

A picture paints a thousand words: Collage-making in higher education problem-based learning

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The purpose of the study was to examine the impact of implementing a creative art activity in a problem-based learning (PBL) course on occupational therapy (OT) students and their tutors. A qualitative-ethnographic study was conducted during 2016–2017. In one meeting of a PBL course, 126 first year OT undergraduate students were asked to create a collage reflecting the case study they chose, followed by a discussion of their experience. Thirty-four students and nine tutors participated in the study. Qualitative analysis was conducted using focus groups, semi-structured interviews, open questionnaires and observations. Findings of the qualitative analysis revealed four main categories: attachment to the client, change in the meeting's atmosphere, developing learning skills, and a creative art activity as a learning, treating and tutoring tool. Implementation of a creative art activity in a PBL course provided enrichment for students in the form of a learning and treatment tool and for tutors in the form of an instruction tool. This study sheds new light on active learning and

teaching, and offers some important insights regarding the use of creative art activities in higher education.

Keywords: *creativity, higher education, students, teaching, tutor*

Introduction

Contemporary literature on teaching techniques in higher education has dealt with the development of innovative teaching strategies in light of the criticism of traditional teaching methods (Pundak, & Rozner, 2008; White, Larson, Styles, Yuriev, Evans, Rangachari, & Eise, 2016). It is argued that traditional methods limit instruction to knowledge transfer only. As a result, they do not generate expected outcomes; for example, acquiring knowledge and promoting skills such as problem solving and understanding complex concepts. Furthermore, traditional instruction develops a negative attitude among students (Pundak, & Rozner, 2008). Consequently, other teaching strategies have been developed based on the conceptual theory of 'constructivism' emphasising the active nature of learning. Active learning has been defined as classes in which students should read, write, discuss, or engage in solving problems. Active learning places students in the centre of the lesson and regulates their learning, while the teacher becomes a guide and a co-creator of new meaning making (Alt, 2016; Gaspar, & Mabic, 2014; White et al, 2016). Problem-based learning (PBL) is one of the techniques that meets this definition (Prince, 2004). Creative teaching is also a valuable technique to promote student-centred teaching (Gibson, 2010) and creative art activities are a powerful teaching tool for adult learners (Simmons, & Daley's, 2013).

This paper presents a study incorporating these two methods and describes the implementation of a creative art activity as an active learning method in a PBL course. Additionally, it explores the experiences of occupational therapy (OT) students and their tutors while engaging in the new activity. Understanding the impact of creative art activities on OT students may contribute to the growing body of literature on active learning and teaching techniques for preparing health students for practice.

Problem-based learning in health professions education

PBL is a learner-centred approach that builds on real-life cases to increase the students' knowledge and understanding of the subject matter (Hung, 2015; Stern, & D'Amico, 2001). Problems, or cases (terms used interchangeably in the literature), are the cornerstone of PBL. They are based on authentic situations and provide the substance and content for tutorial sessions and influence the students' paths of self-directed learning (Stern, & D'Amico, 2001). The cases describe client's scenarios with diverse health conditions, and include psycho-social, economic, cultural, ethical and public health policy issues. This encourages students to deal with the total context of the client's health problems, including their interactions with the health care system (Hendricson, 1993; Schell, & Kaufman, 2015). For example, Daniel is a 5-year-old child with a Developmental Coordination Disorder (DCD). Daniel attends a regular kindergarten and refuses to participate in fine motor activities that involve painting, drawing and cutting. He does not take part in ball games with peers and prefers playing with younger children.

Students define their own learning objectives from the cases presented to them and engage in independent study before returning to discuss and refine the knowledge they acquired with the group (Halliwell, 2008; Hung, 2015). The groups are guided by a tutor and aim to challenge appropriate learning resources (Jung, Tryssenaar, & Wilkins, 2005). Today, PBL is a familiar and widely discussed instructional method in almost all disciplines in higher education due to its success in promoting students' higher order thinking and practical skills (Hung, 2015). Research has shown that PBL promotes competencies such as communication skills, teamwork, independent responsibility for learning, information sharing, feedback skills, knowledge application, problem solving, and creativity among health professions' students (Hung, 2015; Liaw, Chen, Klainin, Brammer, O'Brien & Samarasekera, 2010; Reeves, Mann, Caunce, Beecraft, Living, & Conway, 2004). PBL specifically facilitates the development of clinical reasoning strategies among health students including identifying assumptions, developing hypotheses, and considering options related to client treatment (Scaffa, & Wooster, 2004).

