e-mentor

SZKOŁA GŁÓWNA HANDLOWA · W WARSZAWIE ·

ICT in education
Lifelong learning
Business and technologies
New trends in management
Teaching methods and programs

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Dear "e-mentor" readers,

It is with great pleasure that I share with you the newest collection of papers, perfectly reflecting the nature of our journal, which is a combination of new trends in both education and business. For readers primarily interested in pedagogy, the comparison of various forms of distance learning will shed new light on the issue in terms of the effectiveness and efficiency of teaching and students' perceptions. Moreover, you will learn about factors determining satisfaction with e-learning during the pandemic from the perspective of Polish and Spanish students.

As for new teaching methods and programmes, our authors argue that the development of innovation competences should take a more formalised role within the national education curriculum, trying to bridge the gap between basic research and the world of practice. Finally, you will explore challenges in real-life classroom situations that teachers adapting educational drama activities into second-language classrooms face. Interestingly, the examples come from India.

When it comes to new trends in business and management, the authors discuss and successfully identify potential fields of convergence between two concepts and business practices: Corporate Social Responsibility and project management. They also investigated the multitude and complex nature of factors shaping the organisational culture of shared service centres of transnational corporations in Poland. And finally, an analysis of the relationship between young employees as mentors and more senior and experienced employees as mentees, known as reverse mentoring, is presented with reference to the academic relations between senior professors and research assistants.

It is worth noting the number of authors affiliated at foreign institutions, which reflects our struggles for internationalisation. As of October 2022, for two consecutive years, we will be supported in our efforts by the Ministry of Education and Science (Poland). "E-mentor" has been granted funds for a project (RCN/SP/0361/2021/1) that aims at enhancing recognition in the international academic community. The main project activities will focus on boosting the quality of the articles published, increasing international visibility, raising the transparency of the editorial process, and modernising the website. I sincerely hope that the planned improvements will satisfy not only our readers, but also authors and reviewers.

At the same time, I would like to cordially invite you to co-create "e-mentor" with us by submitting articles for publication. „E-mentor" is an open-access journal available for free, both online and in printed form. All scientific papers are peer-reviewed and we provide free proof-reading of papers accepted for publication in our English issues. Every article gets an individual DOI registered in Crossref, and the journal is indexed in several global databases, including Web of Science ESCI and EBSCO. There is no publishing fee for the authors. More details are available online at http://www.e-mentor.edu.pl/eng/page/8/Info_for_Authors. If you have any questions concerning publications in „e-mentor", please contact the editorial team at redakcja@e-mentor.edu.pl.

Małgorzata Marchewka
Editor

Comparison of the effectiveness and efficiency of various forms of distance learning – an experimental study

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Abstract

The aim of this paper is to compare various forms of distance learning in terms of the effectiveness and efficiency of teaching and their subjective evaluation by students. Three forms of remote teaching were analysed for the elective general university course in the winter semester of the 2020/2021 academic year: G1 – with all materials embedded on an e-learning platform for fully asynchronous learning – and with no live meetings, but specially prepared video tutorials replacing them, G2 – with materials embedded on an e-learning platform and lectures conducted synchronously through videoconferences (without video recordings), G3 – with materials embedded on an e-learning platform, synchronous lectures via video conferences and their recordings available afterwards. Final grades, a record of activity at the e-learning platform and the results of questionnaires collected from all participants of the course were taken into account when carrying out the statistical analysis. The analysis proved that the most effective form of learning (the lowest number of hours devoted to learning in order to pass the subject, as well as the percentage of students who completed the course) was the one applied in group G1. According to the opinions of the students, the highest level of satisfaction from the classes was recorded for group G2.

The research brings various implications for practice or policy: for teachers interested in improving the effectiveness of their online teaching; for teachers preparing an intervention with the aim of improving students' remote learning engagement and its quality; supporting teachers' research engagement in the improvement of educational standards and systems; and learning planners can use these insights helpful in planning online learning projects.

Keywords: distance education, e-learning, online teaching, video lecture, student engagement, effectiveness, experimental study

Introduction

The digitisation of universities is a trend that has been driven by the development and ubiquitous use of ICT technology for over a decade (Kopp et al., 2019; Leszczyński et al., 2018). This applies to both the administrative and didactic area. The accelerator of this progress is the ease of accessing online resources through commonly used mobile devices (Cheong et al., 2021). Consequently, e-learning is growing in popularity as an add-on for traditional learning (as a blended/hybrid-learning) or even functions as its alternative, e.g. self-paced e-learning courses (Galwas, 2020). During the COVID-19 pandemic e-learning was imposed by unusual circumstances and became the only didactic form possible. This unexpected experiment, which was implemented "on the go", proved that transferring the educational process to remote education requires proper planning, preparation and designing (Adedoyin & Soykan, 2020; Turnbull et al., 2021). Its ad-hoc implementation to an online mode, but solely based on face-to-face teaching methods, sooner or later became a source of frustration for both the teachers and the students. This experience of failure is intensified not only by technical or

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socio-economic barriers, but also often by inadequate and unengaging forms of conveying content (Kalpokaite & Radivojevic, 2020). The key to success is the adequacy of the form of teaching in relation to the material being taught (Pacholak, 2020).

According to the survey, some students believe that e-learning contributes to their development, although it reduces the workload on the part of lecturers and increases it on the part of students (Maatuk et al., 2022). However, e-learning standards can be successfully applied for all types of modules such as supportive, blended or fully online in a learning paradigm that helps to achieve the learning outcomes of the course (Naim, 2022).

The effectiveness of e-learning has been recognised worldwide, hence the rapidly growing number of MOOCs (Massive Open Online Courses) being offered to anyone (Pallavi et al., 2022), They are run mostly in the form of self-paced courses containing on-line tutorials with no active participation of a teacher. The unflagging popularity of e-learning is described in many quantitative studies (Dahlstrom et al., 2015). However, a more in-depth analysis of the particular case study would also require qualitative research. Therefore, it would be worth conducting it for each case taking into account the specificity of the subject together with the level of digital competences within the group of students being taught. Such a comparative analysis in terms of the effectiveness of e-learning methods was carried out for the "Introduction to Excel and economic data analysis" course, offered as a general university course (elective) at the University of Warsaw in the winter semester 2020/21, attended by 105 students. Given the homogeneity of the group, the study allows for precisely assessing the efficiency of the teaching methods used, as well as their effectiveness.

Research assumptions and description

The aim of the study was to compare various forms of distance learning in terms of effectiveness and efficiency, as well as their subjective assessment of participants. A pedagogical experiment was conducted at a general university course (elective) entitled "Introduction to Excel and economic data analysis" at the University of Warsaw in the winter semester 2020/21.

For this purpose, three remote forms of course delivery have been distinguished:
- fully asynchronous, based on materials embedded on an e-learning platform with specially designed and edited videos (tutorials) instead of live lectures (G1),
- partly synchronous, including materials embedded on an e-learning platform along with synchronous lectures via live videoconferences (G2),
- partly synchronous, based on materials embedded on an e-learning platform along with synchronous lectures via live videoconferences, with their recordings available afterwards (G3).

What is important is that the above forms of education were selected intentionally. G1 can be perceived as a control group – the applied method of teaching in this group is a standard form of e-learning classes that has been practiced by lecturers for many years. The method of teaching in the G2 group results from the recommendations and guidelines of the University of Warsaw, which imposed the implementation of remote classes in the form of live meetings. Finally, the G3 group's method follows the guidelines introduced at the Faculty of Economic Sciences of the University of Warsaw, where a high percentage of foreign students located in different time zones study remotely from their countries. In order to allow them access to all course materials without having to attend live video lectures (often in the middle of the night in their time zone), it was decided that all live lessons would be recorded, and the recordings shared.

Experimental environment

The experimental study was conducted at the University of Warsaw in the academic year 2020/2021, during the winter semester at the general university (elective) course "Introduction to Excel and economic data analysis". This is a practical course and its main goal is to learn how to work with Excel. The course was conducted at the Faculty of Economics Sciences on the University of Warsaw Moodle e-learning platform (https://moodle.wne.uw.edu.pl). The course consisted of 6 modules of 5 teaching hours each. Materials for each module were provided on a regular basis within weekly intervals, including an additional break for homework. Live classes (video lectures) were held at the most convenient time for students, based on the USOS calendar (100% match of dates). Discussion forums were the main tool for asking questions during the course. This was an important component aimed at encouraging participants to cooperate and help each other, which is conducive to building social capital. In addition, students could set up an appointment with the lecturers for individual consultations conducted live via videoconference.

An assessment was based on 2 collective assignments. Additional scores could be gained by students for their activity at discussion forums. Attendance at live video-lectures was not obligatory. At the end of the course an evaluation questionnaire was circulated (Annex 1) and completed by all active participants (the rate of return was 100%).

All the information about the course, available on the course website, as well the communication elements were the same for each group. The only difference concerned the form of classes being carried out in particular groups. Below is the communication given to each group:
- Group G1: Materials for the next lesson will be published every week on Friday at 17.00 and will be available with no time limitation. You can access and use them at any time convenient for you. For each class there will be an Excel tutorial

available, including tasks (with solutions) aimed at better understanding the material being acquired. In addition, an instructional video is available for each class, where the solutions to each tasks is discussed. Questions and doubts regarding the materials can be submitted on the discussion forums dedicated for each class.

- Group G2: Video meetings for the following classes will be held weekly on Fridays from 17.00-20.00 on the MS Teams platform. Video recordings from the meetings will not be available on the platform, so you will NOT be able to watch them at a later date. For each class there will be Excel self-paced instructions given together with the tasks (including solutions) aimed at better understanding the material being acquired. Questions and doubts regarding the materials can be submitted on the discussion forums dedicated for each class.

- Group G3: Video-meetings for the following classes will be held every week on Friday from 17.00-20.00 on the MS Teams platform. Video recordings from the meetings will be embedded on the platform, so you will be able to access them at a later date. For each class there will be Excel self-paced instructions given together with the tasks (including solutions) aimed at better understanding the material being acquired. Questions and doubts regarding the materials can be submitted on the discussion forums dedicated for each class.

The number of places at the course was limited to 105, and was filled in the first round of enrollment. Students were randomly assigned to 3 equal groups – 35 people in each. The division mechanism was random and took place alphabetically in relation to students' surnames. Due to the schedule of complementary registration at the University of Warsaw, enrolled participants could resign in the meantime, giving a chance to other students to enroll. Complementary enrollment to the course finished before the first class started. All students had access to a detailed description of the different forms of the course (depending on the selected group assigned).

The participants were students from all cycles of studies at the University of Warsaw (bachelor's, master's and doctoral studies, 17 different faculties, different years and fields of study), and there was no information flow between groups. There were also no questions regarding differences in the form of course delivery.

Research hypotheses

Based on the criteria and assumptions described above, all three groups were subjected to comparative analysis, which included the following remote forms of course delivery:
- G1: a set of e-learning materials (asynchronous e-learning) + specially pre-prepared video tutorials (asynchronous e-learning),

- G2: a set of materials (asynchronous e-learning) + live video-lectures (synchronous) – University of Warsaw recommendations,
- G3: a set of materials (asynchronous e-learning) + live video-lecures (synchronous) + recordings of live classes available afterwards (asynchronous e-learning) – Faculty of Economic Sciences recommendations.

On this basis, research hypotheses were formulated that compared the analysed forms of remote education in terms of their effectiveness and efficiency (measured by the results obtained and time devoted for knowledge acquisition) and the subjective assessment of classes by students.
- H1: The highest effectiveness of teaching & learning will be obtained in group G3, and the lowest in group G1. Three criteria were taken into account: final grades, number of students who passed the course and the number of active students.
- H2: The highest teaching efficiency will be in group G3, and the lowest in group G1. The comparative criterion is the total time devoted for taking part in the course. Additionally, in groups G2 and G3, student engagement and participation in live classes will be compared.
- H3: The best evaluation of the course will be obtained in group G3 and the lowest in group G1. The key criterion for verifying this hypothesis is the overall evaluation of the course, and the secondary criterion is satisfaction from participation, enhanced knowledge and skills, substantive evaluation of the course and willingness to further study this topic.

Additionally, in order to explain any differences observed between the groups, the convenience of particular types of course materials was analysed, including, inter alia, specially tailored tutorials and recordings of live lectures.

The above hypotheses assume better effectiveness of distance learning if following the recommendation of the Faculty of Economic Sciences of the University of Warsaw during the pandemic in the winter semester 2020/21 (groups G2, G3). It is worth emphasising, however, that this form of asynchronous learning (G1) should not be discredited, as it is gaining in popularity, e.g. in business. Although the intention of the introduced recommendations is understandable, it is not a priori obvious whether the forms proposed by the Faculty will be more effective. The main purpose of the introduced guidelines was to enable students to attend live classes via videoconference. However, students from group G3, aware that the live video-lectures will be recorded, may consciously choose not to attend. The possibility of watching recordings at a more convenient time and at one's own pace (pausing and rewinding) makes this method more favourable than G2. On the other hand, video materials specially prepared and dedicated for the course, which are available on the e-learning platform (G1), should be much better for students than recordings from the live classes. This, in

turn, may lead to the conclusion that G1 will be better than G3. Therefore, the hypotheses presented above are not obvious and require verification.

The results of the experiment

Teaching effectiveness

The analysis of the effectiveness of individual forms of remote education was based on the results, which took into account three criteria: final grades, the percentage of students that had passed the subject, and the percentage of active students (Figure 1).

According to Figure 1 the percentage of students with very good and good grades does not differ significantly between the groups. A grade 'A' was obtained respectively by 34% in G1, 35% in G2 and 29% in G3 students, while 'B' by 17% in G1, 11% in G2 and 12% in G3.

However, there is a significant difference in the percentage of students who passed the subject: 77% (G1), 53% (G2) and 58% (G3). In this respect, this form of asynchronous e-learning classes proved to be the most effective, with a 24% advantage over live video-classes without the recording being shared, and a 19% advantage over live video-classes with the recording shared. This result was not affected by the higher percentage of failing grades, but it was impacted by the higher rate of dropping out from the course in the group with live video-classes. The total percentage of resignations and unclassified students (not participating in classes, who did not return any assignment) was respectively: 17% (G1), 45% (G2), 32% (G3), and including people who resigned from completing the

course before the first classes had started: 0% (G1), 29% (G2) and 22% (G3).

A simple conclusion is therefore apparent: the most flexible and attractive form of conducting the course in remote mode were the asynchronous e-learning classes (G1), and the least – those conducted with the inclusion of live video-lectures without recordings (G2). It is worth emphasising that the dates of classes were not given at the time of enrolling to the course, and students found out about them after being assigned to a specific group and logging in to the course space on a platform. Nevertheless, they were selected in line with the availability calendar in the LMS system (USOS), according to which the agreed dates suited all participants. The course schedule did also not interfere with work, as the meetings began at 5.00 p.m. However, students may have had other commitments stopping them from participating. After all, the timetable is one of the most important criteria for students when enrolling in a course. Asynchronous e-learning (G1) removes the barrier of access, as all materials can be reached at any convenient time.

Thus, the H1 hypothesis, stating that the highest teaching effectiveness is in group G3 (with live and recorded video-classes), and the lowest in group G1 (with pre-recorded tutorials and without live video-classes), can be rejected.

Taking into account the final grades, the percentage of those who passed the subject and the percentage of active students at the course, group G1 proved to be the most effective form of teaching, followed by live lessons with recordings (G3), and lastly live video-classes without recordings, although the difference between G2 and G3 is relatively small.

Figure 1

The structure of final grades within each group
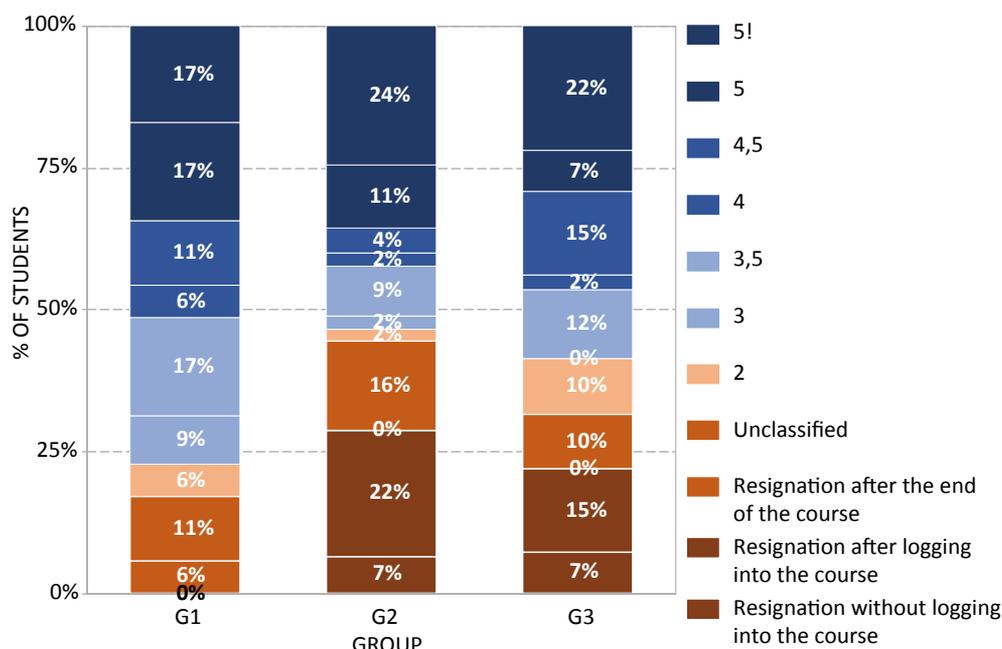
Source: authors' own work.

On the other hand, when comparing the total scores obtained by active participants (understood as those who did not resign from completing the course) during the entire course, which was the basis for the final grade, we can see that people from the group G2 performed better (mean 54.77, median 57.25, std. dev. 14.68) than groups G1 (mean 48.12, median 51.26, std. dev. 13.65) and G3 (mean 49.73, median 51.6, std. dev. 17.66) (Figure 2). The observed differences, however, are not statistically significant, which was confirmed by performed tests (Shapiro-Wilk, ANOVA, Tukey's, Kruskal-Wallis). This means that the scores directly reflecting the level of acquired skills and knowledge do not depend on the adopted form of carrying out the classes. The explanation for this fact may be as follows: students set a goal they want to achieve, and providing that the materials are properly prepared (in this case, participants were given a set of course materials, which included theoretical part, tasks, tasks' solutions that allowed for self-studying, and the live video-classes and recordings were only a supplement, aimed at easier acquisition of the material), and also the subject is interesting from their point of view, they are able to achieve it. The only question is how much time they need to devote to achieving the intended goal.

Teaching efficiency

The efficiency of teaching was measured by the declared number of hours devoted for attending a single class, single homework assignments and in total participation in the course. This data was provided in the evaluation questionnaire carried out after the end of the course and after the grades had been given (Appendix 1).

Before analysing the results, it is worth considering what the most optimal approach is. The assumption made in this paper concludes that the less time students spend on completing the course and obtaining a subjectively satisfactory final grade, the higher the effectiveness of both the learning and teaching. Better effectiveness of teaching allows teachers to provide more knowledge about the topics being lectured, and students are able to complete more subjects with limited resources of study time. According to the H2 hypothesis, the highest expected learning efficiency will be in group G3, and the lowest in group G1. In the group G3 students can participate in live video-classes, which is aimed at facilitating and improving the understanding of the topic discussed, as well as watch the recordings after class, if necessary. In group G2 there are no recordings available, so any doubts should be dealt with by way of own investigation or by questions on the discussion forum of the course. In group G1, however, there is no direct contact with the teacher. On the other hand, the video tutorials are relatively short and may be of even better substantive quality. The results, showing the time-consumption of the course in each group, are presented in Figure 3.

The lowest average number of hours devoted by students to individual classes (Figure 3, part 1) was in group G1 (mean 2.40, median 2, std. deviation 1.20), followed by group G3 (mean 3.16, median 3, std. dev. 1.66), and the highest was in group G2 (mean 4.27, median 4, std. dev. 1.66). The performed tests confirmed the statistical significance of the difference between groups G1 and G2 (the full test report is presented in Appendix 3).

Figure 2

Distributions of scores among active participants within the 3 groups
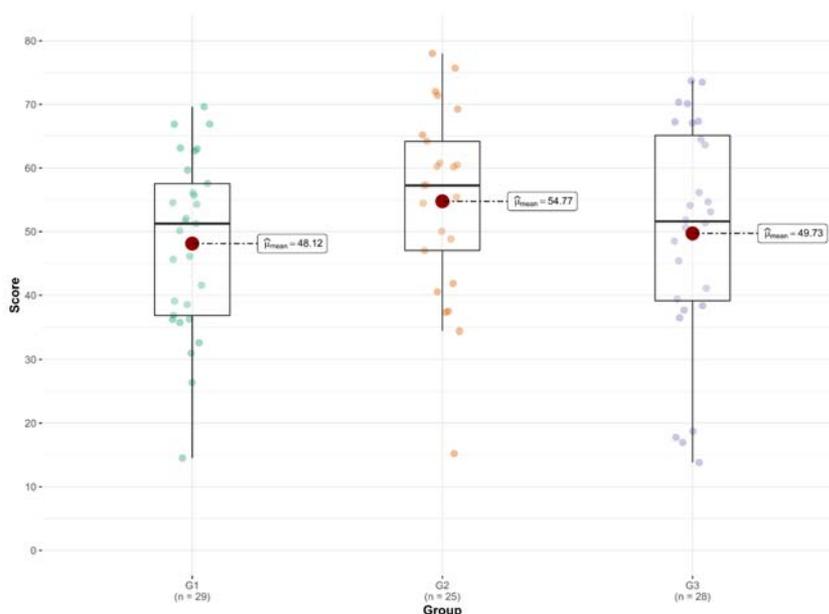
Source: authors' own work.

