupils in the schools, as an essential part of the human educational landscape that every child should meet (Edmunds, 2004; Goldshmidt, 2017).

The importance of artistic experience in every teaching and educational process: The term "art of education" appears many times in Steiner's lectures and educational writings. He referred from various angles to the crucial role of art and artistic processes in the school. Waldorf schools make use of art as one of the most important tools in several ways – by positioning art as an important field of study in itself; by using artistic means as a significant methodical tool in every field of study; and through an aesthetic approach to the school's interior and its external environment (Steiner, 1975b; Edmunds, 2004).

Joint management – a teachers' republic: From its very beginning, the Waldorf movement placed at the center of its educational work the ideal of "republican management" – a management method that is not hierarchical but collaborative, one that gives every teacher autonomy and the ability to influence. Of course, this tendency is applied differently in different countries, but it can be found today in almost every educational capacity inspired by Anthroposophy (Leber, 1991).

III. The Connection between Waldorf Education and Anthroposophy

Waldorf education was created, developed, and designed from the Anthroposophical worldview. Steiner wrote and lectured about the possibility that Anthroposophy will inspire education already in the first years of the 20th century, over a decade before the first Waldorf school was established, when he still taught and lectured as part of the Theosophical Society:

> An anthroposophical insight into the being of man must provide the most fruitful and the most practical means for the solution of the urgent questions of modern life. In the following pages we shall endeavor to prove this for one particular question — the question of Education. (Steiner, 1965, p. 14).

The first school was founded in 1919 by his student, Emil Molt, who explicitly requested Steiner to create an educational framework based on anthroposophical knowledge (Barnes, 1995; Richter, 2006). Steiner himself, in many lectures and teachers' conferences, while he was director of the first school, emphasized the Anthroposophical basis for the kind of educational practice he wanted to establish, and the importance of the deeper study of Anthroposophy by teachers for their work (Steiner, 1975, 1980, 1983).

The connection between the Anthroposophical worldview and Waldorf education manifests in Steiner's spiritual conception of the child's being, and the recognition that in every girl and boy, there dwells an individual, original and unique spiritual being. By continually begging educators to work from what he called the "Anthroposophical knowledge of man" as a source of their educational work (Steiner, 1980; Goldshmidt, 2017); to direct their attention to the question of Karma and repeated lives, which is a significant component of Anthroposophical knowledge (Goldshmidt, 2017); in the holistic approach of Waldorf Education; in its developmental emphasis; in placing artistic creation at the center of teaching processes; and in cultivating feelings of reverence among pupils, until puberty (ibid).

Ullrich summarizes this deep connection in the following words:

> The inevitable conclusion is that Anthroposophy provides the master key to understanding the whole structure of Waldorf education, from the curriculum to educational practice in the actual classroom. To this day, the founder of Anthroposophy, Rudolf Steiner (1861–1925) remained the main figure for the students of this approach (Ullrich, 2015, p. 91).

Equally, the deep affinity between Anthroposophy and Waldorf education manifests in the Waldorf-Education-inspired teacher's training (Goldshmidt, 2017a). In the course of this training, the students study R. Steiner's basic books, delve deeply into his educational writings, practice the Anthroposophical meditative-spiritual path, and engage in creative work in a wide variety of arts that grew out of Anthroposophy (ibid.; see also Gabert, 1961).

How did R. Steiner view the connection between the Anthroposophical worldview and Waldorf education?

Already in the opening speech he gave to the intended teachers, a few days before the opening of the first Waldorf school in Stuttgart, Germany, in August 1919, Steiner emphasized the connection between the Anthroposophical worldview and the education he founded: "The Waldorf school will be living proof of anthroposophy`s great potential… No worldview will be taught in the Waldorf school; it is not our aim to fill the children's heads with anthroposophical teaching. Anthroposophy is not what is to be taught: We strive rather to apply anthroposophy and what can be gained from it for education in general and for the method and practice of teaching in particular." (Steiner, 2020, p. 16, 17). A little later, he explained how he saw this connection:

> By founding the Waldorf school, we do not want to found a school for a worldview, in which we shove Anthroposophical dogmas down the children's throats. We do not want to teach any Anthroposophical dogmas, Anthroposophy is not teaching material, but we strive to apply Anthroposophy in a practical way. We want to apply that which we attained through Anthroposophy, in educational practice. Religious education will be given within the different religious communities. We shall apply Anthroposophy only in our teaching methods (p. 206).

