Experiences of higher education learners with ADHD regarding learning strategies and the perceived suitability of learner-centred learning design elements in higher education

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Summary

Adult students with attention-deficit hyperactivity disorder (ADHD) often encounter academic challenges related to executive functioning, including difficulties with working memory and executive functioning (Onandia-Hinchado et al., 2021). In higher education, these may appear as challenges in self-regulation, time management, organisation, emotional regulation, and task initiation (Sedgwick-Müller et al., 2022; Wright, 2011). Students with ADHD have been found to have lower average grades and more academic difficulties than students without ADHD (Sedgwick-Müller et al., 2022; Wright, 2011), lower academic self-efficacy (Minear et al., 2023) and a greater risk of discontinuing their studies (Sedgwick-Müller et al., 2022). Despite these challenges, many learners demonstrate notable resilience and develop compensatory learning strategies.

This article aims to examine the experiences of adult students with ADHD in higher education, including their use of learning strategies and their perceptions of the suitability of learner-centred design. The study addresses two research questions:

1. What are the learning strategies used by adult students with ADHD in higher education, and how do they experience them?
2. Which elements of learner-centred learning design do adult higher education students with ADHD perceive as supportive of learning?

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Method

The study employed a qualitative research design using purposeful sampling to recruit participants who met the criteria of having an ADHD diagnosis and being enrolled in higher education. Participants were recruited through the Estonian ADHD Association's Facebook group and the author's Facebook channel. Interviews were conducted with nine female participants who met all inclusion criteria and were actively studying at bachelor's, master's, or doctoral levels. Participation was voluntary, and ethical principles of informed consent, confidentiality, and the right to withdraw were strictly followed.

Data were collected through semi-structured individual interviews conducted via Zoom, lasting between 57 and 81 minutes, and were recorded, transcribed, and anonymised. The data were analysed using qualitative content analysis. The transcripts were read repeatedly to obtain an overall understanding of the participants' experiences and to identify recurring patterns of meaning. Relevant text segments were extracted and compiled in an Excel table. Open coding was conducted inductively, based on the participants' own wording and experiences. Similar codes were then grouped into subcategories and main categories. During the final phase, the category system was discussed with a colleague to examine the correspondence between the codes and categories.

Results

In response to the first research question, eight categories of learning strategies were identified: (1) awareness of individual learning differences and self-acceptance, (2) time pressure as a trigger for learning, (3) interest- and meaning-based motivation, (4) meaning-making and knowledge construction, (5) learning environment, (6) motor and sensory strategies, (7) support from digital tools, including artificial intelligence, and (8) social learning and learning partnerships.

Participants described awareness of their diagnosis and understanding its impact on learning were central to developing effective strategies. Diagnosis-related understanding helped them reinterpret earlier difficulties and move from self-blame towards greater self-acceptance and kinder self-talk, which may be interpreted as self-compassion, a construct associated with more adaptive coping following perceived academic failure. Time pressure, particularly last-minute activation, was commonly described as an ambivalent coping pattern. An approaching deadline could trigger task initiation and, in some cases, hyperfocus. This pattern was experienced as exhausting, unstable, and associated with anxiety and forgetting. Deadline-induced intensity may be

interpreted in light of evidence that adults with ADHD may require greater stimulation to sustain task engagement (Babajanyan et al., 2023).

Motivation was strongly interest and relevance-driven; tasks perceived as meaningful supported sustained attention, whereas routine or low-stimulation tasks increased avoidance and difficulties with task initiation. Participants preferred learning strategies based on meaning-making, real-life connections, and dialogue rather than rote memorisation, consistent with the learning perspectives outlined by Hager & Hodkinson (2009).

Participants modified their learning environment by reducing distractions or moving to locations that better supported concentration. Motor and sensory activities (e.g. drawing, colouring or knitting) were perceived as helping to regulate attention. However, an effective strategy could remain unused if the learner feared that it would be interpreted as impolite or inattentive.

The use of digital tools supported attention and reduced cognitive load. Calendars and reminders supported time management and organisation. Artificial intelligence was used to structure tasks, initiate learning, and transform materials into more accessible formats. Artificial intelligence was described as a tool that supports task initiation, comprehension, and self-testing, particularly for large or complex texts.

Social support from peers, learning partners, and family members played a crucial role in maintaining engagement, managing deadlines, and accountability. Group work could support earlier task initiation but could also increase experiences of loss of control, conflict, unequal workload, and sensory or emotional overload. Its suitability depended on clear organisation, agreed roles, and the option to choose between individual, pair, or group work.

Regarding the second research question, seven categories of learner-centred learning design elements, perceived as supportive of learning, were identified: (1) course structure and clarity of assignments, (2) teaching formats and methods, (3) feedback and assessment practices, (4) teacher support and communication, (5) organisation of collaboration and group work, (6) differentiation and flexibility, and (7) support services and psychological safety.

Participants valued clearly structured courses, explicit instructions, transparent assessment criteria, interactive and varied teaching methods, ongoing feedback during the learning process, accessible instructors, and flexibility in assessment formats, deadlines, and group-work arrangements. Flexibility was most supportive when combined with clear structure, explicit expectations, intermediate goals, and regular feedback. Psychological safety influenced whether participants felt able to communicate their needs, request support, and use available accommodations. Formal support alone was insufficient when learners anticipated stigmatising or inflexible responses.

Discussion and Conclusions

The findings indicate that the learning experiences of adult students with ADHD are characterised not only by challenges but also by strong learner agency. Participants actively monitored and adapted their learning strategies through self-observation and experimentation. This finding is consistent with research indicating that metacognitive strategies and explicit training in time management, organisation and planning can support the self-management of adults with ADHD (Solanto et al., 2010). Diagnosis-related understanding supported a shift from self-criticism to self-compassion, which participants experienced as reducing the emotional burden associated with learning.

The findings further suggest that supportive learning experiences are shaped by meaningful, flexible, and learner-centred learning design that allows multiple pathways to achieving learning outcomes. Flexibility is most effective when combined with clarity, explicit expectations, intermediate goals, and regular feedback. Without sufficient structure, flexibility may increase rather than reduce uncertainty. Digital tools, including artificial intelligence, served as compensatory supports that reduced executive-function load and facilitated task initiation. Psychological safety emerged as an important factor influencing whether learners disclosed their needs and made use of available support. Although the small, gender-homogeneous sample limits transferability, the study provides experiential insight into how adult learners with ADHD navigate higher education and which learner-centred elements they perceive as supportive.

Keywords: ADHD, adult learners, higher education, learning strategies, learner-centred learning design