Creativity in health professions education

One definition of creativity is 'the ability to transcend traditional ideas,

rules, patterns, relationships, or the like and to create meaningful new ideas, forms, methods, interpretations, originality, progressiveness, or imagination' (Dictionary.com, 2017). Early research on creativity treated it as a personal trait. More recent research views creativity as multidimensional; it can take many forms and can be found within a variety of contexts (Adams, 2005; Gibson, 2010; Hung, 2015; Yunus, 2015). Contemporary creativity theories were expanded to utilise cognitive, psychological, environmental, and social lenses in order to broaden the understanding of human ability (Adams, 2005; Hung, 2015). The cognitive lens involves intelligence, previous knowledge, and creative thinking. The social aspect includes cultural, educational, or socioeconomic factors, while the personality aspect consists of motivation, confidence and non-conformity (Adams, 2005). Alternatively, Csikszentmihalyi (1996) conceptualises creativity through the lens of system dynamics. His study of creative people shows that their creativity develops and is recognised within a context and always has a cultural and social dimension. In his view, creative people like what they do; they report 'having fun' during activities. The key to creativity lies in 'how' rather than 'what'.

Despite the many definitions of creativity the elements that regularly appear in the definition of creativity are a new, original idea or insightful ideas that occur in a process of problem solving (Adams, 2005; Hung, 2015). Furthermore, most scholars recognise the importance of students' creativity in higher education (Shriki, & Lavy, 2014). For the purpose of this study, we use creativity as a multidimensional concept and creative art activities as a means of expressing and promoting it (Thompson, & Blair, 1998).

In the higher education, creativity is a key concept and it has become an important dimension in the study of science and technology (Bereczki, & Kárpáti, 2018; Yunus, 2015). Over the last century, educators have encouraged holistic education and specifically the cultivation of creativity, not as an art-related addition to school curricula but rather as an educational approach in its own right, expanding the cognitive dimensions of students' experience to include emotional and psychological aspects (Allen, 2011; Gibson, 2010). Educators argue that new millennium economic contingencies require the development of a greater capacity for creativity and not only a higher level of mental skills or other dispositions such as empathy and collegiality. In the 21st

century, it is important to develop innovative habits of mind and new ways for framing and solving problems to address the complex social and environmental issues that have emerged in the 'developed' world (Allen, 2011; Simmons, & Daley, 2013).

Despite the numerous definitions of creativity in higher education literature, some attributes such as originality, use of imagination, ability to create meaningful and new forms, and storytelling are shared (Gibson, 2010; Jackson, & Shaw, 2006). Although, creativity is widely supported and appreciated by teachers in all domains it is often missing in higher education curricula, which have been criticised for inhibiting creativity rather than fostering it (Gibson, 2010; Yunus, 2015).

Occupational therapy (OT) as one of the health professions that is taught in higher education, prepares students to address the occupational needs of individuals, groups, and communities (American Occupational Therapy Association [AOTA], 2014). Creative activities have been discussed in OT literature for over a century through the inclusion of arts and crafts in therapy (Christiansen, & Haertl, 2014). This tradition is grounded in the relationship between creativity and health because creative activities are valued as having a specific potential for creative expression that includes components such as expressing feelings, relief from concerning thoughts and physical relaxation (Mullersdorf, & Ivarsson, 2016; Thompson and Blair, 1998). In light of this view, contemporary scholars suggest that the knowledge base of OT should include elements of creativity; for example, intuition, curiosity, flexibility, adaptability, originality, and risk-taking (Law, 2007; Murray, 2010). As stated, one of the methods for achieving this is the establishment of a PBL course.

The rationale for implementing creative art activities in a PBL course within health professions education

Since PBL has proved effective for multiple higher order thinking and skills that are part of creativity (Hung, 2015), we proposed that the promotion of these skills among health professions students could be improved by the implementation of creative art activities in a PBL course. Eisner (2002) claims that arts have far greater utility for learning than simply as a tool for teaching and recommends including arts in the core curriculum in a variety of subjects. Green, Myers,

Watson, Czerwiec, Shapiro, and Draus (2016) argue that creativity involves skills such as analysis, decision-making and critical reflection that are essential for the practice of medicine. Furthermore, the act of creation process creates awareness of various possibilities and can be a counterbalance to linear thinking of medical education. Thus, implementing a creative art activity in a PBL course may promote creative thinking, thinking 'out of the box', looking at case studies in new ways and perceiving patterns that are not obvious.

Beyond that, PBL courses appear to predominantly cultivate an 'analytical eye' or 'left brain thinking' in students as logic thinking, which seek to identify problems and determine their possible solution (Edmonstone, 2006). Conversely, the use of art activities activates 'synthesis' artistic eye', or 'right brain thinking' such as synthesis of artistic and creative expression (Simmons, & Daley, 2013; Yunus, 2015). The art can be a way to move from an idea or an abstract image to the end product (i.e. drawing, a collage). In this way, tacit knowledge can be made explicit as an act of creating art. Thinking happens mostly in our heads, invisible to others and even to ourselves, but effective thinkers make their thinking visible (Simmons, & Daley, 2013).

