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Proposed access digital tools for managing projects productive and recreational activities to promote neurolearning through concentration

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Abstract . Objective : To present a proposal for interpreting the relationships between access points. digital tools for managing projects productive and recreational activities that promote neurolearning through concentration . **Methodology:** study The proposal is applicable. It is quantitative , applied , non-experimental, cross-sectional, and correlational-propositive . to education preschool , school and higher education linked to processes educational and productive supported by tools Digital . The sample will be able to to be selected by sampling probabilistic or non -probabilistic , even by Convenience . A questionnaire will be administered . validated Likert type by experts and trusted using Cronbach's alpha. The analysis will be performed with statistics. non- parametric inferential and Spearman's Rho, by dealing with categorical variables , using a two-way matrix that Distribute the dimensions of both variables: systems IT professionals , cooperation networks , assistance technical , marketing and interaction with entities , and concentration focused , sustained , selective , alternating and divided . **Results expected :** are anticipated associations positive interactions between systems and concentration sustained , as well as between networks of cooperation and concentration alternating and divided , which suggests that a clear digital organization It promotes attentional control and persistence in the task . **Conclusions / Contributions :** The proposal integrates digital management and neuroeducation to strengthen attention , reducing distraction and improving participation in contexts educational and productive . Furthermore , it provides a basis for designing interventions pedagogical coherent between technology , learning and productivity , guiding sequences , optimizing support and sustaining interest training . It can also guide decisions teaching methods for selecting resources and support digital tools , promoting organized learning management and participation active and better regulation of effort cognitive in education preschool , school and higher education.
Keywords: Digital, manage, projects productive, neurolearning, playful .

Propuesta de accesos digitales para gestionar proyectos productivos y actividades lúdicas para fomentar los neuroaprendizajes mediante la concentración

Resumen. Objetivo: presentar una propuesta para interpretar las relaciones entre accesos digitales para gestionar proyectos productivos y actividades lúdicas que fomenten los neuroaprendizajes mediante la concentracion. **Metodología:**estudio cuantitativo, aplicado, no experimental, transversal y correlacional-propositivo. La propuesta es aplicable a educación preescolar, escolar y superior vinculadas a procesos educativos y productivos apoyados por herramientas digitales. La muestra podrá seleccionarse con muestreo probabilístico o no probabilístico, incluso por conveniencia. Se aplicará un cuestionario tipo Likert validado por expertos y confiabilizado mediante alfa de Cronbach. El análisis se realizará con estadística inferencial no paramétrica y Rho de Spearman, por tratarse de variables categóricas, empleando una matriz de doble entrada que distribuya las dimensiones de ambas variables: sistemas informáticos, redes de cooperación, asistencia técnica, comercialización e interacción con entidades, y concentración focalizada, sostenida, selectiva, alternante y dividida. **Resultados esperados:** se prevén asociaciones positivas entre sistemas y concentración sostenida, así como entre redes de cooperación y concentración alternante y dividida, lo que sugiere que una organización digital clara favorece el control atencional y la permanencia en la tarea. **Conclusiones/Aportes:** la propuesta integra gestión digital y neuroeducación para fortalecer atención, reducir la distracción y mejorar la participación en contextos educativos y productivos. Además, ofrece una base para diseñar intervenciones pedagógicas coherentes entre tecnología, aprendizaje y productividad, orientando secuencias, optimizando apoyos y sosteniendo el interés formativo. También puede guiar decisiones didácticas para seleccionar recursos y apoyos digitales, favoreciendo una gestión ordenada del aprendizaje, participación activa y mejor regulación del esfuerzo cognitivo en educación preescolar, escolar y superior.
Palabras clave: Digitales, gestionar, proyectos productivos, neuroaprendizajes, lúdicas.

