

## SOCIAL GROUP AS A FACTOR ACTIVATING THE CITY

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### **Abstract**

#### **Background**

One of the social groups that influence the activation of the city to the greatest extent are young people, including students. Social spaces dedicated to this group are to embellish the city, have a positive effect on its image, but they are also to be useful.

#### **Methods**

This paper has been written on the basis of the Author's study devoted to finding an answer to the question how much a social group that uses a specific space influences the activation of this space. The examined social group were young people, students from two cities: Toronto and Cracow. The spaces used in the study are places separated from school and university buildings, intended for individual study for high school and university students.

#### **Results**

The results of the study indicate that one of the important factors that according to young people studying in the cities improve the quality of the social space is the existence of legibly marked places intended for individual study, that is places where students can study and spend time after their classes and lectures. Such places animate and activate the space connected with them.

#### **Conclusion**

The social group of young people who still attend schools and universities constitutes a very important factor of the activation of cities. Providing young people with an attractive offer connected with their individual education has an invigorating effect on the city.

### **Introduction**

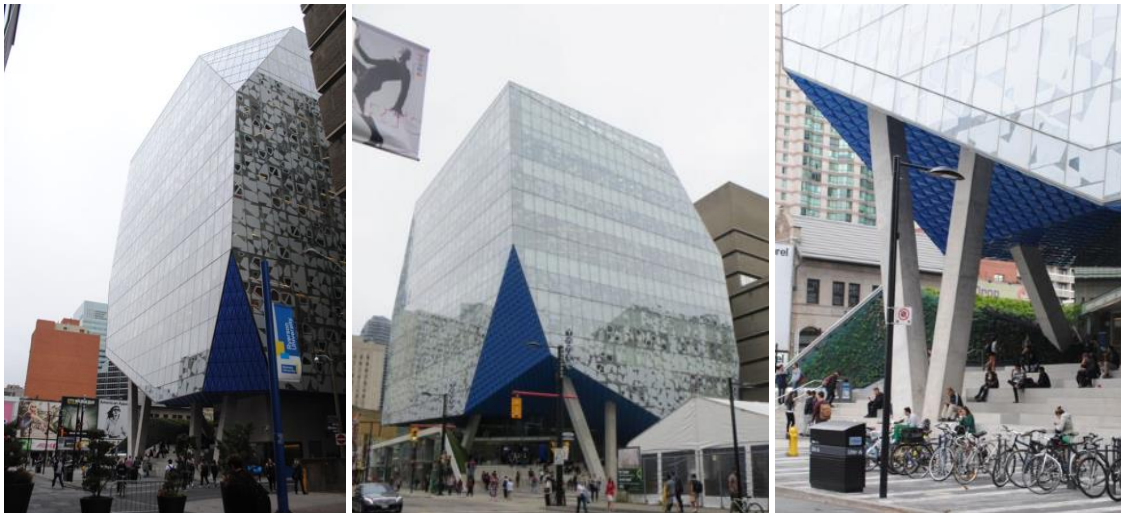
Cities are complex organisms, governed by their own logic. A well-functioning city provides unlimited opportunities concerning development and activity, allowing for a boom of the local life and civil commitment. Within the scheme of this development and activities in the urban space, we – users of cities – tame specific places and we bestow them with identity; we mark them with some special characteristics. Therefore, it is important to equip the city with places fit for studying, living and working, to fill them with meanings, nevertheless, always being driven by common sense and thorough observations. The city one wants to live in is an inspiring,

hospitable, and open city, but open most of all to the needs of its inhabitants<sup>1</sup>. A very important social group in contemporary cities is a group of students. Urban spaces dedicated to this group can add colour to the city and have a positive effect on its image. The multi-faceted process of reciprocal influence between space and its user cannot be overestimated. Can the creation of places dedicated to individual learning of young people outside buildings of schools and universities in the city be a determinant of invigoration of a specific urban space?