Art experiences may provide health students with fresh insights and a new angle of vision on their lives, facilitating their understanding and encouraging students to develop a deeper understanding of the study material (Chan, 2013; McAndrew, & Roberts, 2015; Simmons, & Daley, 2013). Art activities enable health students to think with their senses, and hence, contribute to the process of understanding abstract and complex concepts. Moreover, art activities help students access previously hidden knowledge and create new understandings, and increase the extent of their participation (Simmons, & Daley, 2013; Simons, & Hicks, 2006).

Another justification for implementing creative art activities in a PBL course is related to the structure of PBL, which is generally fixed, rigid and has the same format throughout the semester or program (Davys, & Pope, 2006; Hung, 2015). From the experience of Davys and Pope (2006) in OT education, some students and staff report that following the set of PBL stages can become somewhat monotonous. Furthermore, some students feel uncomfortable with a PBL curriculum because they find it difficult to share their knowledge effectively with their peers,

due to their difficulty with assertively vocalising their findings within the group. This can lead to a sense of dissatisfaction, psychological withdrawal, and feelings of worthlessness (Davys, & Pope, 2006).

We believe that art activities can reduce these occurrences. Research has shown that the inclusion of a creative art experience generates an informal learning environment that facilitates students' collaboration, promotes emotional involvement, reduces anxiety and enhances enjoyment (Jones, Kittendorf, & Kumagai, 2017; Lave, 1996; Sawyer, 2011). Furthermore, in a previous study Avrech Bar, Pade, Jarus, Gat, Cohen, and Lipskaya-Velikosky (2018) explored the challenges manifested in a PBL course. Students who speak different native languages were compared. Students who spoke the local language as their first language were found to achieve higher grades than students who spoke the local language as their second language. Findings suggested that adjustments should be made in order to assist students challenged by language requirements in gaining higher grades in the program. Based on this study, we expected that implementation of a creative art activity, which does not require language, would give students time to process their experiences and improve their participation.

Few studies have examined the implementation of creative art activities in courses of higher education and little was written about the student involvement in the act of creation (Green et al., 2016; Simmons, & Daley, 2013). Therefore, the purpose of this study was to examine the outcomes of including a creative art activity, in this case collage, within a PBL meeting in the OT curriculum. In this paper, we present findings and insights regarding the impact that creating magazine collages had on students' learning skills. There are many varied artforms, such as painting, drawing, poetry writing, etc. We chose to use collage due to the advantages of visual art activities for the learning skills of students in health professions (Chan, 2013; McAndrew, & Roberts, 2015) and since it is readily available, accessible, convenient, and simple to use.

Method

Research design

A qualitative-ethnographic study was conducted during 2016–2017 to better understand how the experience of creating an art activity affected OT students. This approach seems to us appropriate for the evaluation

of dynamic processes and for studying dynamic work and the reciprocal interaction between participants in class, as well as for in-depth understanding of teaching methods. Gobbo (2011) stated that schools and classrooms are cultural environments and, as such, are considered as 'fields' for ethnographic research. Most of the research in the qualitative-ethnographic approach is based on the phenomenological perspective (Moustakas, 1994). This approach derives from a theoretical orientation that focusses on the essence of the participants' experience and allows the researcher to begin the research without the need for a clear and well-defined theory (Mitchell, 2014; Moustakas, 1994).

The first author is a fieldwork coordinator and a group facilitator, with experience in group facilitation through art. She has previous experience in using creative art in therapeutic interventions with children. The second author is a lecturer and the first year coordinator of the PBL course. The third author is a lecturer and program manager of PBL.

Participants

One hundred twenty six first year OT undergraduate students from two consecutive academic years in the School of Health Professions at Tel Aviv University, attended meetings of a PBL course that included a collage activity between the years 2016–17–2017 (2016: N=68; 2017: N=58). The research participants included 34 students (of the above 126). All the students were female, with an age range of 20–30. Four were minorities (matching the proportion of minorities in the class). In addition, nine tutors participated in the study (of the 18 tutors who attended the meetings that included the collage activity). All tutors were females, and they had between 1 to 10 years of experience in PBL tutoring. Three of the tutors were OT department faculty members and six were practicing OT clinicians.

Data collection

Data collection was conducted in different ways in order to increase the trustworthiness (triangulation) of our results (Marom and Ashkenazi, 2012) and included open questionnaires, focus groups, semi-structured interviews, and direct observation (Table 1). These means were constructed by the researchers based on knowledge gained from the professional literature on PBL, creativity, and their personal experience in

integrating creative art activities in teaching and tutoring. The participants in each of the data collection methods were different from each other.