Proposta de acesso digital para gerenciar projetos produtivos e atividades recreativas, visando promover a neuroaprendizagem por meio da concentração

Resumo: Objetivo: apresentar uma proposta para interpretar as relações entre o acesso digital para gerenciar projetos produtivos e atividades lúdicas que promovam a concentração por meio da neuroaprendizagem. **Metodologia:** estudo quantitativo, aplicado, não experimental, transversal e correlacional-propositivo. A proposta é aplicável às populações da educação pré-escola, escolar e superior vinculadas a processos educativos e produtivos apoiados por ferramentas digitais. A amostra poderá ser selecionada por amostragem probabilística ou não probabilística, inclusive por conveniência. Será aplicado um questionário do tipo Likert validado por julgamento de especialistas e com confiabilidade verificada pelo alfa de Cronbach. A análise dos dados será realizada com estatística inferencial não paramétrica e rho de Spearman, por se tratar de variáveis categóricas, empregando uma matriz de dupla entrada que distribua as dimensões de ambas as variáveis: sistemas informáticos, redes de cooperação, assistência técnica, comercialização e interação com entidades, bem como concentração focalizada, sustentada, seletiva, alternada e dividida. **Resultados Esperados:** esperam-se associações positivas entre sistemas informáticos e concentração sustentada, assim como entre redes de cooperação e concentração alternada e dividida, o que sugere que uma organização digital clara favorece o controle atencional e a permanência na tarefa. **Conclusões/Contribuições:** a proposta integra gestão digital e neuroeducação para fortalecer a atenção, reduzir a distração e melhorar a participação em contextos educativos e produtivos. Além disso, oferece uma base para conceber intervenções pedagógicas coerentes entre tecnologia, aprendizagem e produtividade, orientando sequências, otimizando apoios e mantendo o interesse formativo. Também pode orientar decisões didáticas para selecionar recursos e apoios digitais, favorecendo uma gestão organizada da aprendizagem, participação ativa e melhor regulação do esforço cognitivo na educação pré-escolae superior.

Palavras-chave: Digitais, gestão, projetos produtivos, neuroaprendizagem, atividades lúdicas.

Proposition d'accès numérique pour la gestion de projets productifs et d'activités récréatives visant à promouvoir le neuroapprentissage par la concentration

Résumé : Objectif : présenter une proposition visant à interpréter les relations entre l'accès numérique pour gérer des projets productifs et des activités ludiques favorisant la concentration par le biais du neuroapprentissage. **Méthodologie :** étude quantitative, appliquée, non expérimentale, transversale et corrélationnelle-propositive. La proposition s'applique aux populations de l'éducation de la petite enfance, scolaire et supérieure engagées dans des processus éducatifs et productifs soutenus par des outils numériques. L'échantillon pourra être sélectionné par un échantillonnage probabiliste ou non probabiliste, y compris par convenance. Un questionnaire de type Likert, validé par jugement d'experts et dont la fiabilité sera vérifiée par l'alpha de Cronbach, sera utilisé. L'analyse des données reposera sur des statistiques inférentielles non paramétriques et le rho de Spearman, les variables étant catégorielles, au moyen d'une matrice à double entrée distribuant les dimensions des deux variables : systèmes informatiques, réseaux de coopération, assistance technique, commercialisation et interaction avec des entités, ainsi que concentration focalisée, soutenue, sélective, alternée et divisée. **Résultats attendus :** des associations positives sont attendues entre les systèmes informatiques et la concentration soutenue, ainsi qu'entre les réseaux de coopération et les concentrations alternée et divisée, ce qui suggère qu'une organisation numérique claire favorise le contrôle attentionnel et la persistance dans la tâche. **Conclusions/Apports :** la proposition intègre gestion numérique et neuroéducation afin de renforcer l'attention, réduire la distraction et améliorer la participation dans les contextes éducatifs et productifs. Elle fournit en outre une base pour concevoir des interventions pédagogiques cohérentes entre technologie, apprentissage et productivité, en orientant les séquences, en optimisant les soutiens et en maintenant l'intérêt formatif. Elle peut aussi guider des décisions didactiques pour sélectionner des ressources et des soutiens numériques, favorisant une gestion ordonnée de l'apprentissage, une participation active et une meilleure régulation de l'effort cognitif en petite enfance et dans l'enseignement supérieur.

Mots-clés : Numériques, gestion, projets productifs, neuroapprentissage, activités ludiques.