### Student Learning Centre at Ryerson University in Toronto.

The advanced Student Learning Centre (SLC) designed for Ryerson University in Toronto<sup>2</sup> opened on 31 March 2015 (Fig. 1). Since its very beginnings it has become a determinant of this place in the city and it has won a vast group of users. Its official opening already attracted crowds of students, lectures, sponsors, government representatives, and architects. To this day it bustles with life of the university community every day since 7:00 a.m. to 1:00 a.m. at night. The centre, dubbed today the 21<sup>st</sup> century library (a library with no books), was designed as an interactive scientific space dedicated to students to enable them to learn individually. They can get prepared to their classes, broaden their knowledge, but also cooperate with each other, exchange their views, and spend time in a pleasant way.

**Figure 1. Student Learning Centre in Toronto, designed by Snøhetta & Zeidler Partnership Architects**



Source: Photo: the Author

<sup>1</sup> Jane Jacobs, American-Canadian journalist, author of many books, but also a well-known urban activist, had a significant effect on the development of the 20<sup>th</sup>-century urban planning. She presented her observations and specific solutions fostering the natural and harmonious development of cities basing on the needs of their inhabitants in her book: Jacobs J. *The Death and Life of Great American Cities*, Warsaw: 'Centrum Architektury' Foundation, 2014.

<sup>2</sup>It is the second out of three large projects of a Norwegian company of Snøhetta in Canada. In September 2014 in Kingston the Isabel Bader Centre for Performing Arts was opened at Queens University, and at the moment the construction of a state-of-the-art public library in Calgary is in progress. It is planned to open in 2017, <http://snohetta.com/projects>, 23.03.2016

The Student Learning Centre is to encourage students to analyse their own mental states, reflections, as well as to shape the space around them on their own. The design was inspired by the Greek stoa, a place of trade, social meetings, rest, but also of specific tasks, and a place intended for gatherings – the agora. Architects of the Student Learning Centre treated these Greek spaces like areas of science of a social character, as well<sup>3</sup>. The SLC building consists of eight levels, each of which is designed in an original and individual way. The top floor, called *Sky*, is an open space limited with large glass walls presenting the skyline of Toronto (Fig. 2). Students occupy mainly the seats located by the windows (the glazed walls), from where they can see the city, as well as the sky, the clouds, the sun, or where they can gaze into the pouring rain. At the level called *Forest*, besides the green colour in different shades present predominantly in the furniture, the premises are dominated by browns and greys. This floor offers numerous smaller closed rooms to users, intended as places for quiet learning or closed meetings. Here and there the walls are intersected by narrow crevices or small windows, penetrated with light (Fig. 3). It gives an impression of forest clearances amongst trees. Sometimes we can encounter more spacious rooms, resembling forest clearings. The sixth floor, which is occupied by a vast open space, which gets larger as the floor goes down by the amphitheatre-like system of light wooden stairs, ramps, and platforms, is called *Beach* (Fig. 4). The platforms, crowded with young people, equipped with portable cushions, deckchairs, foldable chairs, go down to a fragment of a blue floor adjacent to large glazed surfaces, which gives an impression of water, and further on – to a water surface that meets the sky. 'Water', lined with a soft fitted carpet, is one of the favourite surfaces of young people wishing to learn freely. Over the beach there hover circles, lamps which shine like the summer sun.

**Figure 2. Sky level. Student Learning Centre in Toronto. Figure 3. Forest level. Student Learning Centre in Toronto. Figure 4. Beach level. Student Learning Centre in Toronto.**



Source: Photo: the Author

<sup>3</sup> [http://www.emb-norway.ca/norway\\_and\\_canada/News/Iconic-Snohetta-Design-Opens-in-Toronto](http://www.emb-norway.ca/norway_and_canada/News/Iconic-Snohetta-Design-Opens-in-Toronto), 23.03.2016

