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Please cite the original version: Rätty, M. (2018) Multisensory Class Room as a Pedagogic Innovation. In Mafalda Carmo (Ed.) Education and New Developments 2018. Lisboa: InScience Press, 239-243.

URL: http://end-educationconference.org/wp-content/uploads/2018/07/Education-and-New-Developments_2018.pdf

MULTISENSORY CLASS ROOM AS A PEDAGOGIC INNOVATION

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Abstract

The paper presents the concept of Multisensory Classroom (MSC) and its applications at the University of Applied Sciences. The MSC has been in use since 2009 and it was recently updated in January 2018. In short, a MSC is an easily modified space equipped with audio technology and projectors covering three wall spaces. The space includes a storage facility with various objects, such as textiles and light furniture. Teachers and students use the space to create an inspiring learning environment and to demonstrate multisensory experiences. The process of creation of the space is as important as the final outcome. The MSC encourages students to explore various learning content from new sensory perspectives. Furthermore, the space engages students in creating a tangible creation and a multisensory experience.

Originally, the MSC was introduced in association of an introductory course of immigrant students to explore their cultural heritage. To use of the MSC has evolved and today, it is used for variable purposes. The paper outlines applications of the MSC and its future possibilities, as well as identifies need for future study in terms of the physical learning environments.

The MSC relates to the Laure's Learning by developing pedagogy, according to which learning takes place in work-place oriented projects. As a result students gain competence to adjust in rapidly changing working environments. The paper highlights, how a MSC encourages experimental learning and enhances positive learning experience.

The paper draws from a questionnaire conducted among the users of the MSC. It outlines for which purposes the MSC was used, and how the MSC support learning. The proceeds to present suggestion of future applications of a MSC. The MSC including its technological possibilities is an inspiring model to advance the phenome based learning, which as a term is a fundamental component of the recently published new Finnish national basic education curriculum. The paper concludes that a MSC enhances the learning experience and inspires pedagogical innovation.

Keywords: *Physical learning environments, pedagogic innovations, technology in teaching, multicultural learning.*

1. Introduction

The paper outlines the concept of the Multisensory Class Room (MCR) and its teaching applications at Laurea University of Applied Sciences. It discusses the different purposes and uses such as the MCR as an inspiring learning environment and as an open space inspiring creation. Then it proceeds to discuss current and future possible applications of a MCR. As its name indicates, the MCR enables to visualization of concepts, realities and learning content by using multisensory experiences. Originally, the multisensory space was created for the special needs of immigrant students so that they could better explore and present their cultural background and heritage. Nevertheless, its use has evolved and today it enhances the learning experience and inspires pedagogical innovation.

More recently, the virtual learning environments have dominated the discussion over learning environment. However, equally so the importance of physical environment and its relevance to inspire learning should not be neglected. The current literature indicates that more focuses been paid in the physical learning environment on the basic educational level compared to the institutions of higher education. In general in the research of teaching spaces in basic educational level indicates that the space design including their equipment do not support the possibilities provided by modern teaching pedagogy and learning processes. (Kuuskorpi, 2012) On the contrary, a poor physical space may considerably hamper the pedagogical innovation and development, as well as have negative effect on the operational educational culture.

A positive good learning environment have several characteristics. Learning environment should inspire individuals to learn and to take responsibility for their learning and the learning environment amenity. A good learning environment supports student teacher interaction and interaction between individual students. According to the Finland's renewed National Core Curriculum for Primary Education a well-functioning learning environment promote interaction, participation and a 'knowledge-building community'. In addition, a functional learning environment encourages cooperation with school districts, families, communities and external experts. The learning environment must offer possibilities for creative learning solutions. Moreover, they allow to explore the learning content from different perspectives. (National Board of Education, 2014; Malin, 2011). Senses, emotions and the joy of learning are considered as new viewpoints in the recent basic education national curriculum (Turpeinen 2016).

Furthermore, the MCR relates to Laurea's Learning by Developing pedagogical model, which encompasses working place-oriented projects. It aims to provide students with competence to allow them to manage diverse situations in the constantly changing working environment. (see more about the LL by D).