Part 1. Average number of hours devoted for a single class.
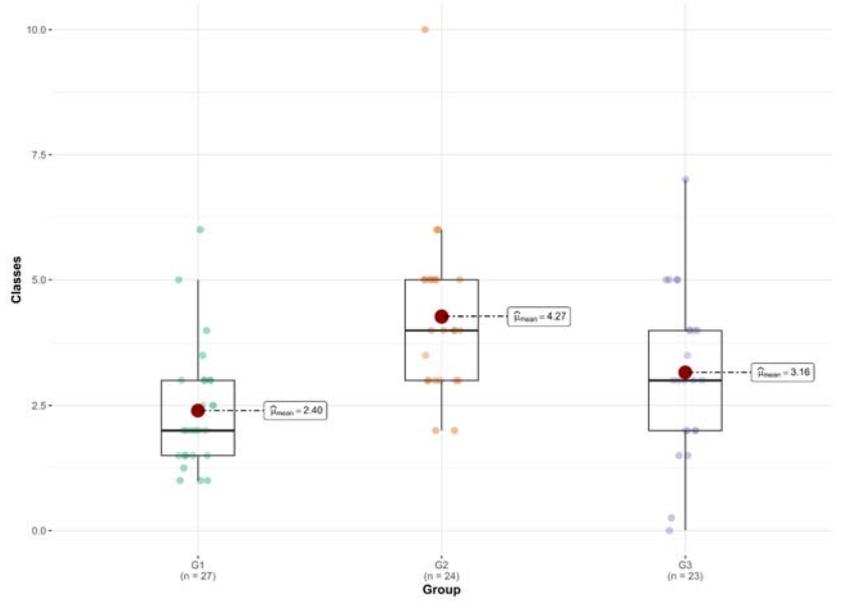
Part 2. Average number of hours spent on a single homework assignment.
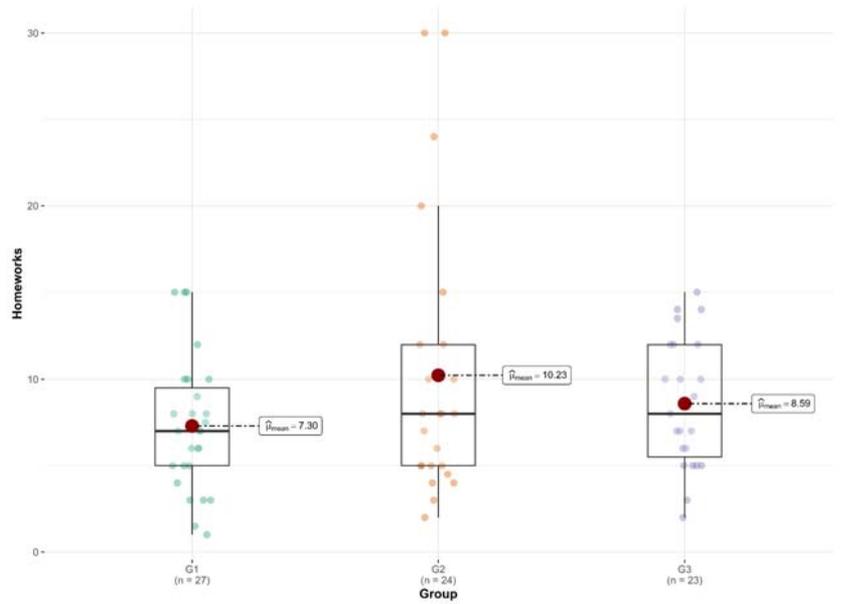
Part 3. Total number of hours devoted to attend the entire course.
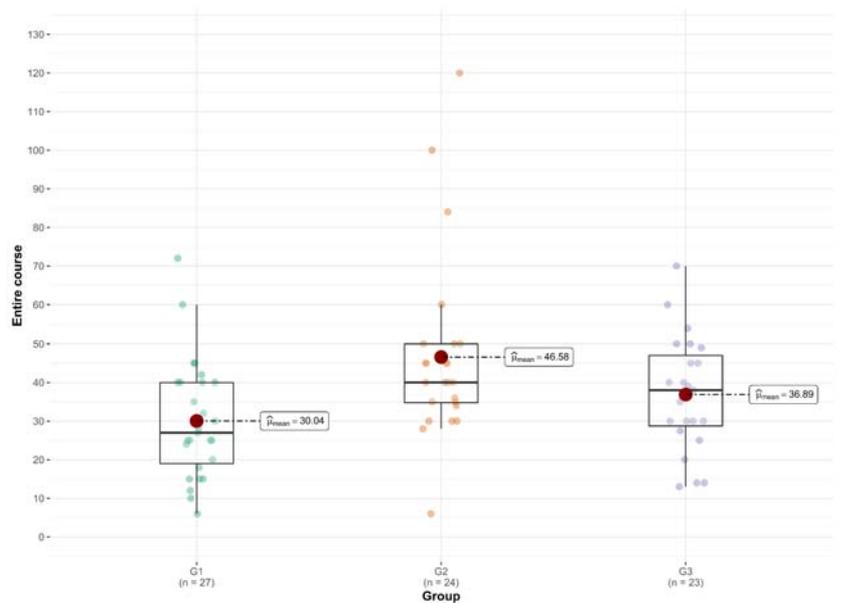
This result is partially in line with expectations. In asynchronous e-learning the video materials were optimised, with the length of the video for the average block compressed to about one hour, while the live video-classes lasted four times as long.

Therefore, stydying the course materials was the least time-consuming in this case (G1). Surprisingly, however, there is a significant difference between groups G2 and G3. The explanation for this is the high percentage of students participating in live video-classes in G2 (88% of active students) in comparison to group G3 (19%).

This shows explicitly that sharing recordings from video-classes lead to students not attending the live video-lectures. Instead they watched recordings, rewinding them and pausing at their own pace.

Table 1 presents the results of the survey regarding the evaluation of various didactic methods applied in the course within each group. According to this, students from group G2, who did not participate in live video-classes, found both the recordings from the lectures and the tasks the most useful didactic materials. It is also worth noting that the students participating in live video-classes rated this form of teaching very high. In addition to that, video tutorials were also highly appreciated by group G1.

However, taking part in video-classes and/or watching video materials is not the same as mastering all the material to be processed, which is verified by homework assignments. In general, one may expect that the more systematic student's effort is put into learning, and the more time they devote to each class, the less extra time they will need to spend on completing a subject.

As for the subject „Introduction to Excel and economic data analysis", the credit was based on homework, which consisted of sets of tasks to be solved by oneself. Part 2 of Figure 3 shows, however, that students from group G1 devoted the least time to studying (mean 7.30, median 7, std. deviation 3.86), then G3 (mean 8.59, median 8, std. dev. 3.77), and the most time for studying was devoted by group G2 (mean 10.23, median 8, std. dev. 8.03). The differences

in means and medians can be considered as relatively small and statistically insignificant (Shapiro-Wilk, ANOVA, Tukey's, the full test report is presented in Appendix 4). However, there is clearly a greater differentiation of the results in group G2 (greater standard deviation and longer right tail of the distribution) in comparison with the other groups (Levene, Fligner-Killeen, details in Appendix 4).

However, the most important aspect is the total number of hours allocated to participation in the course, which is shown in Part 3 of Figure 3. As could have been expected, in this case group G1 performed the best (average 30.04, median 27, std. dev. 15.26), then G3 (mean 36.89, median 38, std. dev. 14.92), and finally G2 (mean 46.58, median 40, std. dev. 24.14). The clearest difference is between asynchronous e-learning lessons and live video-lectures without recordings. This result is statistically significant. Students from group G1 group spent statistically less time on learning than those from group G2 with the video-classes conducted live, without sharing the recordings. The latter case also had the greatest variability in the learning time during the course.

The H2 hypothesis was therefore rejected. In this part of the analysis we obtained two significant results. First of all, the didactic form with pre-prepared video tutorials replacing live classes turned out to be more effective than the classic form with live video-classes. Secondly, if we provide recordings of the video-classes, students do not participate in the live classes (attendance 19%). When recordings are missing, the presence rises to 88%. So, if for some reason, we want to maintain direct contact with participants, we should not share the recordings. It is also more fruitful to shift to an asynchronous form and provide pre-prepared and tailored video tutorials, instead of recordings from live classes.

Such a high difference in attendance to live video-classes between groups G2 and G3 is surprising, and may be down to three factors. Firstly, the low quality of teaching, which is not the case here, because according to the data in Table 1 live classes were the highest-rated didactic form. Secondly, the subject matter of

Table 1

Convenience of didactic forms used within the course in each group and participation in live video-classes (on a scale of 1–5, where: 1 – very low usefulness; 5 – very high usefulness)

Didactic form	G1	G2	G3	G2 live	G2 recorded	G3 live	G3 recorded
Self study materials	4.52	4,30	4.71	4.20	4.33	<u>4.65</u>	<u>5.00</u>
Assignments	4.48	<u>4.52</u>	<u>4.75</u>	4.60	<u>4.50</u>	<u>4.70</u>	<u>5.00</u>
Solutions for exercises	4.56	4.22	4.46	3.80	4.33	4,45	4.50
Homework	4.42	4.17	4,54	4.60	4.06	4.55	4.50
Discussion forums	3.11	3.43	3.54	2.60	3.67	3.65	3.00
Live video-classes	0,00	4.24	4.50	<u>5.00</u>	4.00	<u>4.65</u>	3.75
Video materials	<u>4.96</u>	4.43	0.00	4.20	<u>4.50</u>	0,00	0,00

Source: authors' own work.

Figure 4

Assessment of the course time-consumption in comparison with other courses taken by students so far (on a scale from 1 to 5, where: 1 – very low; 5 – very high)
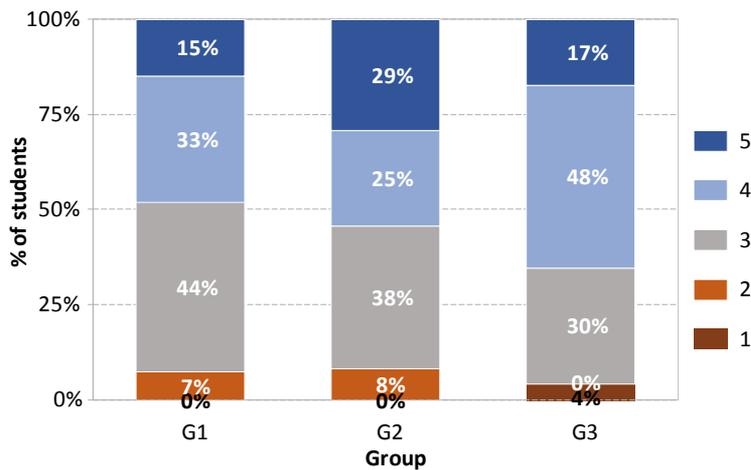
Source: authors' own work.

the lesson could be too simple, making it unnecessary to attend the live class. However, the results in Table 1 are contradictory to this thesis. Moreover, according to the students' evaluation in the survey, the course on Excel was relatively more time-consuming than other courses taken by students (Figure 4).

High and very high time-consumption was indicated in G1 – 48%, G2 – 54% and G3 – 65%, and low or very low, respectively in: G1 – 7%, G2 – 8% and G3 – 4%. It can therefore be concluded that, in the opinion of the participants, the analysed course was relatively time-consuming in relation to other academic subjects, and live classes should be an important didactic element. There is therefore a third option – students consciously and rationally made decisions about not participating in the classes, considering watching recordings from classes as a more efficient form of learning. This is confirmed by our analysis of the Spearman's rank correlation, which showed substitutability between live video-classes and class recordings.

A better evaluation of the convenience of live classes means greater time-consumption of individual classes ($R = 0.5103$) and of the entire course ($R = 0.3264$), and, at the same time, a lower rating of that of recorded videos ($R = -0.5263$).

On the other hand, the higher rating for the convenience of the videos means that individual classes ($R = -0.3721$) and the entire course ($R = -0.2431$) are less time-consuming, and therefore evaluation of the live classes (which are more time consuming) is lower ($R = -0.5263$). All these relations are statistically significant.

Evaluation of the course

The third very important criterion comparing various forms of distance learning, apart from effectiveness and efficiency, is the evaluation of the course by its participants. Table 2 presents the results of the survey (Appendix 1), in which students were asked to evaluate: satisfaction with participation in the course, enhanced knowledge and skills, the level of the course, their willingness to continue studies in this topic, and finally to provide an overall evaluation of the course.

The course was rated high in all three groups of students. Interestingly, in almost all aspects the highest score was in group G2, which was, after all, the most time-consuming form of course. The overall evaluation of the course at 4.91 (on a scale of 0 to 5) can be considered a very high score. Group G1 came second and G3 third. This comes as a surprise, as it was in group G3 that students had the opportunity to both attend video-classes live and to watch recordings from the lectures. This form could be considered as the most convenient for students. However, as this case study shows, more is not always better. Although all the students from group G3 group, who decided to participate in the live video-classes, rated the course with the maximum possible mark (5.0), they were a definite minority (only 19% of students from this group participated in the live classes). The remaining 81% of students decided to study the material on their own, using e.g. the recordings. Their satisfaction was much lower (4.56), both in relation to students participating in live video-classes and to the fully e-learning group (4.78), in which, as a matter of fact, the structure

Table 2

Evaluation of participation in the course by groups (on a scale of 0–5, where: 0 – very low grade; 5 – very high grade)

Students' evaluation of the course	G1	G2	G3	G2 live	G2 recorded	G3 live	G3 recorded
Satisfaction from taking part in the course	4.63	**4.79**	4.57	4.75	**5.00**	**4.80**	4.50
Enhanced knowledge and skills	4.56	**4.71**	4.65	**4.75**	4.50	**4.80**	4.61
Course level assessment	4.44	**4.83**	4.48	4.80	**5.00**	**4.80**	4.39
Feeling encouraged to further study this topic	**4.52**	4.48	4.09	**4.53**	4.25	4.00	**4.11**
Overall evaluation of the course	4.78	**4.91**	4.65	4.89	**5.00**	**5.00**	4.56

Source: authors' own work.

of classes was actually the same, but the videos were shorter and more essential, and thus probably better. Importantly, this form of conducting classes required more independence and self-discipline from students, which translated into greater encouragement to further study this topic than among people participating in classes conducted by a lecturer.

What may come across as surprising, however, is the higher overall evaluation of the course among students not participating in live video-classes in group G2 (5.0) in comparison with those that participated (4.89). Both results, however, are very high, and the slight difference may result from a conscious choice – after getting acquainted with the subject of the course and participating in the first classes, they decided that it would be more effective to study the materials on their own. All these students received a very good final grade, and they emphasised the very high quality of course materials (assignments in particular) in the open questionnaire, which seems to confirm this thesis.

These lead to a conclusion that also the H3 hypothesis, stating that the subjective evaluation of students regarding participation in the course will be the highest in group G3 and the lowest in group G1, has not been confirmed. Students from group G2 were the most satisfied, followed by G1, and then G3.

Summary and conclusions

The results of this research indicate that the most effective form of learning are asynchronous e-learning classes, which provides access to materials at the most convenient time for students, with no fixed hours of attending classes (G1). This group (G1) noted the highest percentage of students who passed the subject and the lowest percentage of dropouts. However, there was no difference between the groups in the number of scores obtained among students who took the test.

The most effective form of learning, understood as the lowest amount of learning hours devoted to passing the subject, was in G1. More time on learning was spent by students from the G3 (live video classes + recordings) and the most in G3 (with live video-classes without recordings). The difference between groups G1 and G3 is statistically significant.

According to the evaluation form, the course was the most appreciated by group G2, then group G1, and the lowest grades were given by group G3. In general, the higher grades were given by students participating in live video-classes in comparison to those who did not attend them.

A significant difference noted in the percentage of students participating in the live video-classes between groups G2 (88%) and G3 (19%) is an interesting observation. There is also an important conclusion: if, within the didactic process, emphasis is put on the effectiveness and efficiency of learning, then probably asynchronous e-learning, including the pre-recorded tutorials (instead of live video-lectures), should be applied. If direct contact with students is important, online synchronous live classes should be carried out,

but without sharing recordings, as this option will prevent students from participating in the live classes. This does not change the fact that, from among the various didactic online forms, video recordings, as such, are the most highly rated tools helpful in acquiring knowledge (Bubaš et al., 2019).

Therefore, general conclusions drawn from the analysis for this subject only should be made with caution. Based on other studies, other pedagogical elements and methods also influence the final results of video-based teaching, which altogether can increase the students' commitment and motivation, as well as their overall level of satisfaction with the classes (Yousef et al., 2014).

Nevertheless, the purpose of this experimental study was to compare the results obtained in groups without and with recording from online classes vs. especially designed and pre-recorded video material. In this novel context there was a negative impact of making videos available on student attendance to live video-classes (a significant drop). It also proves the great need for time flexibility for the educational process. It should be emphasised, however, that the experiment was carried out for an elective subject, to which students had freely enrolled due to self-motivation.

Consequently, it is worth checking whether a similar analysis performed for compulsory subjects or the subjects of which the main goal is, for example, the acquisition of soft skills, would bring similar results. Therefore, it would be necessary to continue research comparing different forms of remote education, depending on the topic being taught and the profile of students.

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Appendices are available in the online version of the journal.

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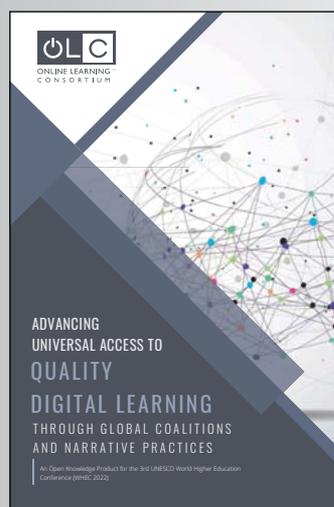
Madeline R. Shellgren, Angela Gunder
Advancing universal access to quality digital learning through global coalitions and narrative practices

The OLC report is now featured in the prominent United Nations Educational, Scientific and Cultural Organization (UNESCO) database for the 3rd UNESCO World Higher Education Conference (WHEC2022).

Published as an open knowledge product to be widely and freely accessible, this playbook helps educators document their current progress while roadmapping future initiatives. OLC's framework was designed in alignment with all 17 UN Sustainable Development Goals, including Quality Education.

"Our report serves as a concise guide to address the needs of educators seeking to ensure that online, blended, and digital learning is equitable within their own local contexts," said OLC Director of Community Strategy and Engagement Madeline Shellgren. "It provides models for professional learning, partnership, and collaboration on digital learning change work through global coalitions."

Indeed, the report's framework emphasizes collaboration with educators' local and global communities in order to create quality, equitable digital education at any scale. This includes individual digitally-mediated courses as well as those across online programs and within institutional, system-wide, and countrywide digital strategies.

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Factors determining satisfaction with e-learning during the pandemic in the opinion of Polish and Spanish students: analysis of differences and similarities

Renata Marciniak

Grażyna Rembielak

Abstract

E-learning has become a challenge for many universities worldwide, which during the pandemic had to switch overnight from offline to online learning and meet the expectations of students for whom this form of education was often alien. The aim of the paper is to present how students from two different countries, Spain and Poland, perceived e-learning during the pandemic, what factors, in their opinion, influenced their satisfaction with this form of education, which of them decreased it; and what are the similarities and differences in their opinion. In order to get to know their opinions, an online survey was conducted with students at the University of Manresa (Spain), and telephone interviews with students of the Warsaw University of Technology Business School. A comparative analysis of the obtained results was then performed to determine the similarities and differences in the satisfaction with e-learning between the Spanish and Polish students. The study shows that the main factors satisfying both groups of students are the possibility to use digital didactic materials, the quality of e-learning platforms, the organisation of e-learning, and the support provided by universities and lecturers. The most significant differences were visible in the perception of online classes, the formula for completing the course, and the didactic activities for students. The research results lead to the conclusion that despite the cultural differences and different teaching systems, the factors satisfying students with e-learning in the two countries were in fact quite similar.