Table 1. Various means for data collection

	Open questionnaires	Focus groups	Semi-structured interviews	Direct observations
2016	10 students	3 tutors	2 tutors	
2017		7 students 4 tutors	2 students	15 students (from 2 PBL groups)

Open questionnaires

In 2016, at the end of the second semester, questionnaires were sent to 68 first year OT undergraduate students by email. The questionnaire included open-ended questions exploring students' learning outcomes, experiences, feelings, thoughts, and insights regarding the process of creating a collage. Ten students responded. Examples of open-ended questions were: 'Characterize the benefits of the collage meeting for your learning and preparation skills', 'Do you feel/ think that the collage meeting was different than the other meetings?' 'Did you find the collage meeting beneficial? Please specify.'

Focus groups and semi-structured interviews

In 2016, nine tutors were asked to participate in a focus group in order to explore their experiences, feelings, thoughts, and insights regarding the process of creating a collage. The focus group was held in a quiet room in the OT department by two of the researchers (the first and the third authors) and included open-ended questions. Three tutors participated in a focus group and two were interviewed individually.

In 2017, at the end of the first semester, 58 first year students were asked by email to participate in a focus group at a time convenient to them. Seven of them participated in a focus group and two were

interviewed individually. In 2017, four tutors participated in the focus group. An example of an open-ended question for students was 'How would you summarize your experience of the collage meeting?' Examples of open-ended questions for tutors were 'How would you summarize your experience and the students' experience of the collage meeting?' 'Characterize the benefits of the collage meeting for the parameters on which the students are evaluated in the course (learning and preparation skills, developing knowledge and achieving goals)'. The focus groups and the interviews were recorded and transcribed verbatim. The focus groups and the semi-structured interviews lasted an hour and a half each. These methods of data collection are viewed as appropriate methods when the researcher is familiar with the domain of inquiry in advance, but not enough to be able to anticipate the results (Marom, & Ashkenazi, 2012).

Direct observation

Additionally, in 2017, direct observations were conducted by the first author in two sessions (7 students in the first meeting and 8 in the second) to examine the entire process that took place during the meeting. The observation focussed on the tutors' instructions, the art activity, the interactions between the students and the subsequent discussion. The data generated by the observation included a written description of the process and a transcription of the discussion.

Procedure

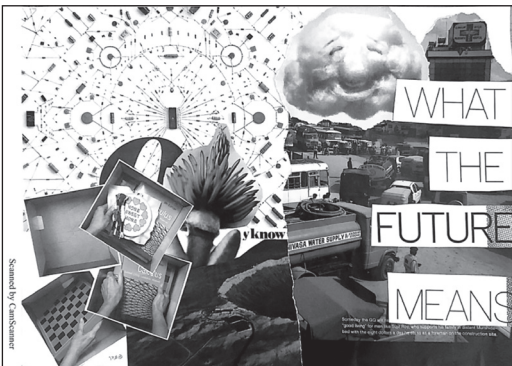
The study was approved by the ethical committee of Tel Aviv University. All participants included in the study (students and tutors) signed an informed consent form. The PBL course in our department is included in the curriculum from the first year of studies and continues until the end of the fourth year. Each year students are divided into nine groups of 6–8 students. The groups meet once a week for two academic hours (90 minutes). Each group has one tutor who guides the students in the learning process. The PBL tutorial sessions are organised accordingly: students first choose a problem, read it aloud, identify and clarify unfamiliar terms, brainstorm questions, derive learning objectives from the questions, study inbetween the sessions, return to the tutorial with new information to discuss with the group, identify new learning objectives, and evaluate each other's performance at the end of each meeting.

For the purpose of this study, in one meeting of the PBL course 126 first year OT undergraduate students were asked to create a collage reflecting the case study they chose, followed by a discussion of the experience (see Figure 1). In 2016, the collage activity was scheduled for the fifth meeting (of 13) and in 2017 it was held in the third meeting. We conducted the meetings in two different timings during the course in order to examine whether the timing had any impact on the findings.

Prior to the meeting in which the collage activity was held, the tutors were given creative means for creating the collage, such as coloured magazines, glue, scissors, crayons, magic markers, and received an explanation of the process by a first-year coordinator (the second author).