2. Survey method

The MCR was introduced in 2009 at Laurea Tikkurila campus and were newly equipped in January 2018. The MRC as a physical space can easily be modifiable according to the needs of its current users and purposes. It includes audiovisual technology, including three data projectors capable of reflecting the entire wall space. Additionally, it focuses on tangible elements, such as things to touch and taste. Next to the classroom there is a small storage of various objects, curtains, textiles and some light furniture.

The purpose of the study was to investigate, how and for which purpose the MCR is used? What kind of ideas the users have and how they experience that the use of the class room supports learning? And finally, to explore the challenges in regards of the use of the MCR and how to possibly overcome them.

Data Collection was conducted as an e-form survey. The survey period was three months from February to April in 2018. The questionnaire was sent to the all 26 users including teachers, students or support staff, who had specifically reserved the space in the on-line room request system. The response rate was 54% (14 out of 26). Between February and April 2018 the MCR had been reserved for about twenty different activities. Fourteen people answered the questionnaire, equally divided between students (7) and teachers (7). All the students reported that they used the MRC for the first time. Most of the teachers had used the MRC previously, although some have used it for the first time. Some of the teachers, who had used the space for variable purposes provided more detailed feedback and suggestions.

3. Findings

The findings indicate that both teachers and student view the MCR as an inspiring learning environment and further as a creative space to be used, for instance, present their projects. The teachers used the MCR for teaching, tutoring or meetings as an inspiring space. Mostly teachers reserved the space for an interactive lesson on one occasion during a course module, with the exception of (basic) French lessons, which were regularly taught in the MRC.

The students, who answered the survey had used it for team project. They participated in creating the spaces together with immigrant youth from integration course. One student group chose to present their project work in multisensory space.

In conclusion, the main motivation for the teachers to choose the MRC was to promote pleasant learning atmosphere. Teacher pointed out that the MRC provided a more relaxed space to encourage discussion and activate learning. One of the central arguments of the 'positive pedagogy' is that people who experience positive emotional stage are more likely to explore the learning content from a wider perspective and engage in critical thinking. Positive emotions enhance learning. (Kumpulainen, Mikkola, Rajala., Hilppo & Lipponen 2014, 228-233).

Some of the comments included,

"Yes, it did. Relaxing and providing new ideas to discussion, out of ordinary place"

" Different spaces allow for different learning experiences: peaceful space is a good reflection and discussion, while colorful space stimulates different learning"

The students utilized the MSC to make context visible or multisensory. Some students participated in creating the space with the immigrant students. The immigrant students were participants of an introductory course to a Finnish culture and language. These student projects focused on the cultural aspects and heritages. Prior to choosing how to utilize the space effectively the students had to conduct extensive background research of the cultures and cultural heritage they wish to present by using the space. In essence, they had to create information and to communicate it by using multisensory elements (cf. Kumpulainen et al 2010, 17) This is because the creation of a multisensory space as a learning environment, project or as a space to present findings, requires a careful consideration, how to utilize various options available in the space. The process goes beyond simply choosing the most convenient presentation method. Essentially, choosing any aspect or tools requires a justification, why a particular choice was made and how it contributes to the final outcome. One of the advantages is the challenge to create an experience may it then be a simplified or a complex presentation of the learning content, project outcomes or even a pedagogical choice of teaching method.

The students enrolled in the social service program created spaces together to understand better the background of the immigrants and empower the immigrant students. Simultaneously, when learning about the subject matter, they had to practice intercultural communication skills. As a result, it could be assumed that students' intercultural skills improved. Several researchers point to the need to increasing interaction as a necessary pre-requisite to improve understanding between groups and individuals from different cultural backgrounds. (f. ex Jokikokko&Uitto 2016; Soilamo, 2008).

The Laurea students appreciated the opportunity to interact with immigrant students. The fact that the activities were possible with very limited language skills can be viewed as one of the many benefits of a MRC. Lastly, students appreciated the opportunity to work on something 'concrete' and tangible.

"The joint action created a relaxed atmosphere for the encounter of different cultures, both linguistically and culturally, for learning."