At the end of his life, after managing the first Waldorf school in Stuttgart for five years and founding several more schools in Germany, as well as one in Holland and in England, Steiner returned to this topic during a meeting with teachers' representatives from Switzerland. He recommended them to open Waldorf education in Switzerland not as an independent school movement, but rather as a source of inspiration for all schools who wish it, since:

> "Anthroposophical pedagogy emerged from a methodological development of learning. This is a methodical school, not some kind of political trend, but a practical methodical school. This is not some kind of religious belief, not Anthroposophy in the sense of religious faith, but a methodical school… I have said it a long time ago: with goodwill, the educational method that we are talking about here can be applied everywhere (Steiner, 1994, p. 165, 166).

Anthroposophical philosophy, according to Steiner, should remain so to speak "behind", not influence the pupils directly, and be a source of inspiration for the teachers only:

> Steiner-Waldorf schools, of which there are now around 1000 across the world, are non-denominational, co-educational schools founded on the above philosophy and the knowledge gained from 'spiritual science'. Steiner's philosophy itself is explicitly not part of the curriculum but forms the epistemological and philosophical underpinning to school organization, curriculum, and pedagogy (Oberski, 2011, p 14).

Steiner wanted to see Waldorf Education as practical proof of the inspirational power of the Anthroposophical worldview. During his last years, he invested most of his efforts in the attempt to inspire many diverse fields of action and culture with anthroposophical knowledge (Hemleben, 1984; Zander, 2007). However, it was important for Steiner to emphasize, that Waldorf education is not an education to a particular worldview, and certainly not to Anthroposophy, but an education and cultivation of the whole human being, regardless of religion or any kind of worldview (Richter, 2006; Steiner, 1975).

Thus, Steiner saw a separation or boundary between the tenets of Anthroposophical worldview and what is done with the pupils in the classroom. What he wanted to see in classrooms was not Anthroposophical knowledge, but teaching methods that are inspired by this knowledge. We shall expand on this point further below.

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IV. Criticism Regarding the Connection of Anthroposophy and Waldorf Education

Waldorf education has been much criticized, mainly around its connection to Anthroposophy. For example, Adir Cohen concludes the chapter about Waldorf education in his book "A Book called Man" (Cohen, 1983) with the following words:

> Rudolf Steiner's educational teaching has much to interest us, both in terms of its goal and ways. And even if we cannot accept its basic assumptions… (i.e., Anthroposophy, G.G.), his great educational understanding and interesting educational methods make an important contribution to educational thought (.176).

In the German-speaking realm, where Waldorf education has been working for over 100 years and is the largest and most well-established form of alternative education, researchers' criticism is directed precisely at this point (Schieren, 2015). Klaus Prange (Prange, 1985, 2005), Ehrenhard Skiera (Skiera, 2009), and Heiner Ullrich (Ullrich, 1986, 1988, 2015), who belong to the most vehement critics of Waldorf education, note in their writings that Waldorf education's reliance on Anthroposophy is not scientific and colors this education with a religious, mystical and belief-based hue. For example, this is how Ullrich concludes his argument:

> Waldorf education is entirely based on the Anthroposophical view of man and the world. This determines not only their teaching methods, but in diverse and sometimes indirect ways, it also determines the content of the curriculum and its topics of study. No other approach of the classical canon of progressive education has a culture that entirely relies on a single worldview, like Waldorf education (Ullrich, 2015, p. 173).