Keywords: e-learning, e-learning satisfaction, online education, quality of education, higher education

Introduction

COVID-19 caused the closing of on-campus studying at universities worldwide, resulting in nearly 10 million students pursuing their studies outside of university walls. Higher education changed radically as a result, moving from lecture halls to online classes. Overnight, e-learning[1] became a panacea for solving the crisis in higher education. It was a completely new experience and a big challenge for many universities and students, as e-learning had previously been alien to them. After one year of online classes it is good to understand what factors, in the opinion of students, influenced their satisfaction with this form of education.

As emphasised by several authors (Almusharraf & Khahro, 2020; Prodanović & Gavranović, 2021; Segovía-García & Said-Hung, 2021; Watts, 2019; Wei & Chou, 2020), the inevitable and essential criteria for creating a high-quality educational context in

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[1] In this paper, we define e-learning (also known as online education, distance learning, virtual learning, online learning, distance learning or learning in a virtual learning environment) as a form of learning characterised by the physical separation of the lecturer and student, between which two-way communication is dominant, and asynchronous, where the Internet is mainly used as a means of communication and knowledge distribution, which means that students have to manage their own learning process, usually with the help of a lecturer and / or tutor (Marciniak, 2022).

a virtual environment are students' perspectives and thoughts on those aspects of the processes in which they are active participants. As identified by the participants, the advantages and disadvantages of these processes are a signpost for educational institutions to make improvements. Moreover, as Żuraw (2015) claims, determining the level of satisfaction in the case of researching participants "allows for assessing the quality of education in a given field of study and university, as well as formulate reports and summaries that are the subject of rankings prepared, for example, by government institutions" (p. 127). According to the UNE 66181: 2012 standard established by the Spanish Association for Standardisation and Certification (AENOR, 2012), student satisfaction is the main factor determining the quality of e-learning, and their opinions should be taken into account when planning, organising, and implementing this form of education.

In Poland some universities and organisations examined the level of student satisfaction with e-learning during the pandemic, which allowed them to identify the said level.

For example, the Flow Research Centre (Flow Centrum Badawcze, 2020) conducted a nationwide survey of Polish students' opinions on e-learning during the pandemic, with 1,232 students from 76 Polish universities taking part in the study. Students were unsatisfied with their lecturer, the inconvenience of contact with their family, difficulties in obtaining a scholarship, and other reasons, such as the inconvenience of being with roommates, lack of access to university laboratories, reduced motivation to study, and also routine. There is no information about the benefits of e-learning in this survey.

According to students from the University of Economics in Katowice, e-learning is a convenient form of studying, but it does not replace face-to-face meetings with a lecturer. Among the positives, the students indicated the possibility of using intuitive ICT tools and software that facilitate studying. On the other hand they negatively assessed online exams, which exacerbated stress (Warchala, 2020).

The results mentioned above of research on the satisfaction of Polish students with e-learning, and others that we could cite here, are a significant contribution to the development of knowledge on the quality of academic e-learning from the students' point of view. However, we believe that an interesting and more holistic view of this issue is to examine whether students in other countries perceived e-learning in the same way as Polish students during the pandemic, what advantages and disadvantages they indicated most often, and whether their opinions were similar. In this paper we attempted to answer these research questions by identifying student satisfaction factors based on literature on the subject, analysing the results of research conducted by researchers from different countries in this area, and our own measurement of student satisfaction with e-learning during the pandemic in two countries – Spain and Poland.

Students' satisfaction factors with z e-learning based on literature on the subject

The definition and measurement of participants' satisfaction with e-learning is a complex process, mainly due to the number of factors influencing this satisfaction, such as communication, participation in online discussions, flexibility, workload, technological support, teaching and teaching competencies of the lecturer, as well as feedback (Marciniak & Gairín Sallán, 2018).

According to the previously quoted standard UNE 66181:2012, the factors that determine the satisfaction of students with e-learning are the possibility of obtaining employment after completing the e-learning course (to what extent the completed course will increase the likelihood of getting a job or promotion), the availability of the course and the teacher, and the methodology of education.

The satisfaction with e-learning is also influenced by institutional support provided to participants, technological support, course structure, didactic strategies used by the lecturers, the support provided to participants, and strategies for assessing participants' achievements (Online Learning Consortium, n.d.).

For Prodanović and Gavranović (2021), students' satisfaction with e-learning is related to the organisation of online classes, teaching methods and dynamics, the variety and availability of teaching materials and necessary information, communication with lecturers and other participants, and participants' satisfaction with their learning progress.

Keržič et al. (2021) found nine factors that influence the students' satisfaction with e-learning during the COVID pandemic, namely: mode of delivery, home infrastructure, information quality, online instructions, services quality, online interaction with colleagues, teachers, and administration staff, computer skills, perceived student satisfaction, perceived student performance.

When analysing the above-proposed factors influencing the participants' satisfaction with e-learning it can be seen that there is no unanimity among the authors in this respect, which makes its measurement difficult. For some the main determinant is the human factor (commitment and preparation of lecturers), while for others the didactic and technological aspects, and for others, the institutional context or home conditions.

A review of worldwide students' satisfaction with e-learning during the COVID-19 pandemic

Achieving high student satisfaction with e-learning during the pandemic was a challenge for all universities worldwide. Many of them conducted a measurement of this satisfaction in order to identify the main factors contributing to its high and low

levels. Research results show that student satisfaction varies across countries.

Indonesia

Surahman and Sulthoni (2020) conducted a study to determine student satisfaction with the quality of online learning in Indonesian higher education during the Covid-19 pandemic in the following areas: satisfaction with the learning process, satisfaction perception, satisfaction with the lecturer, and satisfaction with the technical support. Their findings showed that 40% of Indonesian students were not satisfied with e-learning during the pandemic, mainly due to the limited access to the Internet, the low level of preparation and commitment of professors to conduct online classes, unclear teaching materials, lack of support from lecturers (they did not guide students properly). Students complained about the lack of constructive feedback on their work, but recognised opportunities to explore the use of technology for learning as one of the main advantages of e-learning.

Afghanistan

Hashemi (2021) assessed the effects of COVID-19 on the academic performance of Afghan students and their level of satisfaction with online teaching. The findings showed that Afghan students were very dissatisfied with this form of education, mainly due to the poor quality of work of the teachers, who did not engage in online sessions, did not provide feedback to students, and did not interact with the students enough. Another factor reducing the level of satisfaction was the lack of technical support from both teachers and the university, the university's lack of online learning policy, an inadequate student evaluation system, and the lack of online education for students. The authors' study also found that COVID-19 negatively affected students' performance in many aspects, such as their ability to perform tasks correctly during the course, the results of these activities, and their assessment.

China

China was the first country to switch from traditional to online education. As shown by the study results by She et al. (2021), Chinese students generally enjoyed their experience with e-learning during the pandemic. The authors point to three factors that, in their opinion, influenced the satisfaction of Chinese students with online education during the pandemic:

- interaction with instructors, peers, and content),
- academy self-efficacy understood as faith in one's own ability to perform tasks and achieve set goals (Saeid & Eslaminejad, 2017),
- student engagement, which includes behavioral, emotional, and cognitive engagement.

The study results indicate that Chinese students who interacted more frequently with the faculty and other students, and used teaching materials more often, showed higher satisfaction levels with e-learning. These interactions also improved the students' academic self-efficacy. Students with a higher self-efficacy were more willing to take up challenges and engage in educational activities, which increased their satisfaction with e-learning.

Other countries

Keržič et al. (2021) conducted a large-scale (sample of 10,092 students) student satisfaction surveys with e-learning during the first phase of the pandemic in ten countries: Chile, Ecuador, India, Italy, Mexico, Poland, Portugal, Romania, Slovenia, Turkey. Findings show that students' satisfaction resulted mainly from the high-level of administrative and technical support provided by the university and the learning assistance through tutors. The online library, involving professors in the teaching process and their timely feedback, and the quality of the technical infrastructure (educational platform), were other factors influencing student satisfaction. Their high quality increased the level of students' satisfaction with e-learning. Moreover, the research showed that interactions with lecturers and other students and students' digital competencies were an important satisfying factor, but not the most significant one. Learning outcomes had a large impact on student satisfaction; the higher they were, the higher was the satisfaction with learning online.

Methodology

The main aim of the study was to identify the factors of satisfaction of Polish and Spanish students with e-learning during the COVID-19 pandemic and identify similarities and differences in their opinions, and then compare the obtained results with literature on the subject to establish the main determinants of student satisfaction with this form of education, as well as actions that, in the opinion of students, universities should take to improve the quality of e-learning in the future.

In order to achieve the above mentioned aim of the study, it was necessary to answer the following research questions:

1. What was the level of satisfaction of Polish and Spanish students with e-learning during the COVID-19 pandemic?
2. What factors determined the level of satisfaction of Polish and Spanish students with e-learning? Did both groups of students indicate the same factors?
3. Were differences in education levels a factor differentiating the assessment of the degree of student satisfaction with e-learning during the pandemic?
4. What were the advantages and disadvantages of e-learning during the pandemic, according to the surveyed students? Were they convergent?

5. What actions, in the opinion of students, should universities take to improve the degree of student satisfaction with e-learning in the future, and thus its quality? Were the activities proposed by both groups of students the same?

In order to find the answers to the above questions an analysis of the literature on the topic and the results of research conducted by other authors on the satisfaction of students with e-learning during the pandemic in various countries of the world was used, as well as own research in this area carried out at Polish and Spanish universities.

The study was conducted as part of a research collaboration between the Spanish University of Manresa (UManresa), situated in the heart of Catalonia (an hour from Barcelona), and the Warsaw University of Technology Business School (WUT BS). UManresa offers degrees in Business Administration, Early Childhood Education and Health Sciences, while the WUT BS offers a range of non-degree postgraduate programmes. Due to the nature of the studies provided by the cooperating universities, the study was conducted among students of two different levels of education, which was an advantage of the undertaken research, allowing it to answer the third research question.

The main research technique was an online survey with UManresa students and telephone interviews with Warsaw University of Technology Business School students. The main research tool was a survey and interview questionnaire containing 9 questions, including 3 closed questions with two possible answers (yes, no), one question with a Likert scale from 1 to 5, one question with a quantitative scale, and 4 additional open questions. Questionnaires with the same questions were prepared in two languages: for students of UManresa – in Catalan, and for students of WUT BS – in Polish. The questions concerned the following areas:

1. Conditions for digital learning.
2. Technical equipment for digital learning.
3. Quality of digital learning.
4. Organisation of digital learning.
5. Quality of the content.
6. Quality of the didactic materials.
7. Advantages of digital learning.
8. Disadvantage of digital learning.
9. Suggestions regarding the improvement of digital learning.

The areas listed above were most often mentioned by the authors of the works analysed in point 2 of this paper; it was therefore decided to include them in the study, which was carried out at the turn of March and April 2021.

In the case of the Umanresa University the questionnaire was sent by e-mail to 187 students of Early Childhood Education (EI) and Business Management and Management (ADE), 52 of whom returned a completed, valid questionnaire. However, in the case of WUT BS students, an individual telephone interview

approach was chosen. It was assumed that the study would be conducted on the same research sample as in UManresa, i.e., 50 students of five selected postgraduate programmes, 10 representatives for each programme: MBA Programme, Certificate in Business for Engineers, ACCA, Renewable Energetics and Interdisciplinary Studies of Pharmacy Managers. The interview was computer-assisted, and the selection of the research group was random. The use of various research techniques (online questionnaires and telephone interviews) allowed us to draw a conclusion regarding the influence of the research technique on the assessment of student satisfaction and the reliability of the information obtained.

A pilot survey was conducted on 15 students, using the personal interview method. This was done to ensure that the questions asked were unambiguous, which resulted a revision of some of the questions of the survey.

Having collected filled-in questionnaires correctly, their quantitative and qualitative analysis was performed. Using the statistic programme for the quantitative analysis enabled us to collect and analyse numerical data gathered from the questionnaires. The qualitative research was conducted based on the students' comments that justified their evaluation and recommendations for the quality of e-learning improvement.

The results obtained from the study were compared, which allowed us to determine the similarities and differences in students' satisfaction with e-learning obtained during the COVID-19 pandemic.

Research results: a comparative analysis of students' satisfaction with digital learning

The research results indicate that a similar number of students from both universities responded positively to digital learning during the pandemic. Their satisfaction was greatly influenced by the fact that most of them had adequate premises for online studies (Table 1) and appropriate equipment for remotely conducted activities (Table 2).

However, when carefully analysing the obtained results, some differences in the level of student satisfaction can be noticed. One of them is satisfaction with online classes (Table 3). More Polish students

Table 1

Students' answers to the question: Do you have suitable conditions for distance learning?

Answer	% respondents	
	UManresa (Spain)	WUT BS (Poland)
Yes	92%	90%
No	8%	10%

Source: authors' own work.

Table 2

Students' answers to the question: Do you have appropriate technical equipment for distance learning?

Answer	% respondents	
	UManresa (Spain)	WUT BS (Poland)
Yes	96%	96%
No	4%	4%

Source: authors' own work.

Table 3

Students' answers to the question: How do you generally rate the quality of digital learning? (1 is very poor, 5 is very good)

Rating	% respondents	
	UManresa (Spain)	WUT BS (Poland)
5 – very good	19%	23%
4 – good	42%	53%
3 – neutral	34%	20%
2 – poor	5%	4%
1 – very poor	0%	0%

Source: authors' own work.

(76%) rated their satisfaction with digital learning as very good or good, while only 61% of Spanish students were very highly and highly satisfied with digital learning.

Satisfaction with the organisation of digital learning

Organising digital learning involves gathering and configuring the resources necessary to implement an online learning programme (human, material, and technological). As shown in Table 4, more Polish than Spanish students assessed the digital learning organisation as very good or good. Only 2% of Spanish students viewed the organisation of their digital learning as insufficient.

Table 4

Students' answers to the question: How would you rate the organisation of digital learning? (1 – very poor, 5 – very good)

Rating	% respondents	
	UManresa (Spain)	WUT BS (Poland)
5 – very good	21%	28%
4 – good	46%	60%
3 – neutral	23%	6%
2 – poor	8%	6%
1 – very poor	2%	0%

Source: authors' own work.

Satisfaction with the content of digital learning

The thematic content of digital learning, or educational content, is the resource of facts, concepts, information, regularities, and theories passed on by the teacher in the education process. It constitutes the content of the teaching process, the planned and expected consequence of which is the learning outcomes. As can be seen in Table 5, the satisfaction of both groups of students with the content of digital learning was very similar and assessed quite highly by both Spanish and Polish respondents.

Table 5

Students' answers to the question: How do you rate the quality of the content of digital learning? (1 is very poor, 5 is very good)

Rating	% respondents	
	UManresa (Spain)	WUT BS (Poland)
5 – very good	21%	19%
4 – good	57%	56%
3 – neutral	25%	19%
2 – poor	4%	6%
1 – very poor	0%	0%

Source: authors' own work.

Satisfaction with the quality of teaching materials

The research assumed that the quality of teaching materials is primarily influenced by their diversity, quantity, and attractiveness. The quality of teaching materials understood in this way was assessed quite highly by both groups of the studied students (Table 6). Nevertheless, a slight difference is evident in the students' perceptions of the quantity and attractiveness of these materials. 82% of Spanish students believe that the materials available on the platform were sufficient and attractive (76%), while for 67% of Polish students the materials were sufficient and attractive (64%).

Table 6

Students' answers to the questions regarding the didactic materials

Questions	UManresa (Spain)		WUT BS (Poland)	
	Yes	No	Yes	No
Did you have access to various didactic materials?	91%	9%	89%	11%
In your view, were the didactic materials sufficient?	82%	18%	67%	33%
Were the didactic materials for the classes attractive?	76%	24%	64%	36%

Source: authors' own work.

Strengths of digital learning

Digital learning has many advantages and disadvantages. When analysing Table 7 it can be seen that both Polish and Spanish students considered the lack of necessity to travel to face-to-face classes as the main advantage of digital learning. This saves time and helps avoid travel and accommodation expenses. Another advantage for both groups of students was the flexibility and convenience of studying, with the possibility to participate in classes from anywhere. The teaching materials placed on the platform were also a significant benefit, allowing for permanent access to them. The Spanish students also appreciated the practical activities (tasks, exercises, discussions, and others) carried out during the online classes and the opportunity to present their work online, as they felt less stressed than during face-to-face presentation. Polish students did not pay attention to these aspects but pointed at other factors that the Spanish students did not mention. For example, while working on a computer they could easily use the Internet and quickly search for data or check incomprehensible terms, making it easier to take notes and use additional didactic resources.

Weaknesses of digital learning

Regarding the disadvantages of digital learning, both Polish and Spanish students mentioned numerous examples (Table 8). They considered the most significant difficulty in maintaining concentration for a long time, which reduced learning effectiveness. Another drawback was the lack of personal contact with lecturers and other students, which led to a feeling of isolation and loneliness and made it challenging to perform team tasks. A group of students assessed the online classes as not very dynamic. Polish students

also lacked a lively atmosphere in contrast to their experience during the face-to-face courses, which made the online classes long and tiring. The surveyed students from both universities also mentioned difficulties in implementing teamwork caused mainly by the lack of face-to-face interaction.

For a large group of Spanish students a weak Internet connection was a reasonably significant obstacle regarding online classes. In contrast, only a few Polish students complained about problems with the Internet. Some students from the Spanish university were dissatisfied with online exams, which caused them additional stress, while Polish students did not mention such issues.

Polish students found the mixing of student and home duties a disadvantage of digital learning, which made them less involved in the learning process, meaning they benefited less from the classes. Some pointed to the lack of a lively atmosphere compared to face-to-face courses, some to lecturers starting classes late, and others to the need to spend time in front of the computer over the weekend after spending the whole week in front of the computer.

All these contributed to the perception of digital learning as a demanding form of studying, which was considered a disadvantage by some Spanish and Polish students.

Suggestions for improvement of digital learning

As for students' suggestions regarding the improvement of digital learning, there are definitely differences in the proposals (Table 9). For Polish students a good solution in the future would be the online streaming of face-to-face classes, which would allow them to choose the form of class participation. Other improvements include increasing the interac-

Table 7

Students' answers to the question: What was the most significant advantage of digital learning?

The advantages of digital learning	% respondents*	
	UManresa (Spain)	WUT BS (Poland)
Possibility to participate in online classes	21%	4%
Online recording of classes and the possibility to play them back at any time	14%	4%
Easier contact with the lecturer	12%	2%
Practical exercises during online classes	12%	0%
An easier way of taking notes and the possibility to check incomprehensible terms on the Internet	6%	8%
Cost savings due to no need to buy tickets or petrol	6%	4%
Flexibility and convenience. No restrictions on the place of classes	4%	16%
Possibility of returning to didactic materials	4%	2%
Remote formula – one platform for different needs (on Zoom – lecture, group work, interactive board)	4%	4%

Note. The results do not add up to 100% because the students were not limited to one answer.
Source: authors' own work.

Table 8

Students' answers to the question: What was the biggest disadvantage of digital learning?

The disadvantages of digital learning	% respondents*	
	UManresa (Spain)	WUT BS (Poland)
Problems with the Internet	33%	4%
Difficulty concentrating during online classes (mainly due to distracting factors at home, e.g., noisy neighbour, babies crying, etc.)	27%	20%
Lack of personal contact with the lecturer and other students	25%	42%
Difficulties in the implementation of team tasks	15%	12%
Limited ability to present the student's work (too little time)	12%	0%
Low dynamics of classes	13%	6%
Little interaction between the lecturer and students	13%	0%
A small number of practical classes	12%	0%
Very limited time to complete online exams	8%	0%
Excess of extracurricular work given by lecturers	8%	0%
Some lecturers are not prepared well to conduct online classes	6%	4%
Difficulty understanding complex content	4%	0%
Little support from lecturers	4%	0%
Burdensome and demanding form of education	4%	0%
Loneliness and isolation	4%	10%
Workshops not well suited for online classes	0%	4%

Note. The results do not add up to 100% because the students were not limited to one answer.

Source: authors' own work.

Table 9

Students' answers to the question: What could make it easier for you to study online?

Factors that facilitate studying online	% respondents*	
	UManresa (Spain)	WUT BS (Poland)
Good Internet connection and no technical problems	24%	2%
No noise at home	16%	0%
Theoretical classes online, while practical classes face-to-face (blended formula)	16%	0%
Better organisation of teamwork	12%	0%
More didactic activities for students	10%	0%
More practical activities and less theory	8%	0%
More interaction and more discussions	0%	8%
Fewer didactic activities for students (tasks, exercises, projects, studies, etc.)	6%	0%
Online learning guides or tips	6%	0%
Recording classes	0%	6%
No minimum grade to pass the course	4%	0%
Division into groups	0%	4%
More frequent breaks	0%	4%

Note. The results do not add up to 100% because the students were not limited to one answer.

Source: authors' own work.

tion between the lecturer and students as well as the students themselves, which would be facilitated by switching on the cameras by students; even more discussions, better organisation of teamwork, more frequent breaks, shorter class duration, and lecturer support by involving extra support during online lessons to assist them in technical aspects. A few of the students also suggested more one-to-one and fewer group activities.

