The Visual Art to Improve Skills for Paediatrics Staff

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Abstract: In healthcare working contexts, individuals are required to have a set of transversal skills that can be distinguished in technical-specialist, communicative-relational and organizational-management skills. This is the reason why interprofessional training has become a requirement in hospital wards. Art has been shown to be effective tools in educating medical students and healthcare professionals to a better self-awareness, reflective practice with the aim of better communication with the patient, better stress management, less burn-out etc. The aim of this study is to evaluate the use of art as a tool for the development of useful skills as observation, problem solving, critical thinking, communication, tolerance of ambiguity in paediatric practice.

Method: The staff of the Umberto I paediatric department's staff was chosen to be enrolled: 2 paediatricians, 3 nurses and 2 residents. A control group of 4 nurses and 1 resident was included in the study. The involved personnel participated in 4 to 8 one-hour meetings in two months. During these meetings, works of art were proposed by applying the method of Visual Thinking Strategies and other useful art practices to reinforce active listening and empathy. Validated test, VTSKill grid, was administered to evaluate the improvement of skills.

Results: The comparison between pre and post-tests gave positive results in terms of Critical Thinking, Observation, Linguistic expression, problem solving and therefore analysis and communication skills. Same results were not recorded in the personnel who did not participate in the activities, registering in some cases a regression from the initial test.

Conclusion: This experience, although realized with few participants, confirmed other experiences that have been suggesting Medical Humanities and in particular the Visual Art as a tool to improve useful skills and relationships within the staff of hospital departments. According to our experience, we believe improvement of some skills can be useful in the paediatric practice where the use of attentive listening, observation skills, communication through visual aids can improve the relationship with young patients and their families.

Keywords: Medical Humanities, Visual Art, Stress Management, Empathy.

INTRODUCTION

In healthcare working contexts, individuals are required to have a set of transversal skills that can be distinguished in technical-specialist, communicative-relational and organizational-management skills. This is the reason why interprofessional training has become a requirement in hospital wards.

Further more, doctors, nurses and other professionals working in healthcare settings are certainly more at risk than others for developing tension-related ailments, burdensome moods and emotional fatigue up to the risk of burnout.

Care personnel find them selves having to manage strong emotional loads in a context where, the problem can be even worsened by a difficult interprofessional communication.

In paediatric practice, more than in other medical disciplines, observational skills play a major role since triangular communication professional-patient-parent has some specific features of complexity.

It is therefore useful to promote the development and strengthening of relational, communicative and technical skills in all caregivers, as well as providing every healthcare professional with opportunities for reflection, discussion and common growth. Practices related to art can be used to this intent, introducing the application of Humanities in Medical Education and in particular the visual arts as in some experiences born in the USA [1-3] where academic courses have been held since the 1980s in the medical and nursing fields. The scientific literature suggests that this practice improves both observation and empathy [4, 5]. Among the proposed activities we find Visual Thinking Strategies (VTS) [6-9] and Artful Thinking [10-12] as pedagogical methods usually employed. These methods aim to improve observation skills, increase self-confidence, and improve the process of physical examination and diagnosis [13]. Furthermore, some

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research has shown that exposure to art allows for stress reduction, increases self-empowerment and self-awareness, induces behaviour patterns to change, normalizing heart rate, blood pressure or cortisol levels [14, 15]. With these activities it is possible to develop the Skills for Life which are important for improving emotional, relational and cognitive skills. In particular, for the Visual Thinking Strategies method, evaluation grids have been implemented to measure the areas potentially influenced by the training of the visual arts [16].

METHOD

The practice of visual thinking strategies (VTS) was proposed to two similar interprofessional cohorts, made up of doctors, residents and nurses of the ward. This activity was characterized by exposure to the art of health professionals, through 8 meetings of about an hour each held and distributed over a period of 4 months. One of these groups was considered control as it did not practice with the art in the same period. During the meetings unknown works of art were proposed to the participants and the activity manager played the role of facilitator involving the participants in a discussion on the proposed image. In fact, the practice of the VTS method requires an interpretation of the work being hypothesized, corroborating what is claimed with visual evidence that can lead to a shared solution. With a first question "What is it going on in the image?", the participants are asked to describe what they observe and with a second question "What are the visual elements that can prove what has been said?", the participants are prompted and then stimulated to give a logical justification of what they have described following a first observation of the work. They are, therefore, guided to understand the details (single elements) and the relationship between them, to reorganize the information and find the key to understanding the proposed image.

The practice of VTS structured in this way favours dialogue and comparison, as well as collaboration between the participants who, together, will be able to reach a solution relating to the observation made or in any case will have the opportunity to confront each other as equals because each hypothesis is considered valid.