Schieren (2015) summarizes the main points of criticism that arise from the writings of these researchers in the context of the affinity between the Anthroposophical worldview and the educational act in Waldorf kindergartens and schools, as follows:

- Waldorf education relies on a spiritual-mystical influence – Anthroposophy – and hence lacks a scientific basis.
- In Waldorf education, the educators act without supervision, and do not base their work on logical thinking, but only on the writings of Steiner and his followers.
- At its basis, Anthroposophy is a kind of spiritual gospel, which means that there is no differentiation between science and faith in Waldorf education.
- Anthroposophy attempts to find a uniform totality of knowledge, including in the field of education, which is why it leaves the scientific context and wanders off to spaces that are inaccessible to examination and logical inquiry.

- In Waldorf education there is a tendency to create causal contexts based on Karma and repeated lives (p. 140).

This criticism can be summarized as claiming that Waldorf education in essence relies on a system of dogmas and beliefs, all of which originate in a spiritual path – Anthroposophy – that originates in the ideas of one person – ideas whose origin is mystical and hazy, and in any case lacks any scientific basis. The foundations of Waldorf education are therefore metaphysical and cannot be examined and investigated by theoretical scientific inquiry. Hence, the foundations of Waldorf Education have no scientific validity.

Schieren summarizes the problem with the following question: "What then is the place of Anthroposophy in Waldorf education? Is there an acceptable scientific way to manage this problem?" (ibid.)

Over the years, educationists and researchers from the field of Waldorf education and Anthroposophy tried to handle the criticism according to which the Anthroposophical worldview does not conform to scientific standards, and hence Waldorf education relies on an unstable, religious and mystical basis, in several ways, as follows: 1). By expanding the fields of science and changing the prevailing paradigm to include esoteric knowledge as well (Kiene, 1984; Majorek, 2015); 2) by conducting scientific and historical research while comparing Anthroposophy to other spiritual streams (Hanergraaf, 2012; Kiersch, 2008; 2011, 2015; Ravagli, 2014); 3). By applying scientific tools and methods to the Anthroposophical knowledge itself (Clement, 2020).

The conflict between the conventional foundations of science and the Anthroposophical worldview perhaps created a deep and interesting philosophical discussion, which can be important for other spiritual worldviews as well, but in the author's opinion, it is less relevant for responding to the criticism directed at Waldorf education. I shall explain this in more detail below.

V. The Question of Inspiration Versus Method

As arises from what was said above, Steiner himself tried to solve the issue by separating the teachers' training and their inspiration through Anthroposophical writings – and the teaching content in school, which, he emphasized, should be "clear" of any Anthroposophical influence. Anthroposophy should only live in the methods of teaching:

> And so, in the first place, the Waldorf School arose as a general school for the workers' children. It was only 'anthroposophical' in the sense that the man who started it happened to be an Anthroposophist. Here then, we have an

educational institution arising on a social basis, seeking to found the whole spirit and method of its teaching upon Anthroposophy. It was not a question of founding an 'anthroposophical' school. On the contrary, we hold that because Anthroposophy can at all times efface itself, it is able to institute a school on universal-human principles instead of upon the basis of social rank, philosophical conceptions of any other specialized line of thought. (Steiner, 1986, p. 203)

This line of thought leads, as we have seen, to a separation between the Anthroposophical worldview as such, and the contents learned in Waldorf schools. The role of Anthroposophy should become a source of inspiration for the teachers and educators only, and must in no way be passed on to the children themselves. Schieren (2015) expresses this view as follows:

> The point of Waldorf education is not to be a means of practical realization of the Anthroposophical worldview… but to create the best possible conditions for the development of children and youth: the children themselves are in the center… within the context of Waldorf education, Anthroposophy has no pure/absolute status, but only the status of a means to an end, it is supposed to serve as s means of developing and creating a good educational path (p. 145).