The floor presented below, *Sun*, (Fig. 5) attracts us with its cheerful sunny colour, mostly orange. Orange glazed walls are penetrated by the light from the neighbouring rooms, giving an impression of a setting sun. Orange chairs inscribe in the aesthetics of this floor. Here we can also find some smaller secluded rooms, which can be used by students who have booked them by registering online on the website of the Student Learning Centre<sup>4</sup>. It is necessary due to the numbers of interested students. The level called *Garden* is dominated by the green colour (Fig. 6). Here the space, divided into smaller rooms, seems to be more orderly, and gives an impression of a walk around an orchard with lines of fruit trees, or around a garden with carefully lined geometrical flowerbeds. *Garden* offers closed classrooms and individual study and research rooms. The third level is *Bluff* (Fig. 7). We can look down from it, as if from a hanging rock. A real oddity is a blue floor made of prismatic units, which from the outside form a cut-off wall over the entrance to the building. This original floor is also functional. From the level called *Bridge* via a footbridge we can reach the existing library. The open entrance hall constitutes a part of the lower level of *Valley* (Fig. 8). Apart from that, the hall is used for the purposes connected with the organisation of various celebrations, performances, cultural, scientific, and entertainment events. This level holds office and administrative premises and a coffee shop. This is the place where the main representative staircase to the level of *Bridge* starts. All open spaces are equipped with hard or soft seats, which correspond with their shapes and colours to the individual levels and the meanings ascribed to them. Definitely the majority of the seats are occupied by young people with laptops, tablets, and even books!

**Figure 5. Sun level. Student Learning Centre in Toronto. Figure 6. Garden level. Student Learning Centre in Toronto. Figure 7. Bluff level. Student Learning Centre in Toronto.**



Source: Photo: K. Žuk



Source: Photo: Author



<sup>4</sup> [slc.blog.ryerson.ca/cgwr/](http://slc.blog.ryerson.ca/cgwr/) , [library.ryerson.ca](http://library.ryerson.ca) › News › News, 23.03.2016



**Figure 8. View of the Valley level. Student Learning Centre in Toronto.****Figure 9. Entrance to the Student Learning Centre in Toronto.**

Source: Photo: the Author



Source: Photo: K. Žuk

In terms of urban planning, the edifice constitutes a very legible gate to Ryerson University. The buildings of the University are embedded in the tissue of the city and do not constitute a closed campus. Before the Student Learning Centre was built, Ryerson University had not been recognised as an urban whole in Toronto. Now, it has obtained a spatial identity. The aforementioned gate to the part of the city where the university buildings are located has become a landmark by itself, as well as defined the urban space belonging to the University. SLC invites to enter from the south, from the side of the corner at Yonge Street. It is a well-known street in Toronto, with the basic commercial function. It is lined with numerous small retail outlets. The entrance to the building is elevated. It can be reached via wide stairs, which function as a passageway as well as a representative and educational structure, and they are used for all sorts of get-togethers and rest (Fig. 9). The entrance is separated from Yonge Street with a belt of greenery, which also provides this place with more intimacy. Below, the pedestrian traffic along the street is not disturbed. Moreover, the street has obtained new users. Above the stairs there spreads a large blue surface of the ceiling, leading inside. It is in a strong contrast to the glassy grey elevation made of combined digitally printed glass panes, through which the structure of the building can be noticed. The blue part of the ceiling above the entrance created by cutting off the corner of the building is upturned in the form of a triangle supported by enormous pillars. Whereas the architecture of SLC evokes various emotions, usually quite extreme ones: from praises to absolute criticism, the very carefully designed function of the building, as well as its place on the urban layout of the city, are assessed extremely positively. From the functional point of view, SLC has turned out to be an answer to the needs of young people. From the point of view of urban planning, it has created a characteristic frequented place, constituting an extremely important compositional landmark and a gate to Ryerson University dispersed around this part of the city. The Student Learning

Centre, by becoming a strongly recognised landmark in Toronto, has contributed to the identity of the entire block.

### **‘Arteteka’ in the Małopolska Garden of Arts. Cracow.**

‘Arteteka’ is the first multimedia library in Poland. It opened in January 2013 and it has attracted crowds of users ever since. It is located in the edifice of the Małopolska Garden of Arts<sup>5</sup> in Cracow at Rajska street (Fig. 10). It is one of the branches of the Provincial Public Library, a combination of an advanced multimedia library with a culture centre offering access to issues connected with broadly understood arts. It gathers rich collections and provides access to advanced tools enabling to use them. It is intended to be a space of active promotion of knowledge and culture, fostering discussions and exchange of opinions. The time has proven that the premises of ‘Arteteka’ are used predominantly by young people, both university and secondary school students, to learn, meet with friends and rest, with education in the background. The opening hours on weekdays are from 10:00 a.m. to 7:00 p.m., but the place starts to be really crowded around 3:00 p.m. and it remains to be so until the end of day. On Saturday and Sundays the hospitable premises open at 11:30 a.m. and 10:00 a.m., and close at 7:00 p.m. and 4:00 p.m., respectively.