On the other hand Spanish students suggested, among other things, introducing more practical activities (tasks, exercises, projects), getting rid of a minimum grade for passing the course, and supporting students by developing a digital learning guide by the university, which would facilitate studying in a virtual learning environment. In their opinion it would be a good solution if, ultimately, theory was taught online and practical exercises were delivered in the classroom. It was suggested that the University develop a digital learning guide that would facilitate studying in a virtual environment. Spanish students also indicated other factors that could improve the quality of digital learning, which were not dependent on the university, such as better internet connection and no noise at home.

Discussion and conclusions

The main objective of the study was to identify the factors of satisfaction of Polish and Spanish students with e-learning during the COVID-19 pandemic and identify the similarities and differences in their assessments, and then compare the obtained results to determine the main determinants of student satisfaction with this form of education and activities that student feedback should be taken by universities to improve the quality of e-learning in the future.

In order to achieve the above-mentioned aim of the study, it was necessary to answer the following research questions:

1. What was the level of Polish and Spanish student satisfaction with e-learning during the COVID-19 pandemic?
   In the case of Poland and Spain, students' satisfaction was at a similar level, meaning that both groups of the surveyed students were satisfied with e-learning during the COVID-19 pandemic. However, the transition from traditional to online education during the pandemic has challenged many universities. Not all of them managed to cope with this challenge and 'somehow' conducted online classes, forgetting that their 'quality' guaranteed students' satisfaction with this form of education. In the countries where the quality of e-learning was low student satisfaction was also low (e.g., Indonesia or Afghanistan). In contrast, in countries where the quality of this form of education was given considerable attention, the level of student satisfaction was much higher (China, Italy, Portugal).

2. Which factors determined the level of satisfaction of Polish and Spanish students with e-learning? Did both groups of students indicate the same factors?
   Student satisfaction with e-learning is the feeling of pleasant or unpleasant learning in a virtual environment, which depends on many factors. According to Polish and Spanish students, the satisfactory factors in e-learning related to teaching materials placed on the platform, good quality of the e-learning and communication platform, organisation of e-learning, and support provided by the universities and lecturers. A large group of Spanish students was satisfied with the practical activities (tasks, exercises, discussions, and other). In the case of Polish students from WUT BS, this aspect was not mentioned. Spanish students were also satisfied with the online classes, particularly with the possibility of recording them and uploading them to the platform. In contrast a small group of Polish students noted the benefits of recording lessons and the possibility of playing them anywhere and anytime.
   The factors reducing the satisfaction level of Polish and Spanish students were noises at home and the lack of personal contact with lecturers and other students. In the case of Polish students an additional challenge was performing team tasks. Low dynamic online classes, which made the perception of classes too long and tiring, was another unsatisfactory factor in e-learning during the pandemic for both groups of students. For a large group of UManresa students, the free Internet connection was a reasonably significant obstacle in implementing online classes. In contrast, only a few WUT BS students complained about problems with the Internet. Some students from the Spanish university were dissatisfied with online exams, which cuased them additional stress, while Polish students did not mention it.

3. Were the differences in the levels of education a factor differentiating the assessment of the degree of student satisfaction?
   In the case of the surveyed Polish and Spanish students, their satisfaction with e-learning was very similar despite the differences in the level of education (diploma and master's studies), which allows us to assume that the level of studies did not directly affect the level of satisfaction of students with online education. Nevertheless, in some aspects, the level of satisfaction of Polish students (postgraduate studies) slightly differed from the level of satisfaction of Spanish students (diploma studies), such as the organisation of online classes or the amount of teaching materials (Polish students were more satisfied with the organisation than their Spanish colleagues, Spanish undergraduate students

were more satisfied with the amount of teaching materials than postgraduate students from Poland). Due to the limited study period, it has not been established whether these differences were due to the level of education or due to other factors. More research is needed in this area in order to find out.

4. What actions, in the opinion of the surveyed students, should be taken by universities to improve the degree of students' satisfaction with e-learning in the future, and thus its quality? Were the activities proposed by both groups of students the same?

Regarding students' suggestions to improve e-learning, the only similarity is that both Polish and Spanish students believe that some classes should be conducted online and some face-to-face. For Polish students a good solution would also be online broadcasting of face-to-face classes. Other improvements proposed by Polish students are: increasing interaction between the lecturers and students, and also among the students themselves, more discussions, better organisation of teamwork, more frequent breaks, shorter duration of classes, and lecturer support by involving an additional person during online classes.

On the other hand Spanish students suggested introducing more practical activities (tasks, exercises, projects), getting rid of a minimum grade for passing the subject, and supporting students by developing an e-learning guide by the university, which would facilitate studying in a virtual learning environment.

At this point it should be added that the students' demands have been presented to the university authorities, and their improvement proposals are successively being implemented, as both surveyed universities still conduct some classes in the e-learning formula and want the students' satisfaction with these classes to be at the highest level.

5. What were the advantages and disadvantages of e-learning during the pandemic in the opinion of the surveyed students?

Both groups of surveyed students recognised that in the case of e-learning there was no necessity for them to commute to the university to save time and money, also making learning more flexible and convenient. This is also confirmed by the results of the studies conducted, among others, by Grace College (n.d.), according to which the main advantages of e-learning during the pandemic were the saving of time on commuting to the university and the possibility of studying in comfortable conditions and flexibility.

Permanent access to didactic materials on the platform is another advantage of e-learning indicated by Polish and Spanish students. At this point it should be emphasised that in e-learning, besides enriching knowledge, didactic materials serve as orientation functions for learning, assessment, and self-assessment; they promote self-education and influence the quality of the entire teaching process (Marciniak & Cáliz, 2021).

It is also worth mentioning that the students emphasised that e-learning mobilised them to manage their time better and organise their work. As the Spanish Virtual University UNIR (2020) points out, e-learning requires more discipline and efficiency on the part of the student, so planning is the key to the right work rhythm.

In the case of e-learning disadvantages that could be influenced by the university, especially Polish students mentioned no personal contact with the lecturer or other students. These disadvantages of e-learning are also indicated by Warchala (2020), who claims that online learning is convenient but will never replace face-to-face contact with a lecturer.

Another disadvantage of e-learning, according to postgraduate students in particular, is the inability to build relationships with other students. Networking is a crucial factor, and the lack of personal contact with others during classes or during breaks, where students often exchange their opinions, is a weak point of e-learning. Moreover, according to World Bank experts (World Bank, 2021) "staying at home is also affecting students' physical, mental and emotional health, as well as their vulnerability to engage in risk behaviours" (p. 43).

Additional conclusions regarding the factors determining student satisfaction with e-learning during the pandemic

The factors determining satisfaction with e-learning during the pandemic indicated by Polish and Spanish students are consistent with those indicated by other authors (AENOR, 2012; Hettiarachchi et al., 2021; Hashemi, 2021; Keržič et al., 2021; Online Learning Consortium, n.d.; Prodanović and Gavranović, 2021; Saeid & Eslaminejad, 2017; She et al., 2021; Surahman & Sulthoni, 2020) and with students from other countries described in this paper. These factors can be divided into two groups: university-dependent and university-independent ones.

Factors dependent on the university include:
- the profile and attitude of lecturers (lecturers' preparation and involvement, their digital and didactic competencies in the field of e-learning, providing feedback and support to students),
- quality of technical infrastructure (e-learning platform, application of online learning support programmes),

- interaction (on the student-lecturer, student-student, and student-course content level),
- organisation of e-learning (including the organisation of human resources – lecturers with an appropriate profile, organisation of teaching resources – access to various, high-quality teaching materials adapted to the virtual learning environment, organisation of technological resources – selection of an appropriate e-learning and communication platform for conducting synchronous classes).

Factors independent of the university include:
- the student's home conditions (lack of noise, which helps to maintain concentration for a long time)
- the student's technical infrastructure (good internet connection, personal computer)
- self-efficacy and behavioural, emotional, and cognitive student engagement.

Limitations and areas for future research

The research carried out is unique, because so far no one has conducted comparative studies on students of Spanish and Polish universities in the context of their perception of e-learning. However, a major limitation of the study was the poor return rate of completed surveys by Spanish students. Although the sample was not large, it was sufficiently sizable to draw some conclusions. Moreover, the study was limited to only two countries. Future research should be extended to other European countries to broaden the current research scope, as literature is dominated by e-learning satisfaction surveys conducted in Asian countries during the pandemic. Another limitation of the study was its focus on understanding the degree of satisfaction of students who, together with lecturers, were the main players in the transition from offline to online education during the pandemic. Therefore, it is advisable to get to know the opinions of Polish and Spanish lecturers on the advantages and disadvantages of e-learning and their degree of satisfaction with this form of education, as well as transcend the obtained results with the results of student satisfaction in order to establish differences and similarities in their opinions. Another recommended line of research is an in-depth study of differences in the satisfaction of students of different levels of education (Bachelor's, Master's, and PhD) with e-learning during the pandemic period to determine whether these differences are due to the level of their studies or not.

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Corporate social responsibility and project management: towards a better understanding of their relationship

Abstract

The main purpose of this article is to identify the fields of convergence, if any, between two management concepts and business practices, namely Corporate Social Responsibility (CSR) and Project Management (PM). To achieve the formulated goal, systematic literature review (SLR), including bibliometric analysis, LOESS regression analysis, and text mining, was performed. This analysis allowed us to distinguish five categories corresponding to the distinctive, related research areas combining CSR and PM constructs. Within these categories we were able to identify the most important characteristics of the linkages between both concepts.

Keywords: project management, corporate social responsibility, CSR, PM, systematic review

Introduction

Initial literature screening and a meticulous observation of the economic reality suggest that researchers and practitioners have a growing interest in corporate social responsibility (CSR) and project management (PM) topics (Fatima & Elbanna, 2022; Wielicka-Gańczarczyk, 2020). These topics are most often discussed in parallel, individually, without attempting to integrate the research areas in order to understand existing potential links.

Projects are understood as temporary collaborative undertakings or organisations, involving temporary teams as a form of a social system (Bakker, 2010; Sydow et al., 2004). They are designed to implement a relatively unique, short- or medium-term strategic business process of a medium or large scope. Consequently, PM requires the application of knowledge, skills, techniques, tools and procedures to project activities, and the planning, organising, coordinating, leading, and controlling of project resources to achieve objectives and meet requirements – generally in terms of scope, cost, and time (Uribe Macías, 2020). For sure PM today is about rules, processes, standards and tools, but it is also about people. Nowadays projects are often large and complex, reaching beyond corporate boundaries, and therefore require the services of ambassadors to external stakeholders to assess and influence intentions and actions (Walker, 2015; Xia et al., 2018).

The CSR approach, in turn, from the fully voluntary corporate engagement of business to the overall guiding societal model, has evolved towards a moral, ethical, or philanthropic obligation of any business (Martinuzzi & Krumay, 2013) or even into a method of strategic business management (Bocquet et al., 2019). Corporations create social and environmental impacts, both positive and negative, through the daily operations of their value chain. Since the demand of society and politics is increasingly moving toward sustainability, products and services must be adapted, innovations discovered and implemented, and processes renewed (Marcelino-Sádaba et al., 2015).

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In view of this, CSR mainly aims for excellence in the organisation, with particular attention paid to diverse stakeholders, including employees and their working conditions, customers and suppliers, and also the quality of production processes or service provision, using the framework of three dimensions of sustainable development: economic, social and environmental (Briones Peñalver et al., 2018; Brundtland, 1987; Yang & Shen, 2015). Nowadays, CSR is considered an important element of strategy or even a basis for strategic business performance improvement (Javed et al., 2020).

Thus, the main purpose of this article is to present the current state of knowledge and outline the framework of common ground describing the links between CSR and PM. This goal seems extremely important considering the progress of project management techniques and the growing concern for sustainable development. According to ILX Group[1] (2021), embedding CSR into projects must work both in practice and theory. This means that managers have to become leaders of change, striving to place CSR at the heart of all projects, influencing and inspiring change by example, empowering employees to contribute to CSR solutions. Meanwhile, in reality, organisations and project management teams seem to have little knowledge and poor awareness of the importance of CSR, in particular its links with project management (Trocki et al., 2020). Simultaneously, this more or less strategic approach can be considered as a project itself, where PM techniques and tools are deployed to smooth the implementation process.

Analysis of the current state of knowledge allows for tracing the evolution of the scientific community's behaviors, identifying similarities, and defining trends in science. The conducted research let us outline a cognitive gap, consisting of the identified shortage of publications presenting an integrative approach to CSR and PM. Meanwhile, it should be emphasised that the integration of CSR and PM concepts may be attractive to a wide range of stakeholders, including modern organisations (KPMG, n.d.), especially in light of the aforementioned unawareness of practitioners about the importance of these connections for building a more sustainable future of the organisation. Identification of common ground will enable taking effective actions, beneficial for the social and possibly environmental dimensions of business. Finally, the idea of combining both approaches also results from similarities in the way they are implemented. The dynamic growth of interest in the areas discussed in the article influences the expansion of knowledge bases with new content.

This is why we decided to examine the relationships existing between PM and CSR in management literature. To sum up, we would like to achieve three main goals within this research:

1. Identify fields of convergence, if any, between two separate approaches and business practices, namely Corporate Social Responsibility (CSR) and Project Management (PM).
2. Detect research trends in the combined fields of CSR and PM.
3. Describe the existing relationships between CSR and PM.

This study includes articles published between 1981–2020. Our research methods, analysis, and results are presented in the following sections.

Research methods

The identification of the state of knowledge on the permeability of process management and corporate social responsibility, using a systematic literature review, necessitated the design of a research procedure to identify publications within three knowledge bases: Web of Science, Scopus and Publish or Perish. In the theoretical study implemented, the raw data generated in the three knowledge bases was used for systematic literature review and subjected to selection, extraction, analysis, and synthesis (Tranfield et al., 2003). It should be emphasised that the authors were familiar with the research method limitations, including the difficulty of analysing a large amount of material and synthesising the data generated in interdisciplinary publications, as well as the insufficient number of indexed monographs (Pittaway et al., 2004). Our study used a publication selection approach, via a database search extended in the methodology adopted to include the content of abstracts and publication titles, using keywords (Crossan & Apaydin, 2010). Given the diverse identities of design solution implementations, the search was expanded to include the keyword 'design'. This, on the one hand, presented a risk in terms of increasing the number of publications, but most importantly it served to avoid a state in which publications relevant to the perspective of the issue under study would be overlooked. The search selected constituted a criterion for the publication selection, taking all the categories in the selected knowledge bases into account. The limitation arising from the inclusion of the Publish or Perish database ought to be outlined as well. It mainly pertained to the lack of a search option allowing the inclusion of the content of abstracts, which means that for this database only the title and keyword search criteria were applied. It is worth noting, however, that the Publish or Perish database mirrors Google Scholar resources, while the relevance of this database has been indicated by (Bauer & Bakkelbasi, 2005). Due to the diversity of papers, i.e., theoretical, theoretical-empirical, and empirical, this review is conceptual, which determines the structure of the theoretical study, and focused on descriptive methods (Crossan & Apaydin, 2010).

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[1] The educator in PRINCE2 PM methodology, read more on: https://www.prince2.com/pl/blog/building-csr-into-project-management

To sum up, the research procedure implementation involved a proposed, original nine-stage method, described in Table 1. It should be emphasised here that each of the stages mentioned is crucial to maintaining scientific rigor.

The following research methods were used in the implementation of the objectives formulated in the theoretical study: bibliometric analysis, systematic literature review, and critical evaluation of the literature. In addition, based on similar theoretical research, in particular at the bibliometric analysis stage, were used: text mining (White et al., 2016), data mining (Huang et al., 2009), and LOESS regression (Cordeiro et al., 2021). The applied research method includes a few important stages presented in Figure 1 – it specifies the consecutive steps of the implementation of the research process (stages 3–5, from Table 1).

The following query was used in the quantitative study: ("corporate social responsibility" OR "CSR") AND ("project management" OR "project"). As a result of the bibliometric analysis, a total of 362 publications were identified using the following criteria: publications indexed in one of three databases (Web of Science, Scopus and Publish or Perish); publications with a DOI number; publications in English; all types of documents, except reviews and publications concerning both project manage-

Table 1
Characteristics of the theoretical research stages

Stages	Stage description
Stage 1.	Identification of research gaps and formulation of research objectives
Stage 2.	Selection of knowledge bases and keywords
Stage 3.	Identification and quantitative analysis of publications in Web of Science, Scopus and Publish or Perish
Stage 4.	Identification of the period (1981–2020)
Stage 5.	Identification of duplicates and papers in English
Stage 6.	Assessment of abstracts and selection of papers for systematic literature review
Stage 7.	A systematic review of articles dealing with the issues of project management and CSR. Division of publications into three groups: theoretical, empirical and theoretical-empirical
Stage 8.	Creating categories and grouping articles
Stage 9.	Presentation of the results and outlining the directions for further research and cognitive gaps

Source: authors' elaboration based on: "A multi-dimensional framework of organisational innovation: A systematic review of the literature", M. M. Crossan & M. Apaydin, 2010, *Journal of Management Studies*, *47*(6), 1156–1159 (https://doi.org/10.1111/j.1467-6486.2009.00880.x); "Shared human capital in project management: A systematic review of the literature", M. Suhonen & L. Paasivaara, 2011, *Project Management Journal*, *42*(2), 6–9 (https://doi.org/10.1002/pmj.20211); "Earned Green Value management for project management: A systematic review", B. Koke & R. C. Moehler, 2019, *Journal of Cleaner Production*, *230*, 182–189 (https://doi.org/10.1016/j.jclepro.2019.05.079)

Figure 1
The process of identifying studies qualified for a systematic literature review
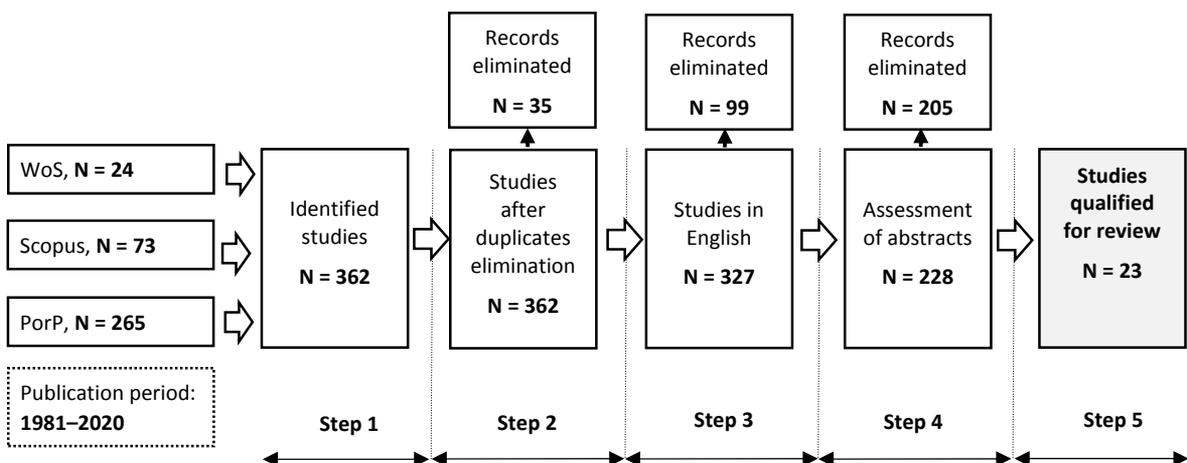
Note. *WoS – Web of Science; PorP – Publish or Perish.
Source: authors' elaboration based on Publish or Perish, Scopus, and Web of Science. Access: 23.10.2021

ment and CSR. In the next stage a database was built, and duplicate publications indexed simultaneously in several databases were removed from the collection. The duplicate elimination was performed using such variables as the publication title and DOI number. This led to 327 results, which were reviewed for the language of the publication in Step 3. The assumption was that only studies published in English would qualify for the literature review. In total 229 such scientific papers were identified in the study group. In stage 4 the authors performed publication qualification, based simultaneously on abstracts and the content of studies. Individual author assessments of publications were made at this stage. Based on the abstracts, the publications were assessed in terms of meeting the formulated criterion of project management and CSR issue interpretation. With regard to compatibility, i.e. when both marks were positive the given publication was qualified for the literature review, whereas when the marks differed a discussion about the inclusion or elimination of a given publication from the sample was undertaken, based on the publication content. This part of the study allowed the authors to identify 23 publications meeting the criteria established. It should be emphasised that 201 publications did not qualify for the literature review, due to the fact that the problematics adopted did not constitute the main axis of the publications, but involved side threads, or despite the inclusion of keywords they did not address the issue of CSR in the context of project management. A hindrance in the conducted research was the appearance of the term 'project', used in abstracts, in the context of, for example, an ongoing research project.

The period of the study includes the years 1981–2020. This period indicates the outline of the framework of the study, i.e., from the first identified publication in the Publish or Perish, Web of Science, and Scopus databases up to the year of this study.

The selected 23 studies are analysed and described in the following sections. The performed bibliometric analysis refers to the entire sample of identified studies for a better understanding of the initial sample.