Indeed, as arises from research done on Waldorf school alumni (Randoll & Peters, 2021; 2016), and from the author's own experience in the field, there is a separation between the Anthroposophical worldview, which is intended for the teachers (for those who want it) – and the content learned in Waldorf schools. The pupils are not exposed to this worldview, and it does not manifest in the contents that are taught at any stage (ibid). Most of the teaching methods are inspired by Anthroposophical knowledge about child development, but the way this occurs is that this knowledge forms a kind of burden the teachers carry but is not spoken about with the children.

However, the question of contents is much more complex. Despite Steiner's unequivocal words (see above), he himself, in his lectures and seminars with the teachers of the first Waldorf school, mentions in several areas contents directly inspired by the Anthroposophical concept world – for example, in his instructions on how to teach Zoology in the lower school, as well as botany and history (Richter, 2006; Steiner, 1975),

One can tentatively say that the Anthroposophical concept world is passed indirectly to the pupils through the teaching methods. Let us take as an example teaching the world of animals in the lower school. Here, Steiner wants to demonstrate the relation between man and animal and conceive the shape of the animal as arising from the human form. He says that animal shapes are a kind of one-sidedness of the whole human being. His teaching method on this subject was to teach the various animal forms from the forms of the human body and its various systems. Although not teaching Anthroposophical content directly, this does convey them through the teaching methods.

To expand this dilemma, clearly every teacher brings along some kind of worldview, which is expressed through what he says, his manner of teaching, and the values he/she teaches, more or less overtly. Teachers who are inspired by the Anthroposophical worldview will pass qualities and values from this worldview to their pupils – which is something that we see in every educational path, especially a unique one that has a clear identity of its own.

VI. Ideology and Education

"Without a narrative life has no meaning. Without meaning learning has no purpose. Without a purpose, schools are houses of detention, not attention" (Postman, 1995, pp. 3-4).

In his book The End of Education (1995), Postman claims that the school has lost its purpose (end), or its narrative, which is why it reached its end. Without purpose, or what Postman calls "grand narrative", he claims that there is no justification for holding children for so many hours in educational institutions. A Grand Narrative is a larger story, a comprehensive conceptual system, or in other words, an ideology. A grand narrative provides answers to the greater questions of life, questions that direct our actions and our thoughts: "*Know from where you come, and where you are going, and before whom you are destined to give an account and reckoning*." (Pirkei Avot 3, 1).

> Educational narratives are derived from grand narratives about the good life: the life worth living (Harpaz, 2020).

Hence, every educational process, educational setting, or educational event arises, first and foremost, from a worldview, an ideology – whether consciously or subconsciously. (Harpaz, 2020; Noddings, 2016).

It is the nature of education to discuss the questions of a worthy life or the question what a worthy image of man is. And this is not a scientific question, but a question of values (ibid). Some will even say that it is an art (Eisner, 2002). There is a constant gap between the educational act and scientific research: "Educational research has become very good at gathering and reporting scores and statistics, but it still cannot tell us what to do about the problems underlying the numbers (Noddings, 2009, p. 23)... Scientific research can serve as a thought basis for an ideology of educators after it had been established. Science itself does not determine what it is: "Scientific research has no answers to the question of what worthy education is. The answer to this question expresses the preferences of the one who gave it." (Lamm, 2002, p. 54).

By nature, educational and learning processes are influenced by the educators' worldview. These carry

their worldview within them, more or less consciously, and this worldview influences their pupils. The educators' worldview influences their own educational methods and thus, obviously, it affects their pupils as well. The question of what determines this worldview, is very complex, and in any case, scientific research probably weighs only little in this decision:

> People do not choose an education of a particular kind because research proved its efficacy, and they certainly do not choose it because research has chosen its "rightness". They choose it because an ideology acceptable to them dictated to them this kind of education (Lamm, 2002, p. 54).

Lamm goes one step further and claims that even the science of education is ideologically biased.