Table 1. A Summary of Survey Answers.

| | Teaching | Tutoring | Other activities |
|-------------------------------------|--|---|--|
| What kind of activities? | <ul style="list-style-type: none"> - International Tutor student education sessions, - Multicultural Pedagogical sessions - French and English lessons - about sociocultural work and how to use Multisensory space as a tool - Wellness at work - Music as therapeutic tool | Tutoring students | <ul style="list-style-type: none"> meeting presenting our student project a space together with young immigrants (4 answers) |
| How did the space support learning? | <ul style="list-style-type: none"> - Peaceful space was beneficial for reflections and discussions - colorful and multisensory simulation activated learning - helps students to interact in foreign language - inspired students to discuss more deeply about the concept of welfare - students learned creative methods by creating the space with music and pictures | - promotes the relaxed atmosphere and interaction | <ul style="list-style-type: none"> - the co-creation of the space created a relaxed atmosphere, both to use the language (with limited skills) and to learn about the cultures - it promoted the interaction and learning other cultures |

4. The way forward – practical suggestions to improve the MSC

It was suggested to utilize the MSC more frequently and to include a feedback loop, regarding the use of the MSC in the learning context, into the process.

The actual multisensory space is currently five meters five meters long. The space is best suited for a small group up to twenty people. Therefore, several teachers expressed the opinion that the space could be larger. Alternatively, different spaces of different sizes for different purposes could be included.

Laurea's multisensory space has been implemented by using low-cost technology, e.g. equipment that would be available in any school or university. One of the consideration when choosing the technology options was that students should be able to operate the space independently. Since the latest update the space includes data projectors, which project the picture on three walls. Three projectors and the audio system are connected in the class room computer. In addition, an input cable can be connected in any user device. The use of three wall wide landscapes led to a situation that there was no more space to use curtains or printed pictures at the walls. In addition, the new neutral and relaxed furniture are favored by users.

One third of answers indicated that they had had some problems with IT or technology. The main reason could be that most of the technology was new. Although teachers may have used the MSC more frequently they reported more technical issues possibly because some of the teachers had not participated in any introductory technical training. Whereas all students had participated in an introductory information and technical training session. Therefore, it is important that all technology should be easy, functional and that all users participate in an introductory lesson how to operate the space and all technology included.

One of the teachers proposed an acquisition of a 360 degree image reflection technology, because in his/her opinion such technology would enhance the visual sensory experiences. Moreover, it was stated that an annual budget allocations should be made available.

Other suggestions included,

"I would hope that space would be available twice a month for meditation and as a quiet and safe space."

"Floor cleaning must be ok, curtains and materials must be clean."

The MSC remains popular. The design elements of the space are easily modifiable.

5. Discussion

Today, it is widely accepted pedagogical knowledge today that people learning styles differ and that people also engage different sense in learning process. Technology enhanced learning is an important element of the MSC. When young people are able to benefit from their technical skills they find the learning more meaningful. This also supports the digital literacy objectives of a higher education.

Furthermore, on the one hand technology encourages students to work autonomously. On the other hand, they belong to a group and create something tangible together. (Salmela-Aro 2016,94). An additional interesting aspect of a MSC is its ability to bridge generations. Therefore, the MSC is especially relevant in the social and care sector education modules and programs. Consequently, the MCS should be integrated in the study programs. In conclusion, the use of the MSC in social and care sector professional education is clearly an important aspect requiring more study.

The key ideas behind the MSC was a space, which could be used without prior training and which is truly multifunctional. The aim of the MSC is not to serve only as a multisensory space but also to be useful in a wide variety of learning activities. Laurea has a mobile version of the MSC, which can be used and modified to fit public spaces, such as libraries, day care centres, museums and community houses. The mobile version, however, does not replace the need for more multisensory learning environments in all levels of educational institutions.

One of the reasons why the basic education national curriculum was modified was to include new perspectives to learning and student engagement. The new national curriculum sees as a starting point the 'phenomenon-based learning'. (National core curriculum; Symeonidis& Schwarz 2016) As previously stated the basic education physical learning spaces have not kept up with the pedagogic requirements. A MSC could be seen as one of the solution and a model to advance the 'phenomenon-based learning'. In general, learning experience should include engaging all senses and use movement in learning and in doing so results in more joyful and flexible learning experience.

As a method, the MSC not just promotes flexible learning and overall wellbeing but it can also be seen in the light of sociocultural empowerment. It prompts discussion on individual and on a group level about identity and what a learner's identity consists of. Due to the open nature of a MSC, it is an optimum model for any type of interdisciplinary study and working environment. The process of creating a MSC for each project or learning objective is just as important as the final product. To sum up, the MSC is all about experiences, creativity and inspiration.

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