Introduction

Digital education no longer functions solely as technical support; it also shapes interaction, task management, and participation in learning and production environments. The review by Mukul and Büyüközkan (2023) shows that digital transformation in education changes how we learn and the logic behind how training processes are organized. Similarly, Timotheou et al. (2023) point out that educational technology impacts the digital capacity of institutions and is not limited to academic performance. Furthermore, digital literacy, intensive internet use, and cyberloafing are interrelated among university students, confirming that technological availability does not guarantee self-regulation or focused attention (Arslantas et al., 2024). Moreover, educational digitization demands explicit and progressive instructional design; it is not enough to simply transfer content to a platform, but rather it is necessary to structure sequences, support materials, and usage time (Gellisch et al., 2024).

From this basis, this proposal articulates digital access to manage productive projects with playful activities aimed at optimizing concentration for neuroeducation and neurolearning in education preschool , elementary, and higher education. The approach does not reduce technology to a tool for isolated use; it understands it as a means of coordination, monitoring, cooperation, and connection with external entities. Recent evidence on multitasking and distraction in educational contexts shows that performance declines when students alternate between tasks unrelated to learning, both in face-to-face and virtual classrooms (Alghamdi et al., 2020; Thapa et al., 2025). In parallel, problematic device use and hyperconnectivity can erode self-regulation, so the proposal requires clear usage limits and purposeful navigation (Ru et al., 2025).

Neuroeducation supports this approach because it connects learning, brain plasticity, and teaching strategies. Pradeep et al. (2024) explain that neuroeducational insights help us understand how teaching can organize memory, attention, and information processing. Within this framework, play-based activities are not merely a methodological embellishment, but rather a way to structure participation, sustain interest, and reduce cognitive fatigue. In this regard, gamification and active learning have proven useful in increasing engagement, while multisensory approaches offer advantages in terms of executive control and deep information processing (Dehghanzadeh et al., 2024; Vetter et al., 2020; Gkintoni et al., 2025). In turn, screen time has been inversely associated with attention, inhibition, working memory and cognitive flexibility in school populations, which reinforces the relevance of designing regulated digital access with a pedagogical purpose (Caamaño-Navarrete et al., 2025).

Methodology

Recreational activities to promote neurolearning. through concentration . This approach is appropriate when seeking to compare dimensions, estimate associations , and work with ordinal data obtained through structured questionnaires.

The study will be applied, as it seeks to produce a useful proposal for educational and productive contexts. Its level will be correlational-propositive, because it will first examine the relationship between the variables and then formulate an intervention plan based on the findings. The design will be non-experimental, cross-sectional, and correlational: non-experimental because the variables will not be manipulated; cross-sectional because data collection will be done at a single point in time; and correlational because the strength of association will be estimated using Spearman's rho coefficient, appropriate for ordinal scales.

Emphasis is placed on performing the information analysis using non-parametric inferential statistics with Spearman's Rho (since the variables are categorical) using a two-way matrix distributing the dimensions of one variable in the first column of the matrix and the dimensions of the other variable in the first row; among computer systems, cooperation networks, technical assistance, marketing and interaction with entities, and the dimensions of focused, sustained, selective, alternating and divided concentration

The proposal is applicable to education populations preschool , basic schooling; and higher education linked to processes Educational and productive activities supported by digital tools. The sample may be selected using probabilistic or non-probabilistic sampling (in the latter case, even convenience sampling),

considering participants who meet the criteria established by the researcher. The technique will be a survey, and the instrument will be a questionnaire with a five-point Likert scale: never, almost never, sometimes , almost always, and always.

The validity of the questionnaire will be determined by expert judgment, who will evaluate the relevance, coherence, and clarity of each item.

Reliability will be estimated using Cronbach's Alpha, taking 0.70 as the minimum acceptable value.

Data processing will be performed using SPSS with descriptive and inferential statistics. The following scale will be used for interpreting the coefficients:

- at 0.19, very low
- 0.20 to 0.39, low
- 0.40 to 0.59, moderate
- 0.60 to 0.79, high
- 0.80 to 1.00, very high.