**Figure 10. Małopolska Garden of Arts with ‘Arteteka’. Cracow, designed by Ingarden & Ewý Architekci.**



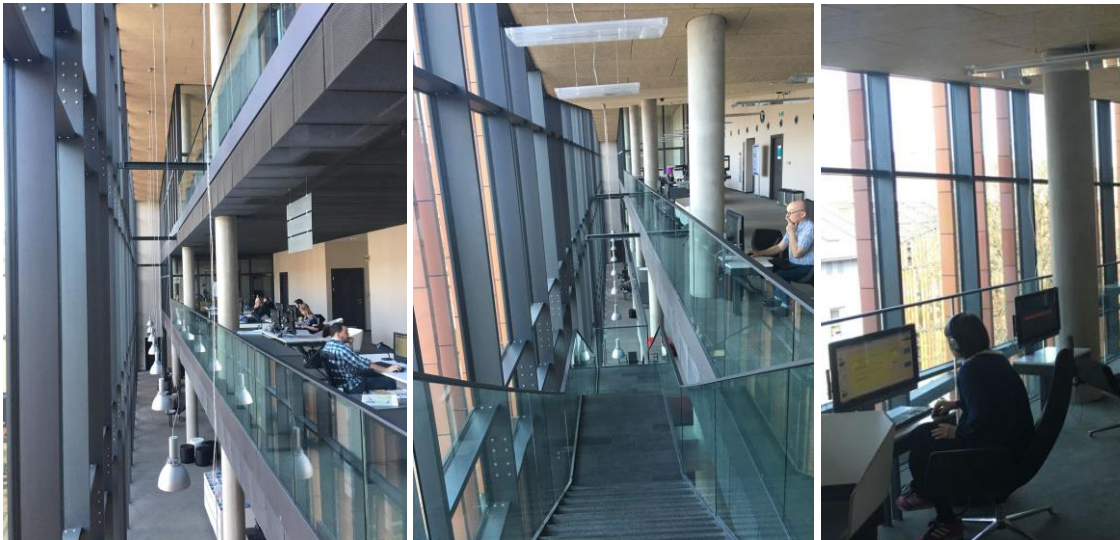
**Source:** Photo: the Author

Users of ‘Arteteka’ can use three floors, which correspond to the subject matter of the library collections gathered on them. And thus, the first floor is *Music*, then we have *Picture*, and eventually the top level – *Word* (Fig. 11). The aforementioned collections of the multimedia library contain e-books, e-magazines, music albums, films, comic books, computer and board games, as well as traditional magazines and books. When this state-of-the-art library opened, sixty e-book readers, all-in-one computers with touch screen monitors, and partially with

<sup>5</sup> Architecture: Ingarden & Ewý Architekci, [www.iea.com.pl/](http://www.iea.com.pl/), 20.03.2016

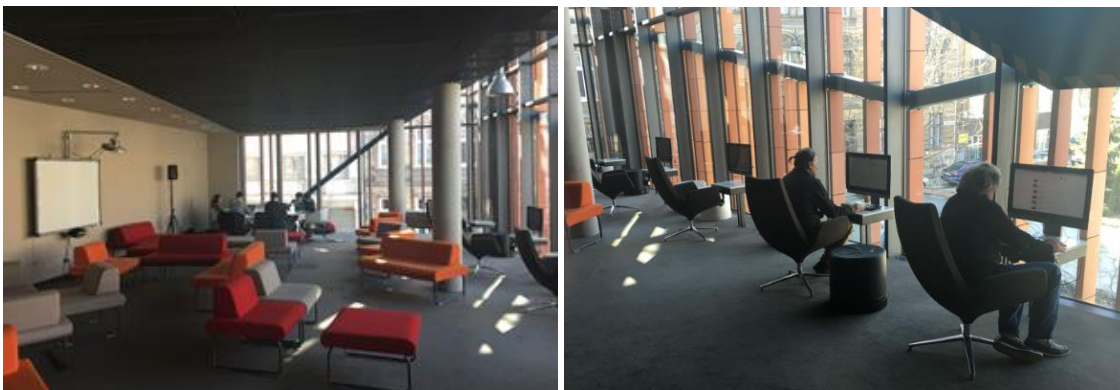
graphics tablets, Internet tablets, a Blue Ray player, a Play Station set with PS MMove movement control, advanced multifunctional devices were rendered available.<sup>6</sup> The memory of the e-book readers contains digital publications and access to the library of Free Set Texts.<sup>7</sup> On all the levels of 'Arteteka' there are open spaces, which can be appropriately arranged depending on current demands (Fig. 12).