The structure of the meetings was uniform and included the following stages: choosing a new case study; creating an individual collage in twenty minutes based on the description of the case study that each group chose; sharing the experience with the group; selecting learning objectives for the next meeting, and giving or receiving feedback. Before creating their collages, the students received the following instructions from their tutors: ‘You have before you different materials. I invite you to use them to create your own collage that reflects your perception of the case study’. After creating the collage, the tutors gave the following instruction: ‘Now I invite you to share the creative process and its content with the group’. If the students found it difficult to share their experience, then the tutor’s role was to stimulate discussion by asking open-ended questions such as ‘How did you choose the pictures?’ ‘What does the collage present and how does it relate to the case study?’ ‘What did you learn about the client in the case study and about yourselves?’

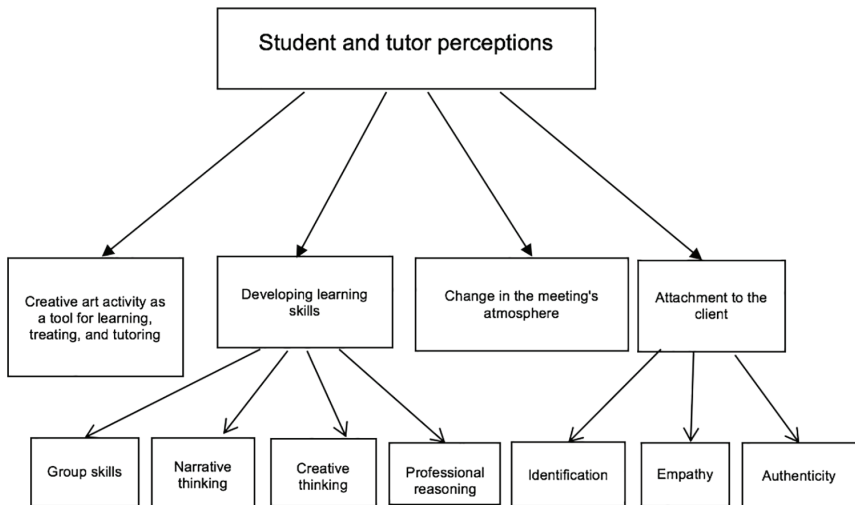
Figure 1. Example of a collage (S 7)



Data analysis

A content analysis plan based on Shkedi's (2003) work was conducted in three stages: the initial review, developing mapping categories, and building a mapping categories tree. The initial review stage involved line-by-line open coding (Strauss, & Corbin, 1994): dividing the open questionnaires, focus groups, interviews, and direct observation transcript into meaningful segments, and naming segments using the participants' language. The mapping stage included clustering the segments (from all transcripts) into initial categories and developing a new system of categories. The final categories were arranged in main and sub-categories. The researchers then specified the relationship between each category and the other categories and created main categories, while attempting to detect the relationship between them as part of a process of conceptualisation (Shkedi, 2003). Once the main categories and sub-categories were verified by returning to the data, the researchers organised the mapping into the categories tree (Figure 2).

Figure 2. Categories tree summarizing key findings on student and tutor perceptions



These three stages were undertaken by the first and the third authors and by a research assistant, who analysed the data at first individually and then with the two authors by discussing, questioning, proposing

alternatives, and verifying linkages throughout the coding. The research assistant had no prior knowledge of using art activities in higher education to ensure more trustworthiness results.

The data analysis began at the end of the first year with open coding of the questionnaires and interviews, and identifying initial categories. At that stage, we decided to continue our study to obtain more information from the students and their tutors. At the end of the second year, we analysed all the data. Data from the second year strengthened the initial categories, although the collage activity was scheduled for different times during the course in each year.

Representative quotations were identified to highlight the categories. The reporting of this qualitative study is in accordance with the consolidated criteria for reporting qualitative research (Tong, Sainsbury, & Craig, 2007).

Results

Analysis of transcripts from the open questionnaires, focus groups, interviews, and direct observations revealed four main categories regarding perceptions of students and tutors about the creative art activity in a PBL meeting: (a) attachment to the client, (b) change in the meeting's atmosphere, (c) developing learning skills, and (d) a creative art activity as a tool for learning, treating, and tutoring. These categories were found for both years 2016 and 2017, regardless of the point in time in which the collage meeting took place. These categories and their sub-categories are detailed in the tree shown in Figure 2. Each main category will be described in detail and illustrated with excerpts from the various means of data collection. Students are represented by the letter S and tutors by the letter T.

Attachment to the client

The students reported that through the creation of the collage the attachment to the client described in the case study becomes more intense. These feelings were also reported by tutors and observed in the direct observations. Engaging in visual stimulation, the collage created a picture of the person described in the case study, led to feelings of closeness to the client, and raised the awareness and emotional involvement of students:

‘I had a stronger connection to the client.’ (S 1).

‘It made me emotionally involved.’ (S 2).

‘I see the client clearly ... He felt more authentic for me.’ (S 4)

In addition, T1 stated:

‘It gave them the opportunity to become attached to the person in the case study.’