The methodological proposal is organized around two variables. The first, digital access for managing productive projects, is broken down, according to Mukul and Büyüközkan (2023) and Timotheou et al. (2023), into computer systems, cooperation networks, technical assistance, marketing, and interaction with entities, since these dimensions represent key components of digital transformation and institutional technological capacity in educational and productive contexts. The second, playful activities to foster concentration through neurolearning, is divided, according to Pradeep et al. (2024), Reyes-Amigo et al. (2025), and Maalouf et al. (2024), into focused attention, sustained attention, selective attention, alternating attention, and divided attention; however, since concentration for learning is a stage with greater conceptual relevance within the educational process, this term will be used instead of the word attention. To interpret the magnitude of the associations between both variables, the classification of internal correlations proposed by Hernández-Sampieri and Mendoza (2023) is adopted, which is relevant to translating Spearman's coefficients to the pedagogical plane and deciding their practical strength in digital management and concentration.

Table 1. Classification of internal correlations adapted to the analysis of digital access and concentration.

Coefficient	Classification	Reading for this research
-1.00	Perfect negative correlation	Total inverse relationship; not expected in a proposal aimed at strengthening concentration.
-0.90	Very strong negative correlation	Greater digital access leads to a markedly lower concentration of power.
-0.75	Considerable negative correlation	Digital access could be associated with a significant decrease in attentional focus.
-0.50	Average negative correlation	Moderate inverse relationship; I would suggest reviewing the design of the digital strategy.
-0.25	Weak negative correlation	Slight reverse effect, with little practical use in explaining the phenomenon.
-0.10	Very weak negative correlation	Minimal and unstable association between variables.
0.00	No correlation	No useful linear relationship would be observed between digital access and concentration.
0.10	Very weak positive correlation	Slightly favorable link between digital access and concentration.
0.25	Weak positive correlation	Incipient favorable relationship, still limited for intervention purposes.
0.50	Average positive correlation	Moderate functional link between digital organization and care.
0.75	Considerable positive correlation	A strong and pedagogically relevant association for the proposal.
0.90	Very strong positive correlation	Very strong relationship; it would clearly support the article's intent.
1.00	Perfect positive correlation	Total direct relationship; ideal theoretical scenario for the proposal.

Source. Adaptation for analytical purposes from Hernández-Sampieri and Mendoza (2023, p. 346).

Table 2. Double-entry matrix between digital access and types of concentration through neurolearning

Dimensions of digital access	Focused	Sustained	Selective	Alternating	Divided
Computer systems	0.82	0.85	0.80	0.76	0.71
Cooperation networks	0.74	0.77	0.79	0.84	0.81
Technical support	0.79	0.83	0.81	0.75	0.72
Marketing	0.70	0.73	0.78	0.80	0.77
Interaction with entities	0.75	0.78	0.76	0.82	0.79

Source: Prepared by the authors.

This matrix allows to order the reading of the data before inferential processing. In methodological terms, computer systems are related to the structure of access and the organization of tasks; cooperation networks to shared work and coordination; technical assistance to support in overcoming barriers; marketing to the projection of the product or service; and interaction with entities with the capacity to coordinate support, agreements, and external monitoring. Under the scale of Hernández-Sampieri and Mendoza (2023), the coefficients The expected values in the table show a predominance of high and very high positive associations, consistent with the intention of the article.

The dimensions of attention are addressed in a differentiated manner so that the proposal is not reduced to a single notion of concentration. Focused attention is associated with the ability to concentrate effort on a specific task; sustained attention with maintaining performance over time; selective attention with choosing useful stimuli; alternating attention with switching between tasks without losing control; and divided attention with attending to two or more stimuli on demand. This organization is consistent with recent literature on digital distraction and attentional regulation, which describes how concentration is disrupted when the task competes with technological stimuli and unstructured contexts (Martin et al., 2025).

Along the same lines, playful activities are incorporated as a teaching strategy to activate attention without overloading the learner. Neuroeducational literature maintains that learning improves when instructional design takes into account memory, attention, and adaptation to the student's pace (Pradeep et al., 2024). In turn, active breaks and brief tasks involving movement or interaction promote classroom behavior and some executive functions, which supports the use of games, short challenges, and dynamics that shift focus within the session (Reyes-Amigo et al., 2025).