Results

Table 2 shows the results of searches in the three knowledge bases Publish or Perish (PorP), Web of Science (WoS) and Scopus. At this point it should be emphasised that in the context of the diversified structure of the knowledge bases used, a similar approach to the search category was applied (PorP – title, WoS – title, Scopus – article title, author keywords). The study included peer-reviewed scientific articles, chapters in monographs, and post-conference materials published in English.

Figure 1 presents a summary of the unique 362 publications, published between 1981–2020, described in Table 1. The time series analysis was performed using non-parametric locally weighted regression identified in the literature, with the abbreviation LOESS (Cleveland & Devlin, 1988).

As can be seen in Figure 2, the interest in project management and CSR issues has been systematically growing till 2016. The greatest interest expressed in the number of publications was recorded in 2013–2016. In the last five years a decrease in the number of publications combining both terms could be noticed. This may be connected with the visible gradual replacement of CSR with a sustainable development construct, although this point would require further analysis.

To better understand the studied relationship between CSR and PM, we decided to apply the cloud tag technique. The tags in our tag cloud are represented according to their frequency, weight and meaning relative to other tags. This analysis was performed for the overall collection of 362 selected publications, in

Table 2

Characteristics of selected bibliometric indicators for the Publish or Perish, Web of Science, and Scopus knowledge bases

Category	Database		
	Publish or Perish	**Web of Science**	**Scopus**
Publication years	1981–2020	2001–2020	2002–2020
Citations years	1981–2020	2003–2020	2002–2020
Documents	265	24	73
Citations	1542	447/446[***]	639
Cites per year	39.54	23.53	35.5
Cites per paper	5.82	18.63	8.75
h-index	18	7	3

Note. [*] Query used: ("corporate social responsibility" OR "CSR") AND ("project management" OR "project").

[**] The difference in the timespan for the knowledge bases research results from the publication indexing periods.

[***] Without self-citations.

Source: authors' elaboration based on data from the databases. As of: 23.10.2021 r.

Figure 2

A summary of the number of publications dealing simultaneously with the issues of project management and CSR (1981–2020), N = 362
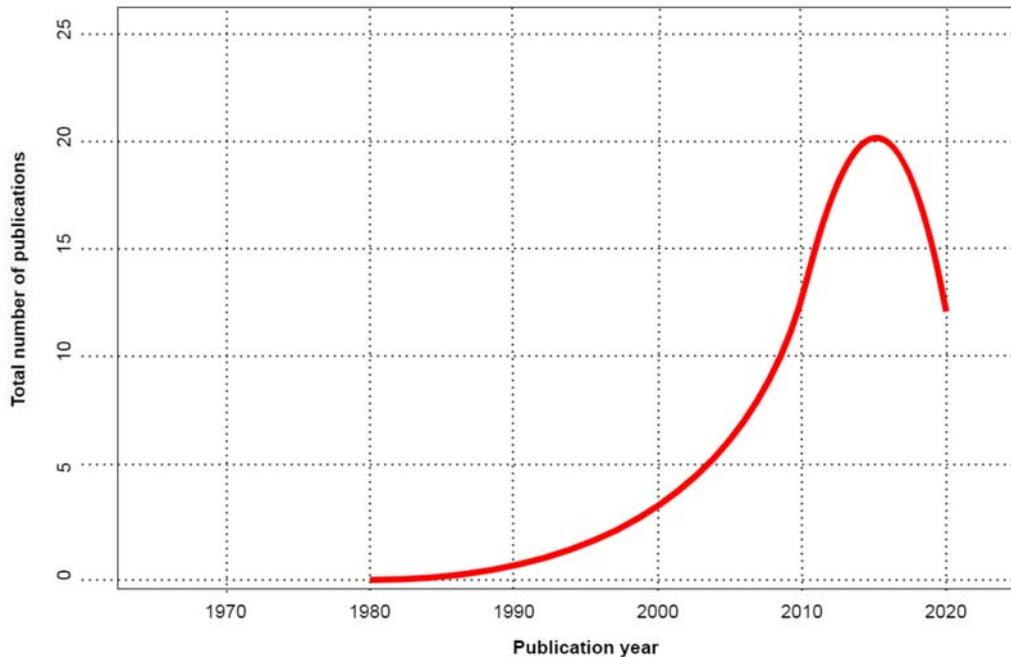
Source: authors' elaboration based on the data from the selected knowledge bases (Publish or Perish, Scopus, and Web of Science). As of: 23.10.2021.

Figure 3

Tag cloud for a selected group of articles for abstracts, keywords, and titles
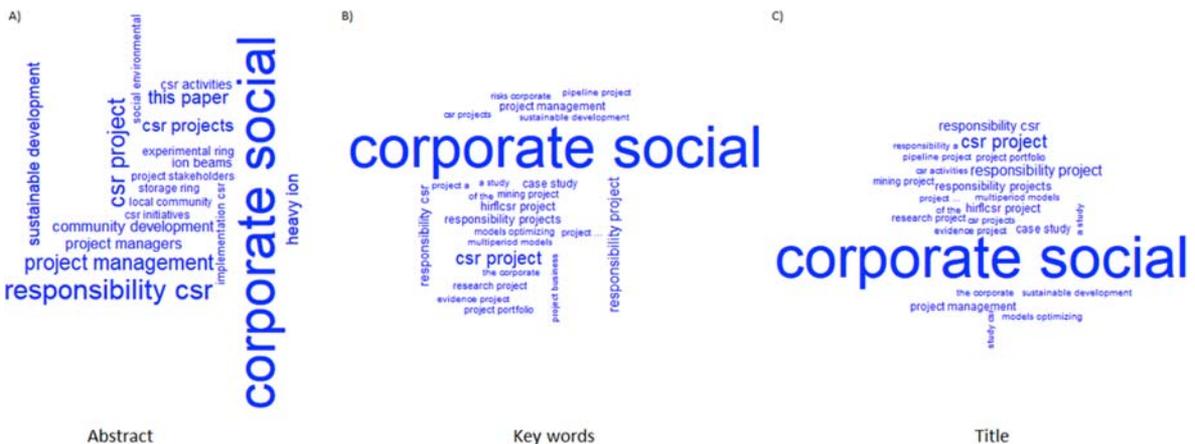
Source: authors' elaboration based on the data from the selected knowledge bases (Publish or Perish, Scopus, and Web of Science).

three conceptual subsets of the most common terms in abstracts (A), keywords (B) and titles (C) (Fig. 3). As we can see, in all three clouds the "CORPORATE RESPONSIBILITY", together with 'RESPONSIBILITY' and 'CSR PROJECTS', are the most frequent tags. In the abstracts, in turn, 'PROJECT MANAGEMENT' comes directly after CSR and 'RESPONSIBILITY'.

Figure 4, with the use of a dendrogram, presents the most frequently occurring entries in the titles (4A) and keywords (4B) of the identified publications. It is also worth emphasizing that the most common keyword in the group of the publications studied, in all categories under examination (abstract, keywords, and title) is 'corporate social.

Figure 4

Dendrogram of the most common tags based on titles and keywords from identified publications, N = 362

Source: authors' elaboration based on the data contained in Publish or Perish, Scopus, and Web of Science.

Systematic literature review

Based on a dendrogram of the most common tags based on the titles and keywords from the identified publications, $N = 362$. Out of 362 identified publications in which the issues of project management and CSR were simultaneously addressed, 23 scientific publications qualified for the next stage of the study – systematic literature review (Fig. 1). The selected papers were published between 2008 and 2020 (Tab. 3).

Table 3 presents the characteristics of these publications, divided into three groups of studies: theoretical, empirical, and theoretical-empirical, and provides basic information on the purposes and results of the papers included in this study.

In the following step, a set of 23 publications described in Table 3 was coded according to the discussed topics. As a result of the analysis of the texts, five categories were distinguished:

- **CSR projects** – the assigned publications present the social good taken into account by business organisations, as well as how the CSR projects dynamise entrepreneurship, society, and organisational culture. These papers reveal the extent to which business units engage in activities in the field of CSR. The category characterises the motives chosen by organisations, as well as who and how to manage the CSR policy **(P06)**.
- **CSR in projects** – includes content referring to building new business networks, taking into account cross-sectoral cooperation within CSR projects. Articles describing projects influencing the development of society, and building the

image of an organisation, are the most represented in this category. We have included here also the content presenting the impact of CSR projects on acquiring new customers, as well as on improving the financial performance of the organisations **(P07)**.

- **CSR in business** – covers content presenting transparent responsible proceedings by current law, taking into account factors resulting from the implementation of the CSR concept. It shows the strategy and evolution of activities as well as trends in the field of CSR used by business units in selected markets **(P08)**.
- **CSR in Project Management** – encompasses articles aiming at familiarising the reader with the scope of CSR activities. It explicitly discusses sustainability and CSR initiatives in both project management and in particular innovations, and testing of new business models in the project management field **(P09)**. CSR and PM activities of an organisation are integrated and practiced in business relations.
- **CSR and Project Management** – a category that assumes a balanced approach, excluding concentration on one area of activity. It includes papers presenting innovative solutions aiming at helping stakeholders change the world and support the local economy **(P10)**. This content contributes to the optimal development of modern management of CSR projects. Emphasis is placed on sustainable development, welfare, and health of the society. Projects take into account the expectations and needs of local stakeholders.

Table 3

Summary of identified publications addressing the issues of CSR and project management at the same time

Reference	Purpose	Results
Theoretical		
Kampf, 2007	In the presented article, the author analyses project management as a place where CSR can be operationalised. The article focuses on the conceptual processes of projects and the co-creation of CSR knowledge.	In this article the results suggest that corporations need to incorporate CSR in the way they deal with third-rate emerging stakeholders when developing a project concept. The author argues that a project concept that is open to transformation through dialogue with emerging tertiary stakeholders could be beneficial.
Schieg, 2009	A presentation of corporate social responsibility as a management concept that is becoming more and more important for design companies.	The thesis of the presented article is the thought that for the successful implementation of CSR activities it is necessary to adjust the involvement of the project's organisation to its business activities and own goals.
Kampf, 2013	The purpose of this article is to refer to the issues raised in terms of the content of business education. It presents a shift from a business-centred approach to an understanding of management, opening up space for reflection and offering tools to support this paradigm shift.	The author shows that practicing the project concept by management can be understood as a place where CSR and sustainable development practices can be operationalised in the basic unit of work of many corporations as a project.

Table 3 – continue

Reference	Purpose	Results
Carboni & Hodgkinson, 2013	In the scientific article, the authors suggest the PRiSM GPM Methodology or „Applied Green Project Management®". The Green Project Management® (GPM) presented is the incorporation of sustainable methods into the process by which projects are defined, planned, monitored, controlled, and delivered.	As a result of the research conducted in the article, it was assumed that the GPM® standards for project management take into account these needs, and our processes, training programmes, and certificates fill the gap resulting from the mismatch between existing project management methodologies and changes in social needs and business requirements.
Uribe Macías, 2020	The main aim of the article is to present a theoretical approach to proposing a model of social responsibility management in project management.	The conclusions presented by the author relate to the different theoretical approaches found for the concept of CSR, design, and PM. At the same time they provide a framework for the development of research.
Gobet, 2013	The goal was to draw attention to the growing role of corporate social responsibility in project management.	The author ends the article with advice on examples that are to support the application of CSR at the level of project management.
Phiri, 2014	The author's priority in this *Empirical* study was to determine the extent to which CSR is included in project management within the Information Technology Sector (IT).	The analysis conducted by the researcher showed that the real motive for undertaking IT projects is cost reduction. The fact is that the efficiency of IT projects improves processes and eliminates unnecessary waste.
Silvius & Schipper, 2014	The purpose of the study is to identify the sustainability gap of project managers, and provide guidance on how to close the gap.	The article presents suggestions for the development of project management competences. To prepare project managers for their key role in enabling sustainable development of the organisations.
Tallio, 2015	The author of the text shows the specificity of the participation of oil companies in the public health sector. He analyses the changes that their intervention causes in the development model. The considerations analyse the consequences of these changes on the shape of the Angolan state.	Oil companies finance and implement social projects through their corporate social responsibility (CSR) policy. In doing so, they replace development NGOs that never seized the reconstruction market in Angola.
Sarmila et al., 2015	The authors describe the experiences of a local farming community that was involved in a CSR project run by an international company in cooperation with a local farmers' association. The overall goal is to understand the extent of the project's contribution to the community.	In this study, the researcher distinguished 15 basic themes from the presented thematic analysis: employment opportunities, sources of income,, and generation of assets. These three themes reflect the contribution of the CSR project to the economic well-being of the community from the perspective of the community involved in the project.
Chovanová Supeková et al., 2019	The publication provides an overview of project management research from the perspective of applying corporate social responsibility to employees in the context of project management standards in small, medium and large enterprises in Slovakia, from the point of view of the project manager.	The research results provide empirical evidence of how project managers in chosen companies applied social aspects to the concept of managing their projects.
Tang-Lee, 2016	The publication is an analysis of the Letpadaung copper mining project, invested by Myanmar Wanbao, the subsidiary of a Chinese state-owned enterprise.	The author points out that Myanmar Wanbao is actively and visibly trying to save its corporate image by establishing several channels of public engagement and investing in community development projects.

Table 3 – continue

Reference	Purpose	Results
Sarfraz et al., 2018	The authors are interested in the observation of the moderating role of corporate social responsibility (CSR) in decisions on financing projects.	For the outcome of the publication, the author states that corporate social responsibility plays a moderating role in decisions on project financing and environmental risk management, stakeholder assessment and credit risk.
Williams et al., 2019	The authors provide information on how companies design and develop CSR projects. Additionally they present the related activities, their sequence, and the roles of various stakeholders.	The article concludes with observations based on a qualitative scope study. The study consists of in-depth interviews with CSR practitioners from five major Australian companies.
Jovanović et al., 2019	The study covers corporate social responsibility (CSR), the ecological aspect, volunteering, and the social aspect. The authors emphasise the intangible benefits of projects in Serbian project-based companies.	The conclusions and results of the study may form the basis for comparisons with other studies conducted in transition and developed economies.
Al-Reyaysa et al., 2019	The publication promotes the idea that corporate social responsibility is an influential concept, considered more implemented in the West than in the Gulf Cooperation Community (GCC) and in the Middle East and North Africa (MENA) region.	Research exploration is about building CSR capacity in organisations, and analyses the research question as to whether managing CSR projects can contribute to increasing awareness, commitment and implementation.
Theoretical-empirical		
Mrvová & Púčiková, 2013	The publication presents an initiative to assess the economic efficiency of environmental investments in environmental management. The entire text is included in the context of corporate social responsibility and its interconnection, based on the CBA method.	The conclusion is that the CBA Programme is a quick assessment of an upcoming social project. Thanks to this we can obtain information on whether the project is acceptable or not.
Pamukçu & Öğüz, 2018	The author intends to interpret the significant positions of accountants and how they should act in corporate social responsibility projects.	The proposal states that accountants must adopt the concept of corporate social responsibility, and also adopt it in their practices. The author emphasises that accounting is one of the basic functions of a business.
Saenz, 2018	The study presents how the context in mining projects influences the CSR strategy. The author focuses on defining the main purpose of obtaining a social license to run a business.	The result of the study is to note that mining projects with a complex-unstable context require considerable effort and a longer process to achieve SLO.
Sohn et al., 2018	The publication is about important CSR packages. The main goal is to demonstrate that junior managers pay more attention to them in decision-making processes for future projects.	The result of the study is to present the view that behaviour depends on gender. Women perceive projects that generate clear value for CSR compared to male participants who prefer projects that primarily support individual and corporate financial benefits.
Sun et al., 2019	The analysis is based on the Sino-Pakistani context – Economic Corridor (CPEC). The main finding is that the CSR activities in the CPEC project are initiated by a long-term CSR initiative.	The authors suggest using a mechanism based on building a framework to lead to the sustainable development of the local community.
Chen et al., 2021	The main purpose of the publication is to examine how the adoption of any CSR framework by a business organisation influences the decision-making process of managers.	The result of the study is the conclusion that investments in CSR projects are much higher when companies report in an independent CSR reporting framework.

Source: authors' elaboration based on the literature review.

Table 4 presents a summary description of the created categories and indicates the references of publications in which the specific issues are discussed.

- Project-oriented CSR is just a first step toward sustainable management, and hence further steps are required to transform responsibility into success for companies (Martinuzzi & Krumay, 2013).

Table 4

Categories of publications dealing with the issues of project management and CSR

No	Category	Category description	References
1.	**CSR projects**	• Projects for CSR • CSR projects	Schieg, 2009; Gobet, 2013; Sarmila et al., 2015; Tallio, 2015; Pamukçu & Öğüz, 2018; Saenz, 2018; Sarfraz et al., 2018; Sohn et al., 2018; Williams et al., 2019; Sun et al., 2019; Al-Reyaysa et al., 2019; Jovanović et al., 2019; Chen et al., 2021
2.	**CSR in projects**	• CSR refers to projects • Projects including CSR	Schieg, 2009; Carboni & Hodgkinson, 2013; Kampf, 2013; Phiri, 2014; Sarmila et al., 2015; Tang-Lee, 2016; Pamukçu & Öğüz, 2018; Sarfraz et al., 2018; Saenz, 2018; Sohn et al., 2018; Al-Reyaysa et al., 2019; Sun et al., 2019; Chovanová Supeková et al., 2019; Uribe Macías, 2020
3.	**CSR in business**	• The role and importance of CSR in contemporary organisations	Schieg, 2009; Carboni & Hodgkinson, 2013; Kampf, 2013; Mrvová & Púčiková, 2013; Phiri, 2014; Sarmila et al., 2015; Tallio, 2015; Tang-Lee, 2016; Sarfraz et al., 2018; Sohn et al., 2018; Pamukçu & Öğüz, 2018; Saenz, 2018; Chovanová Supeková et al., 2019; Williams et al., 2019; Sun et al., 2019; Jovanović et al., 2019; Al-Reyaysa et al., 2019; Uribe Macías, 2020; Chen et al., 2021
4.	**CSR in Project Management**	• Implementation of CSR management in PM • CSR management functions in PM • The impact of CSR management on PM	Schieg, 2009; Carboni & Hodgkinson, 2013; Gobet, 2013; Kampf, 2013; Phiri, 2014; Silvius & Schipper, 2014; Tallio, 2015; Sarfraz et al., 2018; Sohn et al., 2018; Pamukçu & Öğüz, 2018; Chovanová Supeková et al., 2019; Uribe Macías, 2020
5.	**CSR and Project Management**	• Sustainable development, including CSR and PM	Schieg, 2009; Carboni & Hodgkinson, 2013; Silvius & Schipper, 2014; Phiri, 2014; Sohn et al., 2018; Sarfraz et al., 2018; Pamukçu & Öğüz, 2018; Chovanová Supeková et al., 2019; Uribe Macías, 2020

Source: authors' elaboration based on the literature review.

Discussion

The conducted research showed that the existing relationship between PM and CSR is nowadays a rapidly developing field of management research. In the initial years of the studied period 1981–2007, the two topics seem to be analysed quite separately, as independent, unrelated approaches to running and developing businesses and organisations. Only after this initial period do both separate paths start to merge, with some interesting convergences also gradually emerging. Among the findings describing the convergence fields, we were able to identify some specific topics:

- Incorporating CSR in PM requires, first of all, recognising future changes in the company environment and key stakeholders that need to be included, and then forming and implementing a proactive CSR policy based on core values and ethical attitudes that the company demonstrates and stands for (Jovanović et al., 2019).

- Incorporating CSR brings a change of focus in the management of projects from managing time, budget, and quality, to managing social, environmental, and economic impact. Moreover, it means that the high predictability and controllability proper to the PM is supposed to shift into a flexibility, complexity, and opportunity approach, typical of CSR (Silvius & Schipper, 2014).
- Implementing the practical and operational approach that PM can provide when undertaking CSR activities, helping to align CSR with organisational goals. Moreover, the mechanism, techniques, and project phases can be applied to CSR initiatives, and in some cases help to effectively implement CSR in a more structured way, increasing profits, reducing risk and contributing to achieving sustainable goals (Al-Reyaysa et al., 2019). In particular, this means that there is imperative to study the organisation's stakeholders' needs in detail and then determine the purpose of the CSR project following the internal values.

- Incorporating CSR in PM is the responsibility of project managers, who should integrate the relevant aspects of responsible behaviour in the project's Key Performance Indicators (KPIs) (Phiri, 2014; Schieg, 2009).
- For organisations committed to operating socially, ISO 26000 guides those who recognise that respect for society and the environment is a critical success factor. Like other ISO norms, it is only a standard frame that requires specific planning, and where PM techniques increase the probability of the CSR programme's success.
- Results of the study indicate that corporate social responsibility plays a moderating role in project decision-making. Companies involved in CSR activities have more value compared to other companies.
- Project managers can play a special role in motivating their companies to implement more socially responsible behaviour at local level in areas such as human rights, employee rights, environmental protection and supplier relations, which is potentially a risk-mitigating approach (Tharp & Chaudhury, 2008).
- The results of a study by Sarfraz et al. (2018) conclude that maintaining a sound corporate and social reputation is of additional importance to a financial institution when assessing the risk of projects.