> Nowadays, at the age of science, most educational ideologies are concealed as science… the prevalent educational theories in our times present their preferred goals as if they were necessary conclusions of scientific research, whereas, in fact, they have nothing but ideological preferences of their formulators. (Ibid, p. 52)

Thus, the question is not whether behind educational processes or an educational approach there is a worldview, for it is always there. The question is, how and whether this worldview affects the pupils, and in this regard, it is most significant to ask: To what degree are educators aware of this influence, and can they control and direct it according to relevant standards and the right measure?

Most researchers' criticism of Waldorf education is that behind it there is an unscientific, irrational, and mystical worldview. Precisely such criticism can also be directed toward church schools, ultra-orthodox schools, or religious public schools. In every form of religious belief, we have to do with an unscientific, irrational, and faith-based worldview. But this is not only true to education systems that are influenced by and originate from institutionalized religion. The other alternative educational approaches lack a scientific foundation as well. Thus, for example, the democratic educational approach did not stem from scientific research or view, but from a liberal-democratic worldview, according to which every person – including children – is entitled to the right to choose and to be treated as an equal in all walks of life. Montessori education is based on Maria Montessori's research – just like Steiner, she was a single person who founded an educational stream – and her scientific basis is doubtful as well (Gustafsson, 2018; Marshall, 2017).

Educational innovation, breakthroughs, and the development of successful educational systems do not stem from scientific research but from educational work, usually by groundbreaking educators, who are inspired by some unique worldview, ideas, or conceptual thought. As we have seen, scientific research can examine educational approaches, research them, and compare them – but they do not create them: "All

research findings in the field of education are either accepted or rejected by educationists based on ideological filters" (Lamm, 2002, p. 47). And he concludes this situation from a historical perspective:

> "20th Century rhetorics was amazing in its richness, whereas the educational act was depressing in its mundaneness. The abundant rhetorics… gained the name "information boom"… only a very small part of all this abundance manifested in educational practice or had any real influence on it." (Introduction).

Hence, criticism of Waldorf education as arising from a mystical or faith-based worldview is irrelevant, in my opinion, because every educational approach arises from some worldview, which in turn relies mainly on forces of feeling and faith, and not on scientific research.

In secular public schools, the worldview is not as clear as in religious education or the alternative one, because educators in this educational institute often have many varied worldviews. Therefore, uniformity and common direction are much weaker there than in ideological education approaches. This is both the weakness and the strength of the public education system. If we view the subject positively, we can say that in public education there is more chance of diversity, openness, and a wider worldview. However, public education always faces the challenge of having a clear direction. The issue of scatteredness and changing trends, both in the surrounding culture and in the policy of the Ministry of Education, can of course have an adverse and destabilizing effect.

So the question we face is not whether an ideological worldview stands behind one educational approach or another; nor is it whether this worldview is rational and scientific. Behind every eduational stream and every teacher, there stands some kind of worldview, which is not rational and does not originate from scientific research. This is true for public education, religious education, all types of alternative education, and, of course, Waldorf education as well.

I think that the relevant question here is the degree to which educators are aware of their worldview and how they work with it in educational and methodical processes. To refocus on Waldorf education, we can say that those working in it, by virtue of their training and its clear spiritual and ideological direction, are well aware of the spiritual direction they are in – Anthroposophy – and in the best case, they are also aware of their ability to influence their pupils. As we saw above, Steiner himself was conscious of the danger of an illegitimate influence of Anthroposophical contents on the pupils of the first Waldorf school, and kept warning against it (Steiner, 1980).

Undoubtedly, this is a great challenge facing Waldorf educators today, and the entire educational approach. The influence of Anthroposophical content

may be conveyed through teaching methods, stories and narratives, conversations, and many even less overt ways. Raising awareness for this topic, both in teachers' training, teachers' conversations, and in the dialogue between the school community and the teachers, can help prevent any inappropriate influence.