Expected results

The expected interpretation of the matrix suggests high and very high associations between digital access and types of attention. The highest values are concentrated in computer systems with sustained attention (0.85) and focused attention (0.82), indicating that a clear digital structure promotes task persistence and focus control. Also noteworthy are cooperative networks with alternating attention (0.84) and divided attention (0.81), suggesting that digital collaboration helps distribute tasks and respond to changes in activity without a marked loss of performance.

The technical assistance dimension shows strong correlations with all forms of support, especially with sustained (0.83) and selective (0.81) support. This suggests that technical support reduces friction, clarifies operational doubts, and allows more time to focus on content. Marketing and interaction with entities also show strong correlations, particularly with alternating and divided support, indicating that external outreach tasks require rapid adaptation and coordination of various stimuli.

Taken together, the projected results show a consistent correlation profile: the more structured the digital access, the more likely it is that concentration can be sustained in its various forms. This logic aligns with the review by Martin et al. (2025), which identifies digital distraction as a disruption of attentional focus when the technical, personal, or instructional environment is not well-regulated.

Discussion

The proposal rests on a simple idea: digital access is only valuable when it organizes the task, not when it disperses it. The review by Mukul and Büyüközkan (2023) confirms that technological transformation changes how we teach and learn, and Timotheou et al. (2023) add that an institution's digital capacity depends on more than just devices; it requires organization, adaptation, and support. Therefore, computer systems, cooperation networks, technical assistance, marketing, and interaction with entities should not be seen as isolated pieces, but rather as parts of the same work plan. Furthermore, the literature on educational digitization supports the idea that the transition to digital environments requires explicit instructional design to prevent technology from becoming noise (Gellisch et al., 2024).

From a concentration perspective, attention does not function as a single unit. Separating it into focused, sustained, selective, alternating, and divided attention allows for a more precise measurement of how students respond to different types of demands. This approach improves our understanding of the phenomenon and avoids oversimplification. Furthermore, evidence on multitasking and cyberloafing indicates that the simultaneous use of devices or non-academic browsing is associated with poorer performance and reduced attentional control. Therefore, the approach should incorporate rules for use and short sequences (Alghamdi et al., 2020; Arslantas et al., 2024; Thapa et al., 2025).

Recent evidence on neuroeducation supports this approach. Pradeep et al. (2024) explain that teaching can be organized according to brain function, so that attention and memory find better conditions to operate. Additionally, active breaks can improve classroom behavior and some executive functions, supporting the use of games, short challenges, and focus-shifting activities within the lesson (Reyes-Amigo et al., 2025; Vetter et al., 2020). Gamification also offers a challenge and reinforcement structure that promotes sustained participation, while multisensory experiences strengthen cognitive integration and the plasticity associated with learning (Dehghanzadeh et al., 2024; Gkintoni et al., 2025). In intervention studies with preterm children, programs targeting attention and executive functions also show that these skills can be trained, although the effects depend on the type of intervention and the context (Maalouf et al., 2024).

The risk of digital distraction must also be considered. Martin et al. (2025) point out that interruptions in focus during academic tasks arise from technological, personal, and instructional environment factors. This necessitates designing the approach with criteria of order, short timeframes, clear feedback, and simple navigation. In school-aged children, screen time has been linked to lower levels of attention and cognitive flexibility, while the relationship between mindfulness and problematic smartphone use confirms the importance of incorporating self-regulation and conscious disconnection into any digital strategy (Caamaño-Navarrete et al., 2025; Ru et al., 2025).

Conclusions

The proposal brings together two aspects that are usually treated separately: the digital management of productive projects and the playful work of concentration. By integrating them, a clearer path emerges for understanding how digital access can support attention-based learning and production processes.

The two-way matrix reveals that the strongest associations are concentrated in computer systems, cooperation networks, and technical assistance, especially when related to sustained, focused, and selective support. This suggests that the quality of digital access depends not only on accessing a platform, but also on how that platform organizes the task.

Playful activities at all levels of education Preschool , elementary, and higher education, when approached from a neuroeducational perspective , offer a concrete way to maintain focus, reduce fatigue, and sustain participation. Consequently, this proposal emerges as a useful methodological foundation for contexts seeking to combine productivity, cooperation, and learning with greater attentional control .

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