A closer look at the selected study articles allows us to conclude that only seven of them were co-financed, therefore it was impossible to determine a dominant group of organisations interested in funding this kind of research. However, our findings emphasise that China is very active in this field with its research institutions. Just to mention a few of the funding institutions from China: The Chinese Fundamental Research Funds for the Central Universities, the National Natural Science Foundation of China, Humanities and Social Sciences of the Ministry of Education of China, the Postdoctoral Research Foundation of China, the Research Project of the Education Department of the Jilin Province, the research projects of Jilin University and the MOE Project of the Key Research Institute of Humanities and Social Sciences. The list of funders also includes organisations from Colombia – Universidad del Tolima, Slovakia – VSEMvs IGA VSEMvs, i.e. the School of Economics and Management in Public Administration, Serbia – the Ministry of Education, Science and Technological Development of the Republic of Serbia, and Germany – the Max Planck Institute for Social Anthropology.

Conclusions

The authors of this research decided to examine the relationships between PM and CSR, and in particular identify the fields of convergence, describe them, and to detect the research trends in the combined thematic fields. The performed systematic literature review highlights five main categories of the links between both constructs, confirming the current growing interest in applying PM in the implementation of CSR projects and in deploying CSR key rules in the PM methods. The identified categories include a detailed description of projects to which CSR is referred at all stages of project implementation, including an ex-post project evaluation verifying the achievement of the assumed project objectives.

Moreover, the performed analysis and the related practice underline the importance of CSR deployment in project management methodologies. In other words, it highlights the necessity to include CSR as an important dimension of project management, in particular in the area of methods used in measuring project maturity in descriptive and prescriptive dimensions.

Moreover, taking into account that CSR is one of the pillars of sustainability, looking at the growing number of evidence on this relationship we believe that CSR activities should be more frequently integrated into projects and supported by project management, sometimes becoming specific projects themselves. This would also require further research, since the concept of sustainable development was not the focus of our research.

Additionally, it is worth emphasising that despite the increasing number of publications, some of the convergence trends remain not fully explored, and therefore the five identified areas or categories would require more extensive exploration.

Study limitations

Like most theoretical proceedings, the presented analysis has its limitations, resulting mainly from the decision about the nature of the included papers. We decided to consider only articles, chapters in monographs, and proceeding papers published in English. This means that doctoral dissertations and documents published in other languages were not included in this study. Research limitations also relate to the inability to identify possible mis-indexing of the authors' publications.

Further research perspectives

The conducted research indicates that the penetration of CSR issues and project management is the object of interest of researchers, which is expressed in the increasing number of scientific publications. From the authors' point of view, the presented results highlight the previously explored research areas in the organisation's activity related to the implementation of projects (change-the-business). The aspiration of the authors is to undertake a similar theoretical study in which the mantle of CSR and BPM (Business Process Management) interpenetration will be outlined, and thus the identification of CSR activities in the organisation related to the core activity (run-the-business).

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An evaluation of reverse mentoring: A case study of research assistants and advisors

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Abstract

Reverse mentoring, which refers to the relationship between a young employee in the role of the mentor and a more senior and experienced employee in the role of the mentee, is gaining popularity in the business world. This study aims to discuss the relationship between research assistants, who are just starting at the academy and are thought to have traces of reverse mentoring, and advisors with more experience in the academy, in the context of the functions and sub-functions of reverse mentoring. In this exploratory study, in which a qualitative research method was adopted, data was obtained as a result of semi-structured interviews with 17 research assistants working in different faculties and departments at a state university in Turkey. The data obtained after the interviews with the research assistants was analysed using content analysis. The findings of the research suggested that the career, psycho-social, and role model functions of reverse mentoring in the relationship between research assistants and their advisors have sub-functions of knowledge sharing, challenging ideas, networking, friendship, and new perspectives. It was also concluded that other functions were at a limited level or non-existent.

Keywords: mentoring, reverse mentoring, research assistant, advisor, academy

Introduction

Nowadays, mentoring is a popular topic and is frequently discussed in research, but it is common knowledge that despite the popularity of this topic today it is not a new concept, with the Greek poet Homer having used the word "mentor" in The Odyssey 3500 years ago (Stone, 2002). Since it became the subject of epics, the concept of mentoring has been interpreted and used in different ways by various geographical regions, cultures, and disciplines. Thanks to this we know that mentoring is not a single expression, but has more than 50 definitions (Crisp & Cruz, 2009). Mentoring usually emerges as a generational relationship and can be expressed as a mentoring process in which an experienced mentor advises a young employee and shows different development directions (Kram, 1985). Considered both as a career management tool and a training development practice, mentoring emerges as a much more important and common practice. From past to present, mentoring has continued its existence over time, with various practices and techniques. Reverse mentoring, which is one of it's new types, refers to a mentoring relationship where the mentor is at a lower hierarchical level than the mentee. In today's fast-paced age of informatics and telecommunication, mentors may actually be younger in age than the mentee but with considerably more experience in a given area (Busen & Engebretson, 1999). Reverse mentoring is a type of relationship that is formulated in the opposite direction of traditional mentoring, and where the roles of the mentor and the mentee change.

This study aims to evaluate reverse mentoring, the theoretical framework of which was determined by Murphy (2012), within the scope of the relationship between research assistants and their supervisors, which was encountered in a limited number of previous studies (e.g. Clarke et al., 2019; Leh, 2005; Zauschner-Studnicka, 2017). Since both parties, who have a close academic relationship, are from different generations,

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their expectations, demands, and perspectives on work, academia and life will be different. Throughout the advising process in PhD programmes a mentoring relationship can be referred to as one in which faculty members can be considered as mentors and doctoral students as mentees, and this relationship is a good example of traditional mentoring. However, since this study examines reverse mentoring rather than traditional mentoring, this relationship does not occur between the parties in every doctoral process. In this respect reverse mentoring can occur informally, and this relationship can be an appropriate example for understanding reverse mentoring. Mentoring, or specifically reverse mentoring, can be formal or informal (Gadomska-Lila, 2020). Informal mentoring is a more personal relationship between mentors and mentees, and these relationships develop naturally without the intervention of the organisation (Clutterbuck, 2014). Inzer and Crawford (2005) even claim that informal mentoring is much more effective than formal mentoring. In this research, the advisor-research assistant relationship will be evaluated in terms of reverse mentoring, and we will seek to answer the research question. The article provides a brief explanation of mentoring and reverse mentoring, respectively, followed by a presentation of a sample, design, findings, and results of the research.

Mentoring and reverse mentoring

Mentoring is a "voluntary, deep, dedicated, comprehensive, dynamic, supportive, trust-based" relationship between an experienced person and someone inexperienced, based on the principle of "reciprocity" (Hayes, 2005, p. 442), and can be defined as a process that serves to bridge the gap between education and real-life experience (Barker, 2006, p. 56). The mentioned process relates to a relationship between two employees, one experienced and the other inexperienced. The more experienced and instructive party in the relationship is called the mentor, and the less experienced and student one is called the mentee (Kram, 1985). Even though there is an asymmetrical relationship, mentors do not dominate mentees but inspire mentees to better understand themselves and choose the best development path (Bakiera, 2016). As a matter of fact both the process and reciprocal relationship are important points that are repeated many times in the definitions of mentoring.

In the last decade academics and professionals working in mentoring have focused on a specific type of reversed mentoring that refers to learning from current or former mentees (Damnjanovic et al., 2021, p. 156). Reverse mentoring is a formal or informal business relationship created between an experienced employee and a young inexperienced employee to grasp rapidly changing technology (Hays & Swanson, 2012, p. 1). In 1999 Jack Welch, the CEO of General Electric, appointed young employees and organised a programme for 500 senior executives to help them use the internet more actively and learn new applica-

tions. This application is considered to be the first official use of the reverse mentoring programme (Chaudhuri & Ghosh, 2012, p. 56).

Reverse mentoring, which became popular after the initial practice and with the accompanying curiosity and adoption, has been used in many countries, companies, and organisations (Eaves, 2018). This increased interest has been attributed to many factors, such as growth in the knowledge-based business world, the speed of knowledge distribution across companies and borders, and intergenerational diversity in the workplace (Browne, 2021). The origins of reverse mentoring lie in its emergence as a practical approach to bridging the technological gap between generations (Clarke et al., 2019), which makes it likely that more organisations will adopt reverse mentoring programmes in the next few years (Hieker & Rushby, 2020, p. 206). The aim of reverse mentoring is to enable young or junior employees to mentor senior employees by sharing the perspectives, trends, and technological developments of the next generation. In this respect it reverses the traditional, more popular mentoring relationship, and contradicts the norm of a senior mentor and a younger mentee (Chaudhuri, 2019). Reverse mentoring encourages new and former employees to share and communicate core concepts and beliefs with each other, thereby promoting departmental and organisational competitiveness (Chen, 2021, p. 10). In fact the idea behind reverse mentoring is to share expertise and skills with older people who need such capabilities, and to build a community whose members support each other (Gadomska-Lila, 2020, p. 1318). Reverse mentoring works best when younger, newer, and junior employees in the organisation specialise in a field (e.g., technological skills, social media skills, subject matter advances, diversity and inclusion issues, openness to work-life balance, etc.) and are willing to share that knowledge with more experienced and senior colleagues.

When reverse mentoring is considered a practice, reaching its goals is directly related to its functions providing productive results. While mentoring is mostly evaluated within the scope of functions and sub-functions developed by Kram (1985) (Allen et al., 2004), the reverse mentoring relationship includes three main functions, including many sub-functions that are common with traditional mentoring relationships. These functions are career, psycho-social, and role model functions, respectively (Murphy, 2012).

Regarding the career function; knowledge sharing, coaching, exposure and visibility, skill development, challenging ideas and networking are sub-functions. To explain briefly:

Knowledge sharing: This is recognised as one of the main goals of reverse mentoring. It refers to the mentors sharing their expertise on technology, generational trends, diversity, risk-taking, and perceiving events from a global perspective (Harvey et al., 2009). However, since reverse mentoring is also a reciprocal relationship, the mentees can present their competencies in

many areas, such as organisational issues, work-related responsibilities, or career planning and development (Kram, 1985).

Coaching: This is defined as the process of equipping the mentor, who is involved in the reverse mentoring process, with the tools, knowledge, and opportunities needed for the mentees to develop themselves and become more effective (Peterson, 1996). In this route, development and progress, which both purpose in reverse mentoring, can be achieved through coaching.

Exposure and visibility: Both the teaching and learning side of the relationship establish a regular working relationship within the organisation. In this relationship they can provide visibility and recognition in each other's own business circles (McCoy, 2015).

Skill development: One of the most important purposes of the relationship in reverse mentoring is to pave the way for talent development between the more talented mentor, in various aspects, and the mentee, who is considered to be less talented in these matters (Murphy, 2012)

Challenging ideas: Since the mentor and mentee will carry the basic characteristics, attitudes, and values of their generation, the possibility of conflict between these two arises. While the mentors and mentees will present their ideas, they are likely to challenge each other due to their unique identities (Hays & Swanson, 2012, p. 3).

Networking: The mentor's comfort in using technology and the social environments they creates online can be an opportunity to create a communication network for the mentee. In addition, it can pave the way for mentees to establish a dialogue with senior employees who are already working in the organisation with the mentors (Murphy, 2012, p. 559).

The psychosocial function refers to support and feedback, acceptance and confirmation, friendship and affirmation encouragement. These sub-functions can be briefly explained as follows:

Support and feedback: In general, mentors are people who teach, advise, direct and provide feedback on the employee's interpersonal relations and development, as well as career planning (Noe, 1988, pp. 457–478). In reverse mentoring, mentors provide support for learning and feedback on acquiring new knowledge and skills (Murphy, 2012, p. 556).

Acceptance and confirmation: The acceptance and confirmation of each other by the parties in a relationship are very important for the continuation of that relationship. It is clear that in reverse mentoring there is a need for acceptance and confirmation between the young mentor and the mentee. The mentee should start the relationship with the mentor without any prejudice, accepting that the mentor is younger (Murphy, 2012).

Friendship: One of the important sources of motivation for millennial employees is friendship (Trunk, 2007). This function is defined by social interaction that results in mutual enjoyment, understanding, and informal exchanges of work and non-work-related fun (Allen, 2003, p. 135).

Affirmation and encouragement: Mentoring is not only the process of giving advice, but also a process that includes mutual communication, sensitivity, encouragement, and development of skills (Galbraith, 2003, p. 3).

The role model function is another important function of reverse mentoring; it is explained as a new perspective, behaviour to emulate, and identifying with values, which are as follows:

New perspective: The reverse mentoring relationship is expressed as a study aimed at contributing to the development of the mentee, guiding them based on their own life experiences, and providing a different perspective on business life and general issues, as in traditional mentoring (Murphy, 2012).

Behaviours to emulate: The mentor's attitudes, value judgements, and behaviour create a model that the mentee may want to emulate (Shea, 2002, p. 27). Mentors serve interrelated functions such as enabling learning, providing motivation and inspiration, and helping individuals to define their self-concept (Gibson, 2004).

Identifying with values: A developed strong relationship will enable both the mentor and the mentee to explain each other, and it will make it easier for them to find positive aspects that they will benefit from in shaping their future behaviours (Murphy, 2012).

The popularity of reverse mentoring, the basic features of which have been explained above, has made the practice more visible. According to Chaudhuri et al. (2021), reverse mentoring literature is fed by two different streams contributed by both practitioners and academics. In addition to the giants of this world (General Electric, P&G, GM, Unilever, IBM, United, Dell, etc.), reverse mentoring has also been the subject of many academic studies, with the number increasing day by day. Reverse mentoring, diversity, minority, and inclusion (Madison, 2019; McCoy, 2015); business life (Biss & DuFrene, 2006; Chaudhuri & Ghosh, 2012; Gabriel et al., 2020; Gadomska-Lila, 2020), public relations (Hays & Swanson, 2012), banking (Güğerçin, 2017; Tayşir & Ülgen, 2017), motivation (Kaše et al., 2019), tourism (Cismaru & Iunius, 2020), education (Damnjanovic et al., 2021; Leedahl et al., 2019; Porras et al., 2018; Zauschner-Studnicka, 2017), health (Clarke et al., 2019; Hernandez et al., 2018; Profili et al., 2019; Wilson, 2014) has been studied many times in the field. In addition it seems that some research has also been done on higher education. There are also reverse mentoring studies (eg. Cotugna & Vickery, 1998; Gündüz & Akşit, 2018; Leh, 2005) concerning undergraduate, master's, and doctoral students.

However, in literature no reverse mentoring study was found that centered the relationship between research assistants and their supervisors on Murphy's (2012) theoretical framework.

The research carried out in Turkey evaluated the relationship between research assistants at a state university and the faculty member who supervised them in the postgraduate education process in the context of reverse mentoring. In the context of Higher Education Law in Turkey (1981: 2547), this relationship is regulated by various articles. Law (1981: 2547/33) defines research assistants as teaching assistants who assist in research, examination and experiments carried out in their institutions and perform other related duties given by authorised bodies. On the other hand the advisor is stated to be a faculty member appointed by the relevant institution, to guide each graduate student registered in various institutes during course selection, and both course and thesis work periods, such as master and doctoral theses. From this perspective it seems that every research assistant working in Turkey has a advisor in postgraduate education and has a close relationship with their supervisor in many activities, such as conducting research, publishing, preparing course materials, and writing a thesis. For this reason the relationship is considered a suitable ground for reverse mentoring. In the remainder of the study the mentioned relationship will be evaluated in terms of reverse mentoring.

Method of research

In this research we were looking for an answer to the question "According to PhD students/research assistants, can elements of reverse mentoring be detected in their relationships with their advisors during the supervising process?". Based on these evaluations we aim to determine to what extent the relationship between them and their counselors overlaps with reverse mentoring, and, if there is a reverse mentoring relationship, which functions come to the fore, and what kind of support they contain.

For this exploratory study a qualitative research method was adopted. The use of qualitative research methods enables analysis of organisational processes, and especially examining the relationships between structures and behaviours (Patton, 2014). It was decided that the case study design would be more appropriate with the idea that the research could achieve its goals. Case study is an empirical research method that studies a current phenomenon within its real-life framework, and is used in situations where the boundaries between the phenomenon and its content are not clearly defined and there is more than one source of evidence or data (Yin, 1984, p. 23). In this method the interviewer directs the structured or semi-structured questions to the participant and performs the analysis in line with the answers received (Cohen et al., 2000, p. 181).

Purposive sampling was used in the research. The sample of the study consisted of 17 research assistants at different stages of their academic careers, working in a total of six faculties at a state university. After a point in the research, since the new interviews started to present data similar to the sample presented in the previous parts of the research (Morgan & Morgan, 2009), the interviews were stopped when the theoretical saturation point of the data was reached. While determining the sample the intention was to reach research assistants working at different stages and in different faculties to ensure diversity of the data.

The data obtained through the interviews was analysed using the qualitative content analysis method. In terms of data analysis, content analysis can generally be defined as "the systematic coding of qualitative or quantitative data based on certain themes or categories" (Cohen et al., 2000). Hsieh and Shannon (2005) state that there are three different approaches to qualitative content analysis: conventional, directed and summative. For this study the directed approach was adopted. This approach is used especially in cases where previous studies on a phenomenon or existing theory are insufficient. Researchers who adopt this approach use an existing theoretical framework or previous research on the phenomenon under investigation. They start by identifying themes, key concepts or indicators to guide the basic coding, and the framework then guides the collection and analysis of data, respectively (Hsieh & Shannon, 2005, pp. 1281–1282). These, in turn, facilitate the organisation of research within a specific focus and boundaries. This also facilitates the systematic collection and analysis of data. In this study the authors evaluated and used Murphy's (2012) theoretical framework of reverse mentoring sub-functions as themes.

For the interview questions a pool of such questions was created based on literature review. However, Murphy's research in 2012 to create a theoretical framework and model of reverse mentoring had a significant impact on the formation of questions. At least one question was prepared for each sub-function of reverse mentoring, along with demographic questions about the research (Appendix 1).

Before the interview the participants were informed about the research, and the interviews were carried out over a period of approximately two months. The participants were informed about a request to use a voice recorder during the interviews, with 11 participants accepting this and six participants rejecting it due to the sensitivity of the information provided. The interviews of the participants who had not agreed to this request were recorded manually by the researcher. The shortest interview lasted 28 minutes, the longest interview took 53 minutes, and the average was around 45 minutes. All audio recordings were transcribed by the researcher. The parts of the interview transcripts that were suitable for the topic and research content were shared within the framework of the research, with the remaining parts archived. It should be noted here that the study does not claim generalisability, although it does give important clues about the analysed topic.

Research findings

The data obtained as a result of the interviews was examined over the reverse mentoring themes (functions) mentioned in literature, and important and remarkable parts were shared in the relevant sections.

Participant information

The participants included in the study were asked questions about their demographic characteristics, education, and profession. All the obtained information has been explained in Table 1 below. Eight female and nine male research assistants were selected for the study, with an average age of 28.6.

Research assistants work in the fields of Management and Organisation, Accounting and Finance, Production Management and Marketing, Tourism Management, Health Management, Turkish Language and Literature, Psychological Services in Education, Chemistry, Economics, and Human Resources Management.

Under the research, assistants are those who have completed their doctorate, who are at the stage of their doctoral thesis, qualification, doctoral course, or master thesis. The advisor of two research assistants is a doctoral faculty member, the advisor of five research assistants is an associate professor, and the advisor of 10 research assistants is a Ph.D. professor. Two of the aforementioned advisors are women. The average counseling time that research assistants spent with their advisors was around 3 years.

Findings with regard to the reverse mentoring career function

In this section we share the findings obtained within the scope of questions asked for knowledge

Table 1

Information of research assistants participating in the study

No	Gender	Age	Worked Area	Graduate Level	Advisor Title	Advisor Gender	Duration of Advising (Years)
P1	Female	31	Production Management and Marketing	PhD Qualification	Associate Professor PhD	Male	2.5
P2	Female	34	Accounting and Finance	PhD Course	Associate Professor PhD	Male	2
P3	Male	30	Management and Organisation	PhD Completed	Professor PhD	Male	5.5
P4	Male	30	Management and Organisation	PhD Thesis	Professor PhD	Female	6
P5	Male	27	Accounting and Finance	PhD Course	Professor PhD	Male	2
P6	Female	33	Healthcare Management	PhD Course	Associate Professor PhD	Male	1
P7	Female	26	International trade	Master Thesis	PhD Lecturer	Male	1.5
P8	Female	26	Electrical electronics Engineering	PhD Thesis	Professor PhD	Male	1
P9	Male	27	Tourism Management	PhD Qualification	Associate Professor PhD	Male	3
P10	Male	29	Management and Organisation	PhD Thesis	Professor PhD	Male	1
P11	Male	30	Management and Organization	PhD Thesis	Professor PhD	Male	4.5
P12	Female	29	Turkish Language and Literature	PhD Thesis	Professor PhD	Male	5
P13	Male	26	Psychological Services in Education	PhD Qualification	Associate Professor PhD	Female	3.5
P14	Male	30	Chemical	PhD Thesis	Professor PhD	Male	4.5
P15	Female	27	Economics	PhD Thesis	Professor PhD	Male	3
P16	Female	26	Tourism Management	PhD Qualification	PhD Lecturer	Male	2
P17	Male	26	Human Resources Management	Master Thesis	Professor PhD	Male	2.5

Source: authors' own work.

sharing, coaching, exposure and visibility, skill development, challenging ideas, and networking, which are sub-functions of reverse mentoring career function.