In these examples, we notice that the students developed feelings of empathy and authenticity. For example:

‘There was a feeling that we saw the client clearly, and created a picture of a genuine man.’ (S 8)

Another phenomenon observed and reported by students is the strengthening of identification feelings. For example, when the students dealt with and discussed a case study that related to eating disorders, one student began to cry because she remembered a time when she was dealing with the same disorder.

One of the students (S 5) described all these phenomena well:

‘I felt that at this meeting I was looking at the client himself, his feelings, his life, not only dry statistics and data.’

In addition, the students and tutors reported that this meeting encouraged the students to turn more often to the clinical field for information (such as interviewing a professional team member or clients) in order to study their learning objectives and not to rely only on papers in academic journals. As a result of utilising visual means, followed by the development of feelings of empathy and authenticity, the students obtained an understanding that they have the option of receiving answers to their learning objectives in the clinical field and not only through theoretical resources.

Change in the meeting's atmosphere

The structure and process of the meeting in which the students created a collage was somewhat different from the other meetings. It may be said that the structure was ‘looser’ and less strict than that of other meetings. Although there was a case study to investigate, the instructions were

general and allowed students to choose what to do in the process itself and in this respect, the nature of the meeting was partly ‘improvised’ and open to interpretation. Such a ‘loose’ structure enabled students to create a dialogue that fosters discovery, innovation, various interpretations, and the construction of a professional identity (Erez, & Nouri, 2010; Lave, 1996; Sawyer, 2011).

The students reported that the change of structure and the process of the meeting created a change in the atmosphere. They often used expressions such as:

‘Refreshing’, ‘breaking routine’, ‘flowing’, ‘informal’, ‘does not create commitment/ obligation’, ‘less competitive’, and ‘causes surprise’.

S 3 described this in detail:

‘The atmosphere was calm and relaxed without the tension of sharing the information you prepared for class.’

Tutors used the following similar expressions to describe the meeting:

‘Pleasant’, ‘flowing’, and ‘release’.

Students and tutors pointed out that the meeting’s structure and atmosphere enabled a time to think and to process thoughts and feelings. For example, (S 1) stated:

‘I had time to think and process my thoughts, and not in words’ and T 2 added that: ‘... this atmosphere enables learning’.

These findings led us to the third main category.

Developing learning skills

Students and tutors reported that the meeting contributed to the development of professional reasoning skills, creative thinking, and group skills. The students pointed out that the visual means in the form of a collage enabled them to think more deeply and to stimulate previous knowledge.

Below are quotations of two students and one tutor:

‘The magazine pictures helped me retrieve my former knowledge...’ (S 6). ‘It stimulated me to retrieve knowledge ...’ (S 7).

‘The process helped the students create a connection with knowledge that they acquired in their theoretical courses’ (T 1).

In addition, students and tutors argued that the meeting contributed to raising learning objectives as part of the professional reasoning process. The variety of pictures in the magazines enabled them to think about inquiry objectives they would not have thought of without them. S 3 stated:

‘We have progressed in determining objectives’ and S 7: ‘It contributed to different inquiry objectives, more experiences, less physical’.

T 3 agreed that creating the collage ‘raised a lot of learning objectives’.

Searching for pictures in the magazines enabled students to understand the client’s narrative from many different aspects, such as his environment, roles, and everyday occupations. For example, when a student discovered a picture of a family, it reminded her that the client had a family:

‘I thought more about the client's occupations and his surroundings ... I saw a tree and its roots; this reminded me that the client has a community and a family’ (S 6).

S 1 stated:

‘We were able to see the different world views in the same case study and to see that even though we all study the same profession, we think differently.’

In addition, a tutor added:

‘The client can be seen from various aspects ... The collage reflected the student’s personality ... enabled her to express herself in more narrative thinking and less academic’(T5).

It seems that the process of considering the client from different aspects (emotional, social, and cognitive) and the development of feelings of empathy and authenticity contributed to the development of creative thinking. Creative thinking means thinking about new things or thinking in new ways. It is thinking ‘outside the box’ (Adams, 2005). Students and tutors reported the development of these forms of thinking. S 10 stated:

‘(The collage) contributed to the research skills and really changed our patterns of thinking’ and S 7 added:

'It opened my mind to a different thinking ... contributed to thinking out of the box ... developed our narrative thinking, enabled expression of the personal voice of each of us, there was room for personal interpretation.'

The tutors had similar reflections. T 4 perceived the collage as a

'Potential for promoting creative ... thinking skills.'