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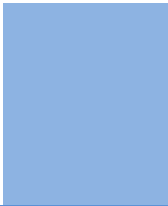| Career	Credibility	Financial

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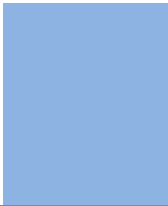
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Plagiarized content will not be considered for publication. We reserve the right to inform authors' institutions about plagiarism detected either before or after publication. If plagiarism is identified, we will follow COPE guidelines:

Authors are solely responsible for all the plagiarism that is found. The author must not fabricate, falsify or plagiarize existing research data. The following, if copied, will be considered plagiarism:

- Words (language)
- Ideas
- Findings
- Writings
- Diagrams
- Graphs
- Illustrations
- Lectures

- Printed material
- Graphic representations
- Computer programs
- Electronic material
- Any other original work

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Global Journals follows the definition of authorship set up by the Open Association of Research Society, USA. According to its guidelines, authorship criteria must be based on:

1. Substantial contributions to the conception and acquisition of data, analysis, and interpretation of findings.
2. Drafting the paper and revising it critically regarding important academic content.
3. Final approval of the version of the paper to be published.

Changes in Authorship

The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

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Appealing Decisions

Unless specified in the notification, the Editorial Board's decision on publication of the paper is final and cannot be appealed before making the major change in the manuscript.

Acknowledgments

Contributors to the research other than authors credited should be mentioned in Acknowledgments. The source of funding for the research can be included. Suppliers of resources may be mentioned along with their addresses.

Declaration of funding sources

Global Journals is in partnership with various universities, laboratories, and other institutions worldwide in the research domain. Authors are requested to disclose their source of funding during every stage of their research, such as making analysis, performing laboratory operations, computing data, and using institutional resources, from writing an article to its submission. This will also help authors to get reimbursements by requesting an open access publication letter from Global Journals and submitting to the respective funding source.

PREPARING YOUR MANUSCRIPT

Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.

Manuscript Style Instruction (Optional)

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11'", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

Structure and Format of Manuscript

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

a) A title which should be relevant to the theme of the paper.
b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
d) An introduction, giving fundamental background objectives.
e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
f) Results which should be presented concisely by well-designed tables and figures.
g) Suitable statistical data should also be given.
h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
j) There should be brief acknowledgments.
k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.

FORMAT STRUCTURE

It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

All manuscripts submitted to Global Journals should include:

Title

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

Author details

The full postal address of any related author(s) must be specified.

Abstract

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Keywords

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in a research paper?" Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

Numerical Methods

Numerical methods used should be transparent and, where appropriate, supported by references.

Abbreviations

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

Formulas and equations

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

Tables, Figures, and Figure Legends

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.

Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

PREPARATION OF ELETRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

TIPS FOR WRITING A GOOD QUALITY SOCIAL SCIENCE RESEARCH PAPER

Techniques for writing a good quality homan social science research paper:

1. Choosing the topic: In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

2. Think like evaluators: If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

3. Ask your guides: If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

4. Use of computer is recommended: As you are doing research in the field of homan social science then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

5. Use the internet for help: An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.

6. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.
Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

19. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

20. *Adding unnecessary information:* Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

21. *Report concluded results:* Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

22. *Upon conclusion:* Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

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Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.

Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

o Explain the value (significance) of the study.
o Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
o Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
o Briefly explain the study's tentative purpose and how it meets the declared objectives.

Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

o Report the method and not the particulars of each process that engaged the same methodology.
o Describe the method entirely.
o To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
o Simplify—detail how procedures were completed, not how they were performed on a particular day.
o If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

o Resources and methods are not a set of information.
o Skip all descriptive information and surroundings—save it for the argument.
o Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

Content:

- o Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- o In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- o Present a background, such as by describing the question that was addressed by creation of an exacting study.
- o Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- o Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- o Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- o Do not include raw data or intermediate calculations in a research manuscript.
- o Do not present similar data more than once.
- o A manuscript should complement any figures or tables, not duplicate information.
- o Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- o You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- o Give details of all of your remarks as much as possible, focusing on mechanisms.
- o Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- o One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- o Recommendations for detailed papers will offer supplementary suggestions.

Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

THE ADMINISTRATION RULES

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

Segment draft and final research paper: You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

Written material: You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals

Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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