

Art-Based Cognitive and Collaborative Activities as A Context for Attention, Behavioural Regulation, And Team Dynamics Among Adolescents: A Qualitative Exploratory Study

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Abstract—Adolescence involves continuing development in attention, behavioural regulation and social interaction. Educational activities that integrate visual engagement with collaboration may provide meaningful contexts for observing these processes. This qualitative exploratory observational study examined how structured art-based cognitive and collaborative activities created opportunities for attention, behavioural regulation and team dynamics to become observable among adolescents. The study involved 120 adolescent students across two workshop days: 60 students on Day 1 and a different group of 60 students on Day 2. Structured observation was the sole source of research data. Observations focused on attention and visual engagement, behavioural regulation and response to structure, communication and cooperation, leadership and role distribution, individual and shared ownership, and sustained participation. The observational material was organised thematically. Six themes emerged: attention and visual engagement; behavioural regulation and response to structure; communication and cooperation; leadership and role distribution; individual and shared ownership; and engagement and sustained participation. Day 1 included observations of greater behavioural stimulation in some groups, including excessive noise, difficulty following instructions, random paint splashing, limited planning and interference with other groups' artwork. In the different Day 2 cohort, observations included deeper involvement in some groups, thoughtful collaboration, greater care in material use and sustained participation, with some students requesting additional time. These differences are interpreted as contextual variation rather than improvement. The study does not establish causal or therapeutic effects.

Index Terms—adolescents, art-based activities, attention, behavioural regulation, collaboration, qualitative observation, team dynamics

I. INTRODUCTION

Adolescence is an important period of cognitive, behavioural and social development. In educational settings, students are expected to sustain attention, respond to instructions, regulate behaviour and participate effectively with peers. Executive functions support these demands through processes including inhibitory control, working memory and cognitive flexibility [1]. Attention is similarly central to learning and involves interacting systems associated with alerting, orienting and executive control [2].

Art-based activities may provide useful contexts for observing these processes as they unfold. They may require students to attend to visual information, make decisions, sustain involvement and respond to changing task demands. When creative tasks are collaborative, students must additionally communicate, negotiate, share materials and accommodate the contributions of peers.

Arts experiences have been associated with forms of observation, qualitative judgement and flexible thinking [3], while experiential learning emphasises active participation [4]. A sociocultural perspective also places learning and development within social interaction and shared activity [5].

Research on arts-based and arts-therapeutic approaches has reported potential psychosocial outcomes, although findings vary according to intervention, context and methodology [6]– [8]. The present study does not evaluate art therapy and does not claim that art-based activities improve psychological functioning. Instead, it examines what can be observed when adolescents participate in structured art-based cognitive and collaborative activities.

The study addressed five questions: How do adolescents demonstrate attention and visual engagement during structured art-based activities? What behavioural patterns become visible during stimulating and collaborative creative tasks? How do communication, cooperation, leadership and role distribution emerge? How do adolescents respond when creative work is modified by others? What contextual differences are observable across two workshop days involving different cohorts?

II. METHOD

A qualitative exploratory observational design was used. The reporting approach was informed by qualitative reporting standards [9].

Participants and setting: The study involved 120 adolescent students in a school setting. Sixty students participated on Day 1 and a different group of 60 students participated on Day 2. The cohorts were treated as separate observational groups and were not the same participants observed at two time points.

Data source: Structured observation was the sole source of research data. No student questionnaire, self-report scale or standardised psychological assessment was used.

Observation framework: Six domains guided observation: attention and visual engagement; behavioural regulation and response to structure; communication and cooperation; leadership and role distribution; individual and shared ownership; and engagement and sustained participation. The framework was observational rather than a numerical rating scale.

Procedure: Students participated in structured activities involving visual engagement and collaborative art-making. Instructions were provided before activities commenced. During and immediately after the activities, observable patterns of

participation, attention, material use, communication, cooperation, leadership and response to structure were recorded descriptively.

Analysis: Observational material was reviewed for recurring patterns relevant to the research questions. Similar observations were grouped conceptually and developed into themes using a thematic approach [10]. The analysis remained descriptive and interpretive rather than statistical. Interpretations were bounded to the workshop context.

Ethical considerations: No names or personally identifying information are reported. Observations were restricted to behaviour and interaction within the workshop context. The activities were educational and exploratory and were not presented as art therapy, psychological treatment or clinical assessment.

III. FINDINGS

Six themes emerged from the observations.

A. Attention and Visual Engagement: The activities created opportunities for students to direct attention towards visual material and the ongoing creative task. Some students demonstrated sustained involvement, whereas others shifted attention in response to surrounding activity and peer stimulation.

B. Behavioural Regulation and Response to Structure: In the Day 1 cohort, some groups displayed increased behavioural stimulation. Observations included excessive noise, random paint splashing, limited planning, difficulty following instructions and instances of interference with other groups' artwork or working space. These behaviours were interpreted as context-specific observations rather than fixed characteristics.

C. Communication and Cooperation: Collaborative activities required students to exchange ideas, coordinate actions, share materials and respond to suggestions. The shared nature of the task made cooperation visible within the common physical and creative space.

D. Leadership and Role Distribution: Leadership emerged through initiative and influence during group activity. Some students appeared to take more active roles in organising or directing the creative process, while others contributed in less directive roles.