**Figure 11. Levels of 'Arteteka'. Cracow.**



Source: Photo: the Author

**Figure 12. Interiors of 'Arteteka'. Cracow.**



Source: Photo: the Author

On an everyday basis, the premises are equipped with computer stations, soft and hard seats, such as cushions, armchairs, sofas, chairs, and tables, which can function separately or be brought together to facilitate teamwork. There are shelves with books, CDs, games, and

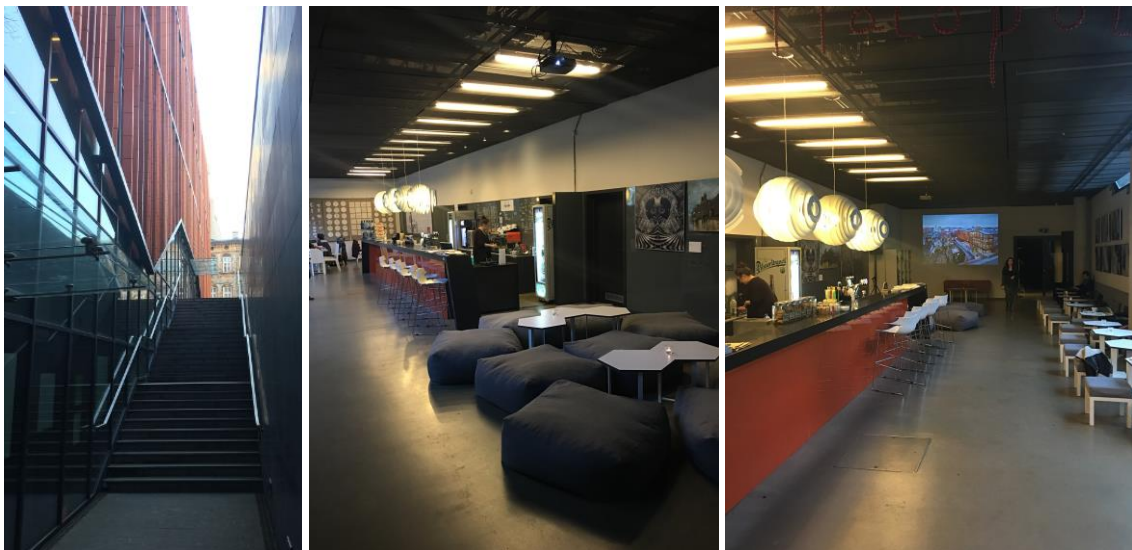
<sup>6</sup> <http://www.rajska.info/oferta/wypożyczalnia-i-czytelnie/arteteka.html>, 20.03.2016

<sup>7</sup> Set texts for schools recommended by the Ministry of National Education, which have already become part of the public domain. Texts in formats html, odt, txt and pdf, <https://wolnelektury.pl/>, 20.03.2016



shelves used for the exposition of paintings, sketches, comic books. At the level of *Music* there is a digital piano, which can be used to practice using headphones, but also to record the music played. The second floor is connected with film, comic books, games, and all the fields of study and arts that correspond to the title *Picture*. This floor houses a closed conference hall. The last floor, with an interestingly shaped surface of the ceiling corresponding to the form of the building, is devoted to literature and is called *Word*. And here there is also a rather small room, which can be used for some kind of individual work if need be. A nice coffee shop organised on the -1 floor fulfils a supportive function, offering drinks and snacks (Fig. 13). This is the place where young people wait for 'Arteteka' to open.