Each operator recruited, as well as the members of the control group, is administered a test with an image for which they will have to answer the question what is happening? What are the visual evidences to support your hypothesis, before and at the end of the course in order to measure the impact of this method on the development of some competencies related to life skills by adopting the VTSkill grid [16]. The Analytic Rubric VTSkill for learning outcome assesment features a grid of “competences” (dimensions on the rows) and “levels” of achievement (score on the columns). The VTSkill includes the four main competences: critical thinking, observation and attention skill, linguistic expression for communication capacity and problem solving. It was considered fundamental the addition of two observer rating dimensions (number of words and number of visual elements identified). For each competence the evaluator can assign a score from 0 to 4 points according to the relation between the written responses of the participant and the description provided in the rubric for each level.

RESULTS

The pre- and post-course writing produced by the participants and control group as a response to the VTS questions about Table Top Towers (1971) of Rob Gonsalves was assessed using the VTSkill Grid rubric, with scores assigned for Critical Thinking, Observation Skill, Linguistic Expression, and Problem Solving. It is interesting to evaluate the number of words and number of elements identified related to the skills. The result of the analysis is presented in Table **1**, with the average of the scores for each participant achieved across all competencies represented in the results column.

For example, we report the two answers of pre and post-test of a participant and a control to understand how we can evaluate of improving certain skills after VTS activities.

The image test description by the participant n. 3 at the activities:

Pre-test: “Two children are playing in the park with blocks reproducing the landscape behind them. Visual evidence: the cubes are positioned like the buildings; the environment where they play looks like a public park.”

Post-test: “Two children are seen playing with blocks in a park. The girl is seated and is reproducing the background with the skyscrapers; the buildings have printed letters that seem to reproduce words (city, top, etc.). The boy is at the top of the tree and is helping the girl with the taller pieces.”

Table 1: Evaluation of Individual Participants using the VTSkill Grid

	Critical Thinking		Observation Skill		Linguistic Expression		Number of Words		Problem Solving		Elements Identified		Scores Average
	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	Pre test	Post test	
Participants													
1	1	2	3	2	2	2	60	46	2	2	9	9	0
2	1	2	0	2	0	2	21	41	0	2	3	7	7
3	1	3	1	3	0	3	27	56	1	2	5	8	8
4	1	3	1	2	0	4	52	58	2	3	3	11	8
5	1	1	0	1	0	1	35	28	0	1	4	4	3
6	1	2	0	2	0	1	25	28	1	2	4	5	5
7	1	3	2	3	1	4	53	61	1	3	9	10	8
Control group													
8	2	1	1	1	2	1	50	43	1	1	7	7	-2
9	1	1	1	1	1	1	31	41	0	0	3	4	0
10	1	1	1	1	1	1	33	29	1	1	6	5	0
11	3	2	2	2	3	2	75	48	3	2	11	9	-3
12	2	1	0	1	1	1	54	30	1	1	5	8	0

The image test description by the n. 10 of control group:

Pre-test: “Two children are seen playing at building skyscrapers. In particular, the girl plays with the building blocks while the boy climbs the tree and imagines placing the brick on a real skyscraper.”

Post-test: “The little girl tries to reconstruct the same skyscrapers that she sees in the background, while the boy in the tree tries to imagine putting the brick on top of the tallest skyscraper.”

All of the 7 participants achieved improvement in their overall competencies ≥ 0 on average.

A more detailed analysis does reveal some positive trends: 5 of 7 participants achieved a result ≥ 0 for Linguistic Expression increasing the number of words while all students demonstrated an improvement or maintenance of Problem-Solving abilities and Critical Thinking. The results of control group show the same situation after four months or it is possible to register the decrease of those competencies.

DISCUSSION

The VTS program was effective in increasing the visual skill of the whole sample of participants at the end of the training. The VTSkill grid also measured the positive impact of the VTS program on improving problem solving, linguistic expression, and critical thinking skills for medical doctor and nursing Team.

Other research using qualitative methods or observational studies have proposed an improvement in communication abilities [17] and interpretation [18] following a single VTS session. This suggests that a relatively small number of VTS sessions can be effective at creating capacities for observation, communication, and interpretation. The experience of research in this field suggests at least 4 meetings in two months to achieve good results.

During the meetings the reflections of participants suggest to feel very well and this can be represented the impact of VTS activities for limiting stress as demonstrated in other research [19].

CONCLUSION

Art-based learning activities, namely the Visual Thinking Strategies, are effective in promoting several abilities deemed professionally relevant like visual skills, problem solving, critical thinking, empathy, team building, resilience, and cultural sensitivity.

The results of this experience show clear impact even the small number of participants at this learning method. We highlight the need for the persistence of visual arts as learning tool in medical education especially in Paediatric sector where non-verbal communication with children plays a major role.

To obtain significant educational effects not only for paediatrics but for other disciplines as well, it is important to integrate mindfully these activities into continuing medical training program. We advocate for larger multicentre quantitative and qualitative studies to be conducted in order to define the best teaching methods and needed amount of exposure to art-based activities, to avoid them being only an option in the training process so making visual thinking strategies perfectly integrated in clinical daily practice.

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