One of the significant influences of the process of creating the collage was the development of group skills. In the PBL course, group skills include helping and contributing to the group, sensitivity to the needs of the group's members, respect for their opinions, listening, communication skills, and teamwork (Scaffa, & Wooster, 2004). Statements of students and tutors, as well as the direct observations, support this process:

'It enabled group collaboration and gave each group a place to express their views on the subject, and thus opened the door to a deeper acquaintance with the group's participants' (S 4).

Students and tutors reported that students, who had difficulty expressing themselves in the group, expressed themselves better in this meeting:

'It was easier for me to speak in the group when I knew that everything I said was correct and not subject to criticism. In addition, there was someone in my group who was always afraid to speak, and suddenly, at the collage meeting she asked to speak first' (S 8).

'The visual stimulation made it easier for me to bring the content theoretically' (S 11).

And tutors made statements such as:

'The students were sensitive to each other', it helped them get to know each other' (T 3).

'Their acquaintance became deeper' (T 6).

Not only did they get to know each other better, but some students said that they received a different acquaintance with the tutor.

'It changed the dynamics with the tutor' (S 8).

In addition, tutors pointed out that they got to know the students better.

Creative art activity as a learning, treating, and tutoring tool

Since the PBL course is mostly based on verbal discussions, creating a collage gave students a new learning and treating tool. It also gave the tutors a new tutoring tool for facilitating the groups.

A student said that engaging in cutting out magazine pictures with scissors made her think about the difficulty the client had with using scissors:

‘When I used the scissors, I thought about Daniel (the client in the case study) who might have a problem using scissors’ ... ‘Using the scissors helps understand the difficulties of the client in the case study’ (S 8).

This quotation emphasises how creating a collage during the learning process was a tool that helped the students in their learning process.

Others students stated how the collage could serve as a tool in the intervention process in OT. S 9 said:

‘It is an accessible means for many people and therefore an adequate means for treatment.’

S 14 explained:

‘As a person who has never been in a therapeutic situation as a patient, I realise how easy it is to express ideas through the collage. I understand now why occupational therapists use the collage as a treatment tool.’

Tutors reported that the collage activity gave them the idea to integrate art activity in tutoring and not only in treatment:

‘It is a means of teaching.’ ‘It is a means that may help me direct the students’ (T 7).

Thus, students were enriched by receiving learning and therapeutic tool and tutors a tutoring and teaching tool, meeting the need for active teaching and active learning by students.

Discussion

The aim of the present study was to explore the impact of a creative art activity on health profession's students and tutors in a PBL course. Through open questionnaires, interviews, focus groups, and direct observations during the meetings, findings revealed four

main categories: attachment to the client, change in the meeting's atmosphere, developing learning skills, and a creative art activity as learning, treating and tutoring tool.

The findings of this study are consistent with the professional literature regarding the use of a creative art activity in education. The literature describes creative art activities as those that enable participants to re-experience objects, events, and identities in new ways, provide an opportunity for cultivating rich ideas, as well as allowing better understanding of themselves and stimulating thinking (Chan, 2013; Jones et al., 2017; Simmons, & Daley, 2013). A qualitative study conducted by Jones et al. (2017) explored how the creation of artwork might impact medical students. The authors found that students consequently experience enhanced awareness of those with illness, similar to what our findings regarding attachment to the client. A creative art activity allowed students to respond emotionally to illness encountered by them or their relatives (Jones et al. 2017). We also found that while creating the collage, students recalled their own and their relatives' coping with illness, and thus identified more closely with the client. Furthermore, our study revealed another aspect, which is authenticity. Authenticity is considered as one of the dimensions of active and constructive learning, equipping students with the necessary skills for their future and encouraging proactive learning experiences (Alt, 2016).

With regard to the category of change in the meeting's atmosphere, our study supports Csikszentmihalyi's view on the importance of context in the creativity process (Csikszentmihalyi, 1996). The possibility of performing an art activity during a PBL course created an informal environment with rules that were more flexible and open than in the rest of the meetings. Such an environment and open space gives students time to consolidate and conceptualise their thoughts and feelings and find new ideas (Hung, 2015; Gibson, 2010). Additionally, students were surprised to receive such a creative art activity since the other meetings involved verbal discussions with stricter rules. Such an element of surprise develops discovery, insight, and growth (Eisner, 2002). Consistent with other research (Chan, 2013; Eisner, 2002; Jones et al. 2017; Simmons, & Daley, 2013) this growth was also reflected in our findings about learning skills such as professional reasoning and group skills. Using a creative art activity makes unconscious thoughts and feelings explicit, because it transforms them into tangible material; thus

participants gain opportunities to make new meanings and connections among their ideas and seem better able to access hidden knowledge (Eisner, 2002; Jones et al. 2017). As stated above, reports by students and tutors demonstrate that creating a collage enabled students to stimulate previous knowledge and to view the client from diverse aspects. Furthermore, the findings revealed that creating a collage helped students focus their learning objectives. This finding is consistent with the research conducted by Simmons and Daley (2013), who used collage in two graduate classes on identity development and in a national conference workshop on the same topic. Students in our study, similar to those in Simmons and Daley's, reported that the learning objectives evolved while looking through magazines and creating a collage.