**Figure 13. Descend to the -1 level and the interiors of the coffee shop. Małopolska Garden of Arts, Cracow**



Source: Photo: the Author

In terms of urban planning, the edifice of the Małopolska Garden of Arts with 'Arteteka' is inscribed in a plot of land at the contact point between Rajska and Szujskiego streets. Directly in the corner of these streets there is a nursery school run by the local government, enveloped by two wings of the L-shaped edifice of the Małopolska Garden of Arts. Entrances to this edifice are located from Rajska street opposite the Provincial Public Library in Cracow, as well as from Szujskiego street. It is in this very part, adjacent to Szujskiego street, where 'Arteteka' is located. The concept of creating a multimedia library in a place where since 1948 there used to be workshops of the Juliusz Słowacki Theatre and the 'Stary' Theatre, was conceived in the period 2002-2006. There were also talks about building a philharmonic there. Eventually, it was decided to erect a building which would combine the function of an auditorium fit for numerous purposes with a state-of-the-art multimedia library. In May 2005 architects from the studio K. Ingarden & J. Ewy Architekci won a competition for the development of an architectural and urban planning reconstruction of the building located at 12 Rajska street in Cracow for the purposes of the Małopolska Garden of Arts. The design was granted with the Prof. Janusz



Bogdanowski Award for the best architectural structure of Cracow 2012. This award is granted for special achievements in the process of shaping of works of landscape architecture. The fact that the design was granted with it testifies to the fact that it was perfectly composed into the context. According to Krzysztof Ingarden, the form of the edifice of the Małopolska Garden of Arts is '...a contextual play between *mimesis and abstraction*, at the same time located close to the trend in architecture broadly defined by Kenneth Frampton as Critical Regionalism...'<sup>8</sup> Thanks to construction of this edifice, the adjacent backyards were put in order and the nearby historic development gained a lot. One of the main assumptions of the design was the introduction of a multifunctional hall that was to be built into the perimeter of an old 19<sup>th</sup>-century hall of a horse riding school, which over the previous years had been used as the aforementioned backup facilities of the J. Słowackiego Theatre and the 'Stary' Theatre in Cracow<sup>9</sup> (Fig. 14). Besides this, the shape of the building refers to the geometry of the nearby roofs not in a direct fashion, but by the adoption of appropriate curvatures in the elevation planes. The facility is inscribed in the scale of the surrounding development by demarcating the roof line and elevation divisions in compliance with the composition of walls of adjacent buildings. It is shaped in an extremely artistic fashion. Despite its considerable dimensions, it delights with lightness, even with finesse. This is achieved thanks to vertical narrow elements that unevenly divide the glass elevation and, especially in the sunlight, gleam with the shades of orange, quite pleasing to the eye. The creators' sensitivity also found its reflection in leaving of an opening in the openwork roof of the garden from the side of Rajska street, to accommodate a maple tree that grows there. The symbolic roofing referred to above opens the scene of the building to people, to pedestrians, which gives an impression that the space of the project absorbs them imperceptibly (Fig. 15). Here we have belts with low greenery that imitate flowerbeds. It is a reference to the historical function of Rajska street, leading to a former garden located within the territory of the later Tobacco Plant. The edifice of the Małopolska Garden of Arts has undoubtedly become a landmark and it exerts a positive effect with its architecture. Great appreciation has been won by the function of the whole structure, and of 'Arteteka' located here, as a place used by the young people from Cracow for the purposes of individual and interactive learning in a friendly environment.

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<sup>8</sup> [http://www.ronet.pl/index.php?mod=realizacje&realizacja\\_id=474](http://www.ronet.pl/index.php?mod=realizacje&realizacja_id=474), 23.03.2016

<sup>9</sup> *Ibidem*, 23.03.2016

**Figure 14. Edifice of the Małopolska Garden of Arts, Cracow****Figure 15. Garden from the side of Rajska street. Małopolska Garden of Arts, Cracow**