The answers given to the question asked in the interview regarding the knowledge-sharing sub-function are examined, and some remarkable parts of the interview are shared below: "Theses, lectures, students supervised by teachers, academic exchanges, and very rarely private affairs are discussed" (P10). "The interviews generally refer to the course content. Determination of students' homework, determination of course topics, etc. In some cases the sharing is mutual" (P12).

Considering all the duties in a research assistantship, it is inevitable that information sharing will be of good quality due to the closeness of working with the advisor. The course load, administrative duties, and other responsibilities of the advisor, as well as the research assistant, can also reveal the result of nourishment from this source.

The existence of the coaching sub-function can be evaluated based on the following responses: "I usually provide technical assistance to my teacher, including communicating with students. We share things in an academic context, and I think I contribute to the development of my teacher" (P7).

> I think I contributed to the development of my teacher. When I find new information in a newspaper, on the internet, or when I read a new paper, article, or thesis about our field, I send it to my teacher. When a topic I am talking about is interesting, they start researching directly. I am encouraging my teacher to take action on that subject. (P2)

The support given by the research assistants to the advisors varies according to the expectations and demands of the advisor. For an important function of both mentoring and reverse mentoring to emerge and develop, such as coaching, both sides must be ready and willing. Although research assistants have various levels of support and assistance from their professors, this situation may not be considered coaching most of the time.

The following answers for the exposure and visibility sub-function were evaluated as significant for the research: "After the thesis, we published a project and sent it to the chamber of commerce and industry, which was our joint effort. There is also another person/institution included in our work. I'm also included in the work of others" (P2).

> I achieved a pass in research design and the review of literature depending on the nature of the topic. I am mostly involved in data collection and analysis. Recently I also turned to sectoral activities, in which my teacher has a strong background. We aim to mobilise this. (P3)

It could be said that the function of exposure and visibility isn't really comprehended in the reverse mentoring relationship, as it is believed that the advisor contributes more to the research assistant in this field due to reasons such as position and age.

Skill development is considered one of the most important sub-functions of reverse mentoring and the most relevant parts of the responses are given below: "Because we clearly value students, we often meet in terms of how we can do things better regarding the lessons and materials. I am also able to guide my teacher in this regard" (P1).

> I think I am a little better in terms of foreign languages. In terms of technology, I can be helpful for my teacher. Technology is key in many fields such as document sharing, student affairs, and I can help and show him how to do things. (P11)

Research assistants can be better in areas such as foreign languages, literature review, technological knowledge, and research methods compared to their advisors. They tend to convey information to their advisors in areas such as newly emerging research method programmes, academic social networking sites, course materials, etc.

The following answers were given by the participants for the sub-function of challenging ideas:

> I mean, when there is something I don't like, for example if there is a subject that we think is not that beneficial for the students and that I think will confuse the students, I say so. Whether the teacher accepts it or not. (P13)

> I definitely speak out when I see something wrong. We discuss it and when he sees that I am persistent and determined, I manage to convince him. When I see that there is a better way, I always try to convince him. Although sometimes the opposite happens. (P9)

Research assistants engage in academic discussions and as a result try to persuade their advisors. In cases where discussions are perceived as personal, the relationship-enhancing feature of the discussions is known.

Below are some of the highlights from the responses of the participants for the networking sub-function: "Although we're not very active on social media, we use it in a positive way. I am more active than my teacher and I advised him to use it. Finally, the teacher showed improvement in this subject" (P3). "We also use a social platform called ResearchGate. If material related to our field is released, then since our teacher is a member of that platform he can send us an e-mail in case we didn't see the articles" (P8).

Most research assistants see social media as an important tool for announcements, research, and environmental acquisition, although there are also

research assistants who think otherwise: "I do not actively use social media. I don't think it has or will affect my work. My teacher is not engaged with social media either" (P15).

Research assistants usually try to encourage them by explaining the good aspects of social media at this point.

Findings regarding the reverse mentoring psycho-social function

In this section the findings related to support and feedback, acceptance and confirmation, friendship, affirmation and encouragement, which are sub-functions of reverse mentoring's the psycho-social function, will be shared.

Support and feedback can be exemplified by the following statements from the interviews: "She is not aware of all of my work. I'm not aware of all the work done by my teacher either" (P14). "I'm following a lecture by my teacher. At the end of the lesson, my teacher asks me for my ideas. I then see that the teacher has taken my ideas into consideration in the next lesson. This makes me very happy" (P17).

Since research assistants have as much knowledge as conveyed to them by their advisors, they can express their opinions on many issues if there is a request for advice. Based on the responses received it can be seen that this sub-function of reverse mentoring does not emerge very often in the relationship between research assistants and their advisors.

The following expressions were obtained for the acceptance and confirmation sub-function: "I have no idea what he thinks of me, as he hasn't said anything good or bad. He likes my administrative work, but I feel that he doesn't think so in an academic sense" (P11).

> I think it is positive. I think so as he sends me to the classroom eagerly, gives me lecture opportunities, and provides me with a heavy workload related to the lessons. I did not make any efforts to improve my teacher's perception of me because I think the teacher knows me well enough. (P5)

When a regular business relationship is established within the organization on both sides, visibility and recognition among each other's peers increase. Research assistants represent their professors in the classroom and at the congress and fulfil their teacher's duties.

The friendship sub-function can be summarised as follows according to the data obtained from the interviews: "I also talk to my teacher on subjects other than academic. I got married last year, so we talk about the wedding and marriage in general. He gives me advice and asks about various issues" (P10). "I talk to my teacher about our family lives outside of work. I get on with his wife very well, and we often visit each other. He even says that he wants us to buy a house and move there" (P12).

Sometimes I express sadness when the time comes, and I share the same with my teacher in a humanitarian sense. I'll take walks with my teacher, and although our conversations usually begin academically, we end up talking about every-day issues. When he's near my house we often comes over for some tea. I fee that there is a special relationship between us. (P3)

In general, the relationship with the advisors is limited and sometimes intense. In addition, talking about non-work-related issues in a business environment, it is generally expected that ideas can be exchanged on issues such as family, health, and the future by moving away from business topics.

The following considerations stand out for the affirmation and encouragement sub-function: "I tend to positively motivate my teacher. I think this is good in terms of academics and consultancy. I vividly express that I appreciate this aspect" (P2). "The most important deficiency that I see in the teacher and that I think he should improve is time management. He could be more sensitive… but of course, I can't tell him that" (P10).

Many of the research assistants stated that there are aspects that need improvement with regard to their professors. However, they prefer to express the good aspects rather than the bad ones. Topics such as time management or counseling are aspects they should develop.

Findings regarding the reverse mentoring role model function

In this part of the research the findings related to the new perspective, behaviour to emulate, and identifying with values, which are sub-functions of the role model function, are shared.

The new perspective is an important sub-function of reverse mentoring, and the findings related to this function are summarised below: "If the topic is academic, I try to be supportive, and express myself boldly. There are things that the teacher is unaware of. Viewing through an outside eye, I try to help the teacher where there is a problem and how to solve it" (P3). „There are different approaches to a teacher's problems. For example, I tell my teacher if I think that exams should not be evaluated, that I think the evaluation is wrong. I'm try to persuade my teacher" (P9).

Research assistants stated that they do not hesitate to take responsibility when a solution is needed. This is especially so if they are asked for their opinion on subjects such as coursework, determining new assignments, or in which direction the field is going. They try to show new perspectives to teachers by participating in these processes to showcase them.

The behaviour to emulate sub-function can be expressed as follows: "I watch a lot of lectures on YouTube, such as case studies, business games, and methods that appeal to visual intelligence. I think we should use them too. However, these issues are never discussed with the teacher" (P11).

For example, my teacher shares anecdotes about his experiences abroad. He talks about meetings with professors at other universities. He reads The Economist magazine and shares the articles that he finds important with me. I also share newly acquired knowledge with my teacher. But sharing is usually done by the teacher. (P7)

Research assistants stated that they did experience sharing of information regarding other universities and foreign practices during their meetings with their advisors. However, the sharing is mostly done by advisors who are faculty members.

Findings for identifying with values are given below: "My teacher's attitude is generally encouraging in certain areas. In others it is restrictive" (P4). "We have an unstable relationship. Sometimes we are in constant communication, sometimes there is no communication at all, and there is even a disconnection. Therefore, I cannot predict how the relationship will proceed" (P11).

Despite negative characteristics of advisors, some opinions suggest a will to maintain the relationship in general.

Conclusions

This study aims to evaluate the relationship between research assistants and their advisors in terms of reverse mentoring functions. It is based on a qualitative method and the evaluations of the research assistants are consulted. According to the findings, information sharing, challenging ideas, networking, friendship, and new perspective sub-functions are effective in the context of research assistantship. It can be said that the functions of coaching, skills development, support and feedback, acceptance and confirmation, affirmation and encouragement, and identifying with values are partially present. It is also concluded that the sub-functions of exposure and visibility, as well as behaviour to emulate, do not exist in the mentioned relationship.

All the research assistants within the scope of the research are Y Generation individuals in terms of the distinctions mentioned in literature. The research was conducted with a study group of a mean age of 28.6. Apart from the age factor, the gender of the mentor and the mentee can be considered an important factor. In cross-matches, that is male mentor and female mentee, or vice versa, reverse mentoring functions such as friendship and challenging ideas occur less frequently. However, apart from the functions mentioned in the relationship between a male lecturer and a male research assistant, other functions such as social networks, encouragement, and identification with values become more effective.

Based on the findings of this research it can be seen that reverse mentoring is felt more at a higher level, especially Ph.D. qualifications. Research assistants who pass the qualification, feel as if they are turning into colleagues for their advisors. The feeling of collegial-ity draws the student-teacher relationship between the advisor and the research assistant into a suitable ground for reverse mentoring. Again, as the duration of counseling increases, factors such as trust and being on the same frequency emerge in parallel with the feeling of togetherness. One of the most frequently used terms used by research assistants is the bridge. They try to support their advisors by acting as a bridge in communication between advisors and students.

One of the important limitations of the research is that it only focuses on the mentor side of the mentioned relationship. In the field of reverse mentoring, the research could be deepened by using the opinions of the faculty members in future studies. In addition, the imbalance in the gender distribution of advisors reveals an important constraint regarding the interpretations to be made regarding gender. Research can be designed by establishing a relationship between reverse mentoring and personal characteristics. However, the emergence of reverse mentoring, which emerged as a practice especially in the USA, may be different in every society and culture. Cultural dimensions and reverse mentoring are considered another research topic to be explored.

Despite these findings, Baily (2009) suggested that reverse mentoring is not a common phenomenon and the focus is primarily on the transfer of technical competencies. There are also opinions that oppose the reverse mentoring structure, arguing that a young mentor will lack the necessary confidence and experience, especially in areas such as health and education (Clarke et al., 2019). There are also studies suggesting that reverse mentoring will confront newly developed and adopted online self-learning techniques (Singh et al., 2021).

Despite this criticism, as long as there are digital innovations and relevant developments in globalisation, equality, and justice issues, the new generation entering the workplace will be equipped with newer insights, advanced skills, and fresh perspectives that the previous generation did not have (Chaudhuri et al., 2021). This situation will lead to a search that will mobilise the authorities to close the gap. It can therefore be said that reverse mentoring will maintain its popularity.

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Appendix 1 is available in the online version of the journal.

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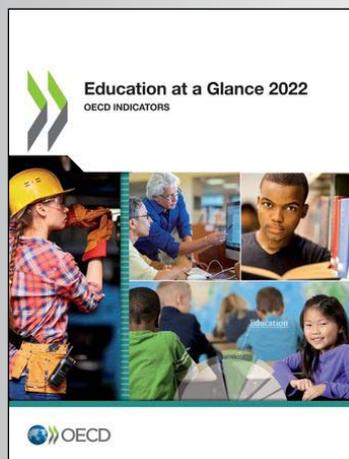
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External and global, or internal and local? Which main factors shape the organisational culture of shared service centres of transnational corporations in Poland?

Maria Niewierko

Abstract

Organisational culture has been the topic of research and in-depth analysis for around fifty years, emphasising the multifaceted nature and operationalisation challenges of organisational culture. Studies on its manifestations (i.e. values, behaviours, symbols) and functions have been conducted in relation to corporations, perceived as one entity rather than its subsidiaries. The aim of this article is to investigate the factors shaping the organisational culture of the growing number of shared service centres (SSC) of transnational corporations in Poland, an area that has not yet been thoroughly explored. The article is both theoretical and empirical, with the theoretical part devoted to the characteristics of the growing numbers of SSCs in Poland and a comprehensive classification of environmental factors in which SSCs function, while in the empirical part the author conducted statistical tests regarding the choice of dominant factors shaping SSC culture. A practical dimension of the study is the ranking list of factors shaping the SSC organisational culture: at the top of the rank are the factors related to the activity profile (both for the SSC and parent company) and human capital factors (age, competences, qualifications, employee gender both for the SSC and the parent company). The reverse approach to culture, concentrating more on the process of shaping it rather than an analysis of the actual state and the specificity of the culture, brings added value to the study.

Keywords: organisational culture, factors shaping organisational culture, shared service center (SSC), parent company, globalisation

Introduction

We live in a time of black swans and the era of VUCA (volatility, uncertainty, complexity, ambiguity), for which the changeability and unpredictability of market factors, to some extent even chaos, have become a new order and a synonym of "the new normal". The context of permanent change and global interdependencies affects economic entities for which a common pillar of their activities is the permeability of physical boundaries, such as time and space, national, economic, but also abstract ones, such as cultural norms and values. Consequently, the main focus of managing a company shifts to its internal environment, which, if properly managed, can help a company prepare for global challenges: "The secret to achieving success is not to anticipate the future, but to build an organisation that will function in an unpredictable future" (Hammer, 1999, p. 160). Changes and interdependencies, both of a global and local nature, are particularly visible in organisational culture, defined as "a set of dominant values and norms of behaviour that are characteristic of a given organisation and built on assumptions on the nature of reality and manifested through artifacts – external, artificial creations of a given culture" (Kostera, 2004, p. 593).

The aim of this article is to analyse the main factors shaping organisational culture for the growing number of shared service centres (SSC) of transnational corporations in Poland. For several years Poland has been the most-chosen country for locating business

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services in Europe, including shared service centres as a part of the business services that are one of the most dynamically developing elements of the Polish economy, the so-called high opportunity sector. In the latest A. T. Kearney Global Service Location Index, Top 2021 (Kearney, 2021) ranking of the most-chosen location countries for outsourcing services, Poland came 14th, ahead of other European countries: Germany (16th), Bulgaria (17th), Portugal (18th), Georgia (19th) and Latvia, which closes the top twenty. For several years the leaders of the ranking have been India, China and Malaysia, respectively. One of the most important factors influencing the decision to outsource some processes to SSCs in Poland are the cultural conditions (the so-called "cultural proximity") of Poland.

Although organisational culture, its importance and impact on enterprise management have been well presented in Polish and foreign literature, the area of shaping this culture through the influence of local and global, or internal and external factors has not yet been sufficiently systematised and researched.

The article is composed of theoretical and empirical parts. The theory itself is divided into 2 parts: development of the concept and the meaning of organisational culture in the former, and the characteristics of SSCs in Poland and a catalogue of factors influencing SSCs' organisational culture in the latter. The empirical part is devoted to the statistical inference for the choice of the dominant factors shaping SSC culture. The findings are accompanied by some corrective actions for further research in order to obtain clearer results.

Organisational culture and the characteristic of shared service centres

The first references to organisational culture without its literal definition appeared in scientific literature at the turn of the 19th and 20th centuries and referred to team cooperation, the authority of superiors, the role of national values and thus the perceptible atmosphere at work. F. W. Taylor and H. Fayol identified some "default assumptions of culture" in organisations: Taylor referred to work consistent with "national efficiency" identifying management with national values, while Fayol referred to "team spirit" as a source of harmony and cooperation (Sułkowski, 2012, s. 17). Ch. I. Barnard, in turn, pointed to the authority of managers in setting moral imperatives, i.e. the role of management in promoting the highest organisational values. Barnard emphasised that managers, in order to ensure a pragmatic goal, i.e. to achieve the highest possible organisational effectiveness – have a duty to inculcate a moral goal in their subordinate employees. To achieve this they have to learn to go beyond narrowly understood self-interest and make ethical obligations towards society (Wojtysiak-Kotlarski, 2011, s. 122). The second half of the 20th century was a time of economic boom, but also a time of "prosperity" in the context of research on organisational culture. Cultural factors began to be taken into account in

economic analyses, e.g. comparative studies of the industrialisation process of developing countries, and in management sciences a discipline of intercultural management was distinguished.

Organisational culture was finally defined by the Canadian psychologist and physician E. Jacques as a way of thinking and acting that is shared more or less by all employees, which new members of the organisation have to learn and at least partially accept in order to be accepted themselves (Jacques, 1952). Since then, organisational culture has been given the role of a company's specific DNA, a set of its unique features that are the foundation of formal organisational solutions.

Today, in the first half of the 21st century, the interest of organisational culture is mainly focused on researching the link between this culture and knowledge sharing, organisational innovation or a competitive advantage. Although this relation is not questionable, the question still remains as to how to rank, if possible, the most important features and factors of a strong culture (Azeem et al., 2021).

Organisational culture, its importance and influence in management, have a well-established position in Polish and foreign literature. Culture is the foundation of people's activity, the determinant of the boundaries of the organisations they establish and the source of their identity and behaviour (Boski, 2022). Culture is a part of many areas and processes in an organisation, being a kind of universal medium in which organisations are immersed. The study of organisational culture is characterised by a multi-directional relationship with other subsystems of the organisation, such as strategy or human resource management (Czainska, 2013). Organisational culture is neither directly observable nor always made aware of, which is why its study is carried out through other variables – descriptors that include basic assumptions, values and norms as well as artifacts, i.e. a combination of behaviour, language and symbols (Bjørge et al., 2017; Hofstede et al., 2010; Schein, 1985).

The description of the components of organisational culture is largely based on the iceberg model by E. Schein and the onion model (or the onion diagram) of culture by G. Hofstede. In E. Schein's iceberg model, a pillar of culture that is completely invisible and often unconscious is made up of basic assumptions that are expressed in the approach to nature, time, role women, truth, space. The next layer of the model belongs to values, which are partially visible manifestations of culture. This is just the tip of the iceberg, so the most visible and often physical parts of culture are artifacts, such as language, outfit, things and symbols. Schein's iceberg model is based on the Freudian concept of personality, where culture is embedded in a realm of basic assumptions, of which we are usually unaware, unless they are violated.

Contrary to E. Schein, G. Hofstede pointed out that cultures differ to a large extent through practices and behaviours resulting from different interpretations of the same values. G. Hofstede presented the structure

of culture in the form of an onion model (or onion diagram) with overlapping layers. Each of the layers shows a given manifestation, that is:

- values (central layer of the model): unchanged or hardly changing throughout life and one's professional career;
- practices, heroes (layers surrounding values): changing more often than values;
- symbols (outer, last layer): the most susceptible to change manifestations of culture.

The above analytical complexities constitute one of the major research problems with the organisational culture: the multitude of its theory make a real "research burden" in the field of organisational culture, which significantly hinders its operationalisation (Sułkowski, 2012).

The research on organisational culture can be divided into two main perspectives. In the first one organisational culture is examined from the perspective of the degree to which it affects the effectiveness of the company's operations. The research into this trend focuses on identifying the features of organisational culture that influence the company's market success and the perception of culture as one of the intangible resources influencing the value of the enterprise. In this approach the organisational culture is analysed together with the organisation's strategy, goals, and vision of development (Cameron & Quinn, 2015; Jabłoński & Jabłoński, 2005). In the second perspective the essence of the perception of organisational culture is the identity of the group, which is distinctive of the behaviour of an organisation's members. This perspective largely uses research in the field of cultural differences and intercultural management (Hampden-Turner & Trompenaars, 1993; Rozkwitalska, 2011) and is based on the achievements of other disciplines of social sciences (i.e. anthropology, sociology, psychology) in the process of shaping cultural processes. In this approach, unlike in the former one, the focus is on the analysis of coexisting, and equitable cultures that change depending on national, geographical and historical factors. For both the first and the second perspective, the topic of research was the organisational culture of transnational corporations, also called corporate culture.