E. Individual and Shared Ownership: Collaborative artwork required students to negotiate between individual preferences and collective decisions. Students encountered situations in which their contributions became part of a shared product and in which peers could add to or modify the work.

F. Engagement and Sustained Participation: In the Day 2 cohort, observations included deeper involvement in some groups, thoughtful collaboration, greater care in material use and sustained participation. Some students requested additional time. These observations describe contextual variation and cannot be interpreted as improvement because the participants were different.

IV. DISCUSSION

The findings indicate that structured art-based activities can create an educational context for observing cognitive, behavioural and interpersonal processes. Attention was visible through engagement with visual material and the ongoing task, while behavioural regulation became visible through responses to instructions, stimulation and material use. The observations are broadly consistent with the understanding that attention and executive functioning involve selecting relevant information, inhibiting competing responses and adapting behaviour to task demands [1], [2]. However, the present study did not directly measure executive functioning and therefore does not claim that observed behaviours constitute measures of executive-function performance.

The collaborative component was particularly relevant to team dynamics. Communication, cooperation, informal leadership and shared ownership became observable because students were required to work towards a common creative product. This is compatible with sociocultural perspectives emphasising interaction and shared activity [5].

The two workshop days require particular caution. Day 1 and Day 2 involved different student cohorts. Consequently, observed differences cannot be treated as pre-post change, intervention effects or evidence that students improved. Differences may reflect cohort composition, peer relationships, classroom culture, prior experience or other contextual factors.

The study therefore contributes primarily to understanding art-based activities as an observational

and educational context rather than as a tested psychological intervention.

V. EDUCATIONAL IMPLICATIONS

Structured art-based activities may provide educators with opportunities to observe dimensions of student participation that are not always visible during conventional academic tasks. Teachers may observe attention to visual information, persistence, communication, cooperation, informal leadership and responses to shared ownership.

The observations also suggest the importance of clear instructions and material boundaries when creative activities are conducted with larger groups. Behavioural stimulation should be understood within the activity context rather than automatically interpreted as individual behavioural difficulty.

VI. LIMITATIONS

The study was conducted in a specific educational setting and therefore has limited generalisability. Structured observation was the sole data source, with no student interviews, self-report measures or validated psychological assessments. The study was not experimental and did not include a control group or repeated measurement of the same participants. The two workshop days involved different student cohorts, preventing individual-level change analysis. Observational interpretation is potentially influenced by researcher positioning. Multiple art-based components were included, so the contribution of any single activity cannot be isolated.

VII. RECOMMENDATIONS

Future research should use repeated observations of the same participants when examining change over time. Mixed-method designs could combine structured observation with validated measures of attention and behavioural regulation and with student interviews or reflective accounts.

Comparative research could examine individual versus collaborative art-making and investigate turn-taking, peer negotiation, shared ownership and informal leadership. Multi-school studies could examine the influence of classroom culture, group composition and educational context.

VIII. CONCLUSION

This qualitative exploratory study examined structured art-based cognitive and collaborative activities as a context for observing attention, behavioural regulation and team dynamics among adolescents. Six themes emerged across the observations. The findings suggest that structured art-based activities can make cognitive, behavioural and interpersonal processes visible within an educational environment.

Collaborative art-making is particularly relevant because individual decisions become part of a shared product, creating opportunities to observe communication, negotiation, informal leadership and shared ownership. The study does not establish causal or therapeutic effects. Differences between the two workshop days cannot be interpreted as improvement because different student cohorts participated. The principal contribution is contextual: structured art-based educational activities can serve as a meaningful setting for observing adolescent attention, behavioural regulation and collaborative processes.

REFERENCES

- [1] Diamond, "Executive functions," *Annu. Rev. Psychol.*, vol. 64, pp. 135–168, 2013.
- [2] M. I. Posner and S. E. Petersen, "The attention system of the human brain," *Annu. Rev. Neurosci.*, vol. 13, pp. 25–42, 1990.
- [3] E. W. Eisner, *The Arts and the Creation of Mind*. New Haven, CT, USA: Yale University Press, 2002.
- [4] D. A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ, USA: Prentice-Hall, 1984.
- [5] L. S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA, USA: Harvard University Press, 1978.
- [6] L. Bosgraaf, M. Spreen, K. Pattiselanno, and S. van Hooren, "Art therapy for psychosocial problems in children and adolescents: A systematic narrative review," *Front. Psychol.*, vol. 11, Art. no. 584685, 2020.
- [7] Z. Moula, "A systematic review of the effectiveness of art therapy delivered in school-based settings to children aged 5–12 years," *Int. J. Art Therapy*, vol. 25, no. 2, pp. 88–99, 2020.
- [8] Z. Moula, S. Aithal, V. Karkou, and J. Powell, "A systematic review of child-focused outcomes and assessments of arts therapies delivered in primary mainstream schools," *Children Youth Serv. Rev.*, vol. 112, Art. no. 104928, 2020.
- [9] B. C. O'Brien, I. B. Harris, T. J. Beckman, D. A. Reed, and D. A. Cook, "Standards for reporting qualitative research: A synthesis of recommendations," *Acad. Med.*, vol. 89, no. 9, pp. 1245–1251, 2014.
- [10] V. Braun and V. Clarke, "Using thematic analysis in psychology," *Qual. Res. Psychol.*, vol. 3, no. 2, pp. 77–101, 2006.