Source: the Author

### Users of a facility vs. activation of urban space

According to written reports: articles, information leaflets, statements of users and observations of the Author made during a site inspection of the edifice of the Student Learning Centre in Toronto and its surrounding area, the function of the facility and the social group that utilises it constitute visible determinants of the activation of this part of the city. Nevertheless, in order to support these observations and to complete them with additional data, in 2015 a survey was conducted focusing on the answer to the question to what extent the social group that utilises a specific space influences the activation of this space. The social group subjected to the survey were young people from Toronto who learned or stayed within the territory of the Student Learning Centre or in its vicinity. They were asked to complete questionnaires pertaining to the demand for such places, the evaluation of the existing one, and the evaluation of the effect of this place on the activation of the space of the city. Analogous measures were undertaken in 'Arteteka' in the Małopolska Garden of Arts in Cracow. And here the analysis of literature, Internet sources and observations from the site inspection were completed with a survey carried out amongst young people from Cracow who learn or stay within the premises of 'Arteteka' or its vicinity.<sup>10</sup> The respondents were also asked to provide answers to the questionnaire devoted to the demand for a place for learning outside school or university, as well as to evaluate 'Arteteka' itself and its effect on the activation of the space of the city. Despite differences between these two facilities included in the study, consisting in different scales of the projects, different architectural forms, and different ways of perceiving them in the urban layout of the cities where they are located, the elements which make them similar are their function and the social group - students, who dominate the group of their users. Basing on the assumption according to which

<sup>10</sup> Both studies were performed in 2015. The survey held in Toronto took place during the study visit to Canada in October 2015. In both cases the study consisted of 52 surveys.

the attractiveness of a space is influenced by – without limitations – the type and quality of services, aesthetic impressions, a high standard, the lack of barriers, diversified fittings, and appropriate compositional measures (of the architectural and urban planning nature)<sup>11</sup>, the survey participants were asked about these very factors. Thus, the question whether the type of services offered at the Student Learning Centre corresponded to the respondents' expectations, was answered 'yes' by 100% of the participants. 98% were satisfied with the type of services offered in 'Arteteka'. When asked about the quality of the services provided in both facilities, the respondents answered they were fully satisfied in 98% - SLC, and 98% - 'Arteteka'. The question concerning aesthetic impressions provided by both edifices was divided into two parts. The first one concerned the shape of the buildings and their external architecture, the second – their interior design. The first question concerning SLC was answered positively by 67.3%, 25% had no opinion, and 7.7% of subjects did not like the form of the building. A definitely positive feedback – 100% of subjects – was given in the subject of positive impressions concerning the interior design. In case of the Małopolska Garden of Arts, the situation was slightly different. 100% of the survey participants gave a positive evaluation of the architecture of the building. The interior design of 'Arteteka' was positively evaluated by 78.8% of respondents, and 21.2% did not have a clear opinion about it. The question whether these facilities offer a high standard, was answered positively by 100% of respondents for SLC and 'Arteteka' alike. The surveys also touched upon the issue of architectural barriers. Both edifices are equipped with lifts and toilets adjusted to the needs of the disabled. Spaces of the facilities are easily accessible to the public. Hence 100% of the respondents from Toronto and from Cracow answered that no architectural barriers were observed in SLC and 'Arteteka'. The fittings of both facilities were appreciated by 100% of users. In compliance with the provisions of the Act on Spatial Planning and Development<sup>12</sup>, public space is defined as an area of special importance for the process of satisfying the needs of residents, improving the quality of their lives, fostering social contacts. The quality of such spaces is dictated largely by: architectural order, urban planning order, and function. Both the Student Learning Centre together with its vicinity and 'Arteteka' in the Małopolska Garden of Arts in Cracow along with its adjacent area are spaces with are largely utilised by a social group of students from the cities in question. The question concerning the architectural order referring to SLC was answered positively by 78.8% of respondents. The rest had no opinion. In case of 'Arteteka' of the Małopolska Garden of Arts, 100% of respondents admitted they observed such an order. The urban planning order in this case was regarded as correct incorporation in the urban context of the city, legible and justified complementation of the urban tissue in the part of the city where the facilities are located. The respondents were, therefore, asked about the legibility of the compositional layout<sup>13</sup>, easy accessibility of its elements, 'absorbing' users, just like a good book can 'absorb' a reader or a good film can

<sup>11</sup> Jagiełło-Kowalczyk M., Petelenz M. *Composition vs. Ideologies. Neustadt in Strasbourg, Nowa Huta in Cracow*. [in:] *Housing Environment 15/2015. Composition in Architecture*, Cracow: Cracow University of Technology, 2015, p. 182

<sup>12</sup> Act dated 27 March 2003 on Spatial Planning and Development [in:] *Official Journal of the Republic of Poland*, Warsaw, 10 February 2015. Item 1999 Notice of the Speaker of the Sejm of the Republic of Poland dated 5 February 2015 on the announcement of the consolidated text of the Act on Spatial Planning and Development, p. 6.