We believe that changing the atmosphere in a PBL meeting by creating a collage developed not only professional skills but also group skills. The atmosphere described by students as 'informal', 'non-obligatory', and 'less competitive' enabled students to express themselves easily. Additionally, creating a collage influenced how they saw themselves and each other, and tutors also got to know them better through their products and reflections on the process. The finding that a creative art activity develops communication and group skills is also supported by a study conducted by Jones et al. among medical students (2017). Unexpectedly and contrary to our expectations, there was no improvement in the participation of students from minority groups (who are challenged by language requirements), but as the students stated, the process changed the set of roles in the group, equality was created, and the quiet students shared more often.

The professional literature gives us a fragmented and limited picture of the acquisition of oral presentation skills. Oral presentation skills involve a combination of instructional environment variables, student characteristics, and their learning process and performance (Amirian, & Tavakoli, 2016). Lack of confidence and of self-efficacy are more noticeable when students must perform a task before an audience because students become the focal point of the class and have to share their information and present it orally to the class. Therefore, when a change was made in the atmosphere by using a creative art activity, students who had not been participating verbally due to various personal reasons participated more often.

The fourth category found in the study was creative art activity as a learning, treating, and tutoring tool. This finding is similar to Simmons and Daley's (2013) findings whereby collage is a powerful learning tool for adult learners. Students in the current study reported that familiarity with the collage make them realise that they can use art activities as a tool for learning and as a therapeutic tool with their clients in the future. Tutors reported that they now realise that creative art activities can be a tutoring tool. This insight is especially important when teaching OT students and other health professions practitioners, who need skills such as creativity, communication, and professional thinking for their practice (Adam, Peters, & Chipchase, 2013; Lewin, & Reed, 1998).

Based on our findings we propose that the collage in the case study be perceived as a type of metaphor. The metaphor is a language of the right hemisphere of the brain; it brings to mind the inner contents charged with emotions and the very encounter with newly evoked feelings. Therefore, using metaphors makes it possible to penetrate the verbal language and reveal a hidden, complex dimension that touches upon inner truth (Mills, & Crowley, 2014). Thus, it is not surprising that we found students to report feelings of authenticity, empathy, and identification. Furthermore, the collage as a metaphor of the case study also appears to have led to the enhancement of thinking skills. Metaphors play a central role in learning processes in the acquisition of entirely new knowledge or in the reconstruction of existing knowledge schemes, since the metaphor makes it possible to look at a new concept via other well-known concepts. Students often face a problem that cannot be explained in their existing conceptual system and in order to solve the problem the metaphor offers a different way of looking at it. In addition, the use of metaphors aids the process of understanding abstract and complex concepts and promotes active learning (Carter, & Pitcher, 2010; Ryman, Porter, & Galbraith, 2009). The collage as a metaphor plays a central role not only in the learning process but also in the teaching process, especially in terms of improving individual teacher performance and teaching practice (McCandless, 2012; Singh, 2010). This is congruent with our study findings as the creative art activity was a tool for learning and teaching.

Limitations

This study has several limitations. First, the study was limited to one course – a PBL course – within one department, among first year OT

students. Thus, the perceptions of the participating students and tutors may not be representative of all students who participate in other courses, classes, or departments. Second, the participating students and tutors were volunteers in the study and thus may have been particularly cooperative and enthusiastic. However, this is a common limitation in qualitative research (Jones et al. 2017). Finally, there was only one meeting with a single activity – a collage – hence; it does not necessarily reflect results that would have been obtained from other art activities. We suggest studying the collage created by the students in additional meetings and/or studying other creative art activities such as painting, dancing, and poetry.

Conclusions

The current study shed new light on the advantages of integrating a creative art activity during an academic course in order to promote active learning and teaching. Specifically, the results show that the integration of a creative art activity such as collage in a PBL course changed the atmosphere of the meetings, and consequently enhanced learning skills. Moreover, using a creative art activity, such as collage, enriched the students and tutors by providing students with a learning and treatment tool and tutors with an instruction tools. Therefore, the collage as a metaphor plays a central role not only in the learning process but also in the teaching process in higher education. Furthermore, it is recommended that teachers in higher education implement art activities, such as a collage, in traditional teaching as well as in small groups. Future studies should more thoroughly explore the impact of creative art activities on students and teachers of the health professions in different educational settings.

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