<sup>13</sup> Amongst different fields of composition-related activities, the one that is particularly meaningful and distinct is the field of artistic composition. It comprises architecture as well as urban planning. Kosiński W. *Architectural and Urban Composition – a Selection of Examples* [in:] *Housing Environment 15/2015. Composition in Architecture*, Cracow: Cracow University of Technology, 2015, p. 70.



'absorb' a viewer. The correct incorporation of the Student Learning Centre and the Małopolska Garden of Arts in the appropriate urban context, legible and justified complementation of the urban tissue, easy access and an 'inviting' form of the entrance were noticed by all of the respondents! 100% of the respondents believe that such places are needed in the city, According to 78.8% of the respondents in Toronto and 98% in Cracow, they contribute to the improvement of the quality of their life. 98% of the respondents believe that the Student Learning Centre fosters establishing or maintaining social contacts. 'Arteteka', on the other hand, fosters establishing or maintaining social contacts according to 84.6%. The erection of the Student Learning Centre in Toronto and using it by students has contributed to the increase of activity in this part of the city according to 86.5% of the respondents;. The rest had no opinion in this respect. This resulted mainly from the fact that previously students heading for the nearby university buildings had frequented this route. In case of 'Arteteka', all the respondents had no doubt that its establishment had activated this area.

## Summary

The results of the study indicate that one of the important factors that according to students improve the quality of urban space is the existence of legibly determined places devoted to individual study and stay after curricular classes and lectures. Places which could be offered by universities or the city itself. Such places animate and activate the space connected with them. The social group of students constitutes an important factor of activation of cities. According to the respondents, both the Student Learning Centre at Ryerson University in Toronto and 'Arteteka' of the Małopolska Garden of Arts correspond to the functional demand of young people who study in these cities. The results of the conducted study prove that attention has been paid to original architectural concepts, well-thought-out and convenient interior designs filled with meanings, the correct incorporation of structures in the urban context, the legible and justified complementation of the urban tissue, easy access, and 'inviting' forms of entrances. Providing young people with an offer connected with their education that is attractive to them has an invigorating effect on the city. Therefore, measures aiming at shaping of spaces for individual, interactive education of young people in cities, supported by contemporary technological achievements, are extremely important. These spaces must be safe, distinct, easily accessible, organised in a way that will be interesting and legible, attractive and modern, so that young people could identify themselves with them willingly.

## References

- Jacobs, J.** *The Death and Life of Great American Cities*, Warsaw, the 'Centrum Architektury' Foudnation, 2014.
- Kosiński, W.** *Architectural and Urban Composition – a Selection of Examples* [in:] *Housing Environment 15/2015*. Composition in Architecture, Cracow: Cracow University of Technology, 2015.

**Jagiello-Kowalczyk, M.,** Petelenz M. *Composition vs. Ideologies. Neustadt in Strasbourg, Nowa Huta in Cracow.* [in:] Housing Environment 15/2015. Composition in Architecture, Cracow: Cracow University of Technology, 2015.

Act dated 27 March 2003 on Spatial Planning and Development [in] Official Journal of the Republic of Poland, Warsaw, 10 February 2015. Item 1999 Notice of the Speaker of the Sejm of the Republic of Poland dated 5 February 2015 on the announcement of a consolidated text of the Act on Spatial Planning and Development.

[http://www.ronet.pl/index.php?mod=realizacje&realizacja\\_id=474](http://www.ronet.pl/index.php?mod=realizacje&realizacja_id=474)

<http://www.rajska.info/oferta/wypożyczalnia-i-czytelnie/arteteka.html>

<https://wolnelektury.pl>

[www.iea.com.pl](http://www.iea.com.pl)

[http://www.emb-norway.ca/norway\\_and\\_canada/News/Iconic-Snohetta-Design-Opens-in-Toronto](http://www.emb-norway.ca/norway_and_canada/News/Iconic-Snohetta-Design-Opens-in-Toronto)

[slc.blog.ryerson.ca/cgwr/](http://slc.blog.ryerson.ca/cgwr/),

[library.ryerson.ca](http://library.ryerson.ca) › News › News

<http://snohetta.com/projects>