Literature does not provide a separate definition or research perspective for the organisational culture of shared service centres. SSCs are separate organisational units that ensure the support processes entrusted to them, owning dedicated resources to do so, which is why SSCs operate as independent business ventures. The essence of creating SSCs is to stop the duplication of functions deployed in other organisational units within an organisation. Historically, the first SSCs were created in the 1980s in corporations, although nowadays many other types of organisations (i.e. local authorities) also create their own SSCs. The most common processes implemented by SSCs include: customer service, finance and banking, IT support, HR and payroll services, data and documentation management and supply chain management. SSCs provide services within one narrow specialisation or implement several business processes at once.

In the case of SSC organisational culture its specific nature is due to the coexistence of two bipolar cultural phenomena: on the one hand global values, a culture of openness, inclusiveness and cultural diversity, which is the result of connecting different communities in transnational cooperation networks, and on the other a culture strongly embedded in a framework of narrow specialisations and processes (siloes) within SSCs, which may distract employees from the intended, transnational vision of culture and the knowledge of its global values.

SSCs are a part of the business services sector (BSS), one of the most dynamically developing in Poland. The share of the BSS sector in total level of employment in the enterprise sector increased to 5.6% in 2021. Employment in BSS also increased during the pandemic, while total employment in the enterprise sector decreased by 2.0% (ABSL, 2021, p. 46). According to ABSL (ABSL, 2021, p. 30) in the first quarter of 2021 there were 1602 different types of centres, such as SSC, IT, R&D and BPO centres (business process operations), all belonging to the business services sector. According to the author's own research there are 256 shared service centres that are subsidiaries of transnational corporations in Poland.

The main research directions regarding SSCs in Polish literature concern cost optimisation, restructuring, formal and legal issues for the process of establishing and managing SSCs by local authorities (Garczarek, 2016; Łukaszczyk, 2018, Modrzyński et al., 2018), location factors, accessibility and qualifications of local employees in Poland, mainly in the area of IT and finance (Panczyj & Gondek, 2008). In foreign literature this is the analysis of centralisation, specialisation and control mechanisms in SSCs (Quinn et al., 2000; Richter, 2021), the role of branches in the transfer of knowledge from headquarters, as well as to other branches within the capital structure (Earley & Mosakowski, 2017). Therefore, analysis of the factors influencing organisational culture is still a research gap, and exploring this area may be a theoretical and practical contribution.

Factors shaping the organisational culture of shared service centres of transnational corporations in Poland

"In the beginning there was the environment", writes B. R. Kuc (2015, p. 92), emphasising the influence of the environment and its factors on the development and decline of organisations.

In the case of factors shaping the organisational culture of shared service centres, the author's goal was to develop a comprehensive list of factors that would allow for a precise determination of factors either from the external or internal environment of the SSC or its parent company. It has become a central outcome in the current study of two raised questions:

1. What specific factors shape the organisational culture of shared service centres of branches of transnational corporations?
2. Is there any dominant category of factors, e.g. external, internal or global, that has a greater impact on the organisational culture of shared service centres of transnational corporations than other categories?

Taking into account global interdependencies, the local context of both SSCs and their parent companies, as well as the division of factors into external and internal categories, a diagram of the environment and its factors that influence the organisational culture of shared service centres has been developed, as shown in Figure 1.

The diagram shows overlapping circles, which indicate connections – relationships between different environments. This approach seems to be the optimal way to obtain the most precise answers, indicating not only the factor itself, but also its source in the process of shaping an SSC's organisational culture. Not only does such a system correspond to contemporary socio-economic interdependencies, but it also results from the specificity of the way SSCs function, combining global trends with the market and cultural context of the parent company and shared service centre. This diagram perfectly illustrates that the SSC organisational culture is the result of blending the na-

ture of the factors with the type of environment, and is permanently adapted to the current challenges.

The environment of SSCs, but also of the vast majority of modern enterprises, is multi-layered: external and internal factors are dominated by global factors. The idea behind this approach was to present the interdependence of factors as an effect of the network nature of today's economy, and not of their hierarchy. Czainska (2013) points at the fluidity of the boundaries between the factors, and emphasises the difficulty in establishing the cause-effect relations between them. The approach presented in Figure 1 takes into account factors belonging to:

- the global external environment (megatrends);
- the external environment of SSCs and the parent company;
- the internal environment of SSCs and the parent company.

Global factors, called megatrends, cause comprehensive changes in the management, organisation and coordination of the activities of enterprises (Camdessus, 2019; Drożdż et al., 2020). The main ones are:

- the global culture, its multiculturalism, diversity and universalism of values, which also generates universal consumption patterns, influences the perception of the world in unified categories, and can also be a source of cultural stereotypes;

Figure 1
Diagram of the environment and its factors that influence the organisational culture of SSCs
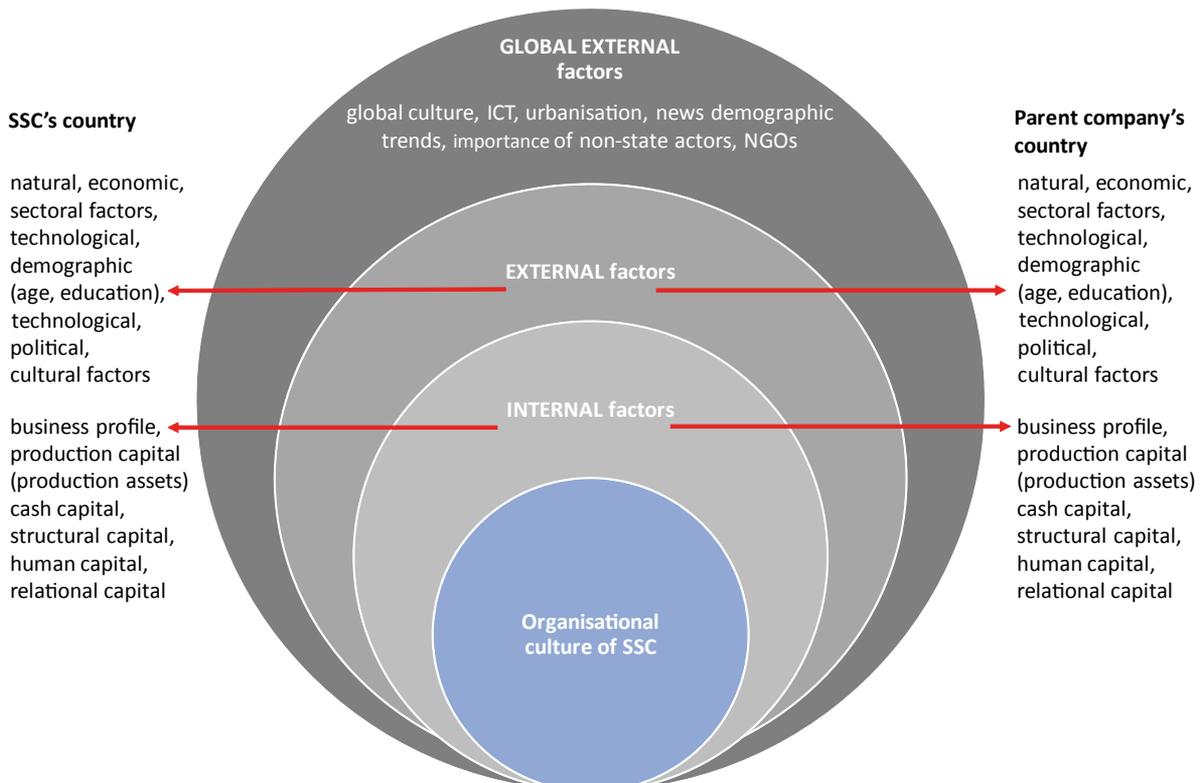
Source: author's own work.

- information and communication technologies (ICT), using the robotisation of processes and artificial intelligence, supporting the development of smart cities, an economy based on knowledge and information, increasing the share of knowledge workers and qualified teams;
- progressive urbanisation, driven by mobility, which favours the emergence of multicultural cities as centres of life, business and cultural development;
- demographic trends, in particular a new generation entering the labour market, the expansion of the middle class, the education of women, all of which entail changes in the value system (i.e. family, work-life balance) and the common use of new technologies;
- the importance of non-state actors and non-governmental organisations, setting new rules in business relations, which increases the transparency of a corporation's activities.

As for factors derived from the external environment, both in the SSC's country and the parent company's country they refer to the factors' features (natural, technical, economic, social, cultural, political and legal factors, usually presented in the form of a "PEST" analysis), or the type of business environment (direct and indirect, internal and external, micro, mezzo and macroeconomic, national, sectoral and international).

Regarding the internal environment, the choice of its factors links with the resources and capital that are used to build a competitive advantage of the organisation (i.e. human, relational, cash, structural, production capital and business profile of the company). While external factors penetrate the interior of each organisation, affecting the majority of companies in a similar way, internal factors such as age or specific competences of employees can be a special distinguishing feature of a company, shaping its organisational culture. Of all internal factors, human capital seems the most specific for the SSC organisational culture. It is very comprehensive and englobes such features as age, gender, employees, nationality, competences and qualifications of employees and managers. One of the most characteristic features of the employment structure in SSCs is the young age of employees. ABSL data from 2021 indicates an increase in the share of the group of people aged 35–44 by 4 percentage points in overall employment in BSS (ABSL, 2021, p. 53). The above changes are accompanied by an increase in the share of specialist positions in the employment structure of centres and a decline in the share of lower-level positions, so-called "junior", which confirms the organisational maturity trend of the entire sector.

Research methodology

The aim of the study was to select, where possible, the main factors shaping the organisational culture of shared service centres of transnational corporations in Poland and to develop a so-called "short list" of factors that shape this culture. A second objective was to verify whether or not there is a dominant category of factors that has a greater impact on the organisational culture of SSCs than other categories. The starting point for further research was the development of a list of the most important external and internal factors shaping the organisational culture of SSCs on the basis of literature research. As a result a list of 31 factors was developed and is presented in Table 1.

The survey was conducted between January and February 2020 using a CAWI survey, which was sent once to a selected research group. This group consisted of experts and practitioners with insight into and knowledge about the organisational culture of shared service centres of transnational corporations, and with experience in managing it. The study was therefore an expert panel, with a deliberately selected research sample of 34 respondents, which included:

- employees of the SSC and the headquarters of the SSC in Poland (18 people);
- academics researching organisational culture (7 people);
- experts and partners of accounting and network companies (9 people).

The research was of a pilot nature: before conducting a full-scale study, including employees from over 250 SSCs in Poland, the author conducted a study on a small sample. The intention of the study was to check if the proposed research tool – the Likert scale, would give results that bring measurable answers through statistical tests.

The survey questionnaire consisted of 36 questions: 31 closed and 5 open. The closed questions were single-choice questions, which had to be marked on a 5-point Likert scale used in marketing research to measure beliefs and attitudes towards a given opinion. Open questions in the survey made it possible for the responders to enter their own answers – the factors that were not listed in the questionnaire, which was to ensure the possibility of obtaining a complete list of factors. The respondents' task was to express an opinion by responding to the statements regarding the impact of how the presented factors shape the SSC's organisational culture ("the organisational culture of Shared Services Centres is shaped by factor x"). This was done by determining the degree to which a respondent agrees with a given statement. The intensity of the attitude – the degree of acceptance of the statements was measured using a 5-point scale, described verbally and numerically as follows:

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly agree.

The impact of factors shaping the organisational culture was applied to culture understood in a holistic and general way as a set of values, rules, behaviours, language and symbols characteristic of the organisation, and which shape the way of thinking and acting

Table 1

Selected factors influencing the organisational culture of SSCs

No.	Categories of factors	Exemples of factors
1.	Category 1 EXTERNAL factors of the parent company's country	1.1. natural factors of the parent company's country (e.g. topography, water resources, raw materials)
2.		1.2. demographic factors of the parent company's country (e.g. age, education)
3.		1.3. technical and technological factors of the parent company's country (e.g. available technologies, artificial intelligence, robotics)
4.		1.4. sectoral factors of the parent company's country (e.g. buyers, suppliers, competition)
5.		1.5. economic factors of the parent company's country (e.g. GDP, inflation, unemployment, economic conditions)
6.		1.6. political and legal factors of the parent company's country (e.g. national policies and regulations
7.		1.7. cultural factors of the parent company's country (e.g. national values, lifestyle, patterns of consumer behaviour, the role of the state, religion, tradition)
8.	Category 2 EXTERNAL factors of the SSC country	2.1. natural factors of the SSC country (e.g. topography, water resources, raw materials)
9.		2.2. demographic factors of the SSC country (e.g. age, education)
10.		2.3. technical and technological factors of the SSC country (e.g. available technologies, artificial intelligence, robotics)
11.		2.4. sectoral factors of the SSC country (e.g. buyers, suppliers, competition)
12.		2.5. economic factors of the SSC country (e.g. GDP, inflation, unemployment, economic conditions)
13.		2.6. political and legal factors of the SSC country (e.g. national policies and regulations)
14.		2.7. cultural factors of the SSC country (e.g. national values, lifestyle, patterns of consumer behaviour, the role of the state, religion, tradition)
15.	Category 3 EXTERNAL GLOBAL, common factors for both the SSC and parent company	3.1. global culture (dominant consumption model, unified tastes and model of life, multiculturalism)
16.		3.2. information technologies, ICT (e.g. information and communication technologies, Internet, automation and robotisation)
17.		3.3. urbanisation (e.g. megacities, smart city systems)
18.		3.4. new demographic trends (e.g. population growth, aging society, immigration, expansion of the middle class, education of women)
19.		3.5. growing importance of non-state actors and non-governmental organisations
20.	Category 4 INTERNAL factors of the parent company	4.1. business profile of the parent company
21.		4.2. production capital (production assets) of the parent company
22.		4.3. cash capital (funds at the disposal of the company)
23.		4.4. structural capital (e.g. organisational structure, hardware and software, databases, management processes)
24.		4.5. human capital (including employees, their knowledge, skills, competences)
25.		4.6. relational capital (e.g. relations of the organisation with clients, local governments, universities, associations)
26.	Category 5 INTERNAL factors of the SSC	5.1. business profile, services and process of the SSC
27.		5.2. production capital (production assets) of the SSC
28.		5.3. cash capital (funds at the disposal of the company)
29.		5.4. structural capital (e.g. organizational structure, hardware and software, databases, management processes)
30.		5.5. human capital (including employees, their knowledge, skills, competences)
31.		5.6. relational capital (e.g. relations of the organisation with clients, local governments, universities, associations)

Source: author's own work.

of its employees and distinguish the organisation from others. This definition was also presented in the questionnaire.

To develop the questionnaire the author analysed literature on the enterprise environment, taking into account the nature of the influencing factors: natural, technical, economic, social, cultural, political and legal, and the type of enterprise environment: direct and indirect, internal and external, micro, mezzo and macroeconomic, national, sectoral and international (Camdessus, 2019; Raich et al., 2011). This approach, dividing the origin of factors into external and internal, seems to be adequate in the case of research into sectors or narrower types of organisations. A similar perspective for the banking sector was adopted by

Kurkliński (2016), who proposed two categories of factors: a) intercultural factors for entities with foreign capital, and b) factors relating to a bank's external relations.

Findings

On the basis of the tested sample ($n = 34$), using statistical inference, the obtained results were verified as statistically significant and therefore not accidental. For this purpose statistical tests were conducted. Figure 2 presents the average results for each of the examined factors and Figure 3 presents the factors ranked from the one with the highest to the one with the lowest average.

Figure 2

Average results for factors that shape the organisational culture of SSCs
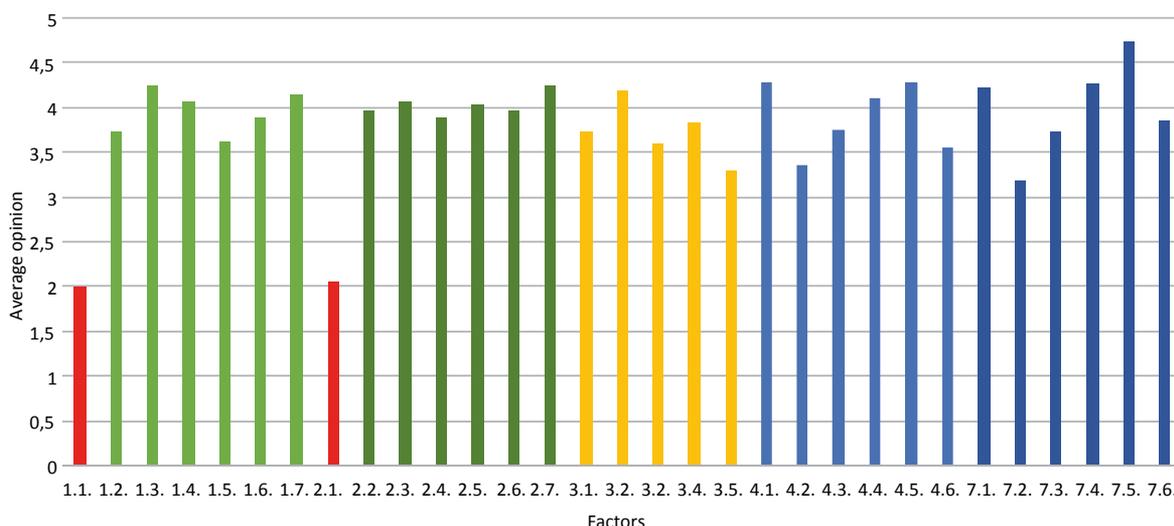
Source: author's own work.

Figure 3

The ranking of factors that influence the organizational culture of SSCs
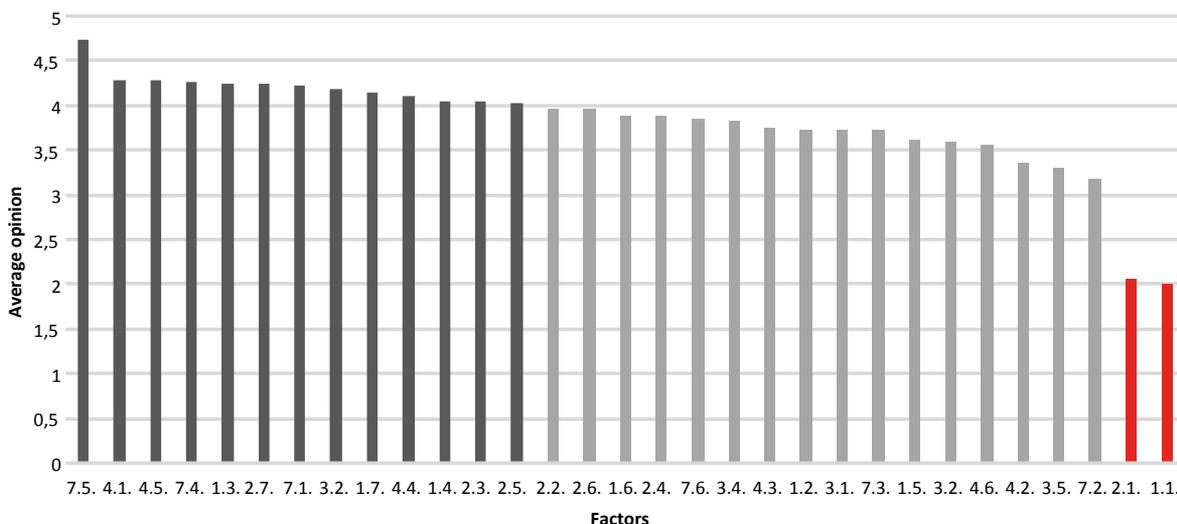
Source: author's own work.

Calculations of the average results show that only two factors: 1.1. (natural – environmental factors of the parent company's country) and 2.1. (natural – natural factors of the SSC country) are clearly below the neutral value (value 3 "neither agree nor disagree" on the scale). The arithmetic average for the 16 factors is above 3 and below 4, while 13 factors obtained the average above 4. A result with an average greater than 3 after the test had been conducted would mean that a given factor had an influence on shaping the SSC's organisational culture.

The significance level (α) for the tests performed was, as is most often the case with this type of test, at the level of 5% (alpha = 0.05). The choice of the significance level (α) means the acceptable probability of making a type I error, resulting in rejecting the null statistical hypothesis (H0) when it is true (so-called "false positive"). In the case of this test it would mean

rejecting the hypothesis that the factor (x) shaping the SSC's organisational culture had an average of 3, which would turn out to be false positive.

To verify the statistics hypotheses a Student t-test for one group was carried out, in which the average results from the conducted research were compared with the theoretical average adopted for the neutral answer "3" ("neither agree nor disagree") on a 5-point scale. With this assumption it was checked whether for each factor the average response would be significantly higher than 3. Also, tests with a significance level of 5% (alpha = 0.05) were carried out, their aim being to eliminate the factors of low significance, meaning those that have no impact on shaping the organisational culture of SSC. Table 2 shows the test results.

The analysis of test results, presented in Table 2, shows that the null statistical hypothesis H0: factor (x) shaping the SSC culture has an average of 3, and has

Table 2

Main factors shaping the organisational culture: p-value results

Factors tested (for alpha = 0.05)	Factors average	*p*-value	Test result – potential rejection of the statistic hypothesis
1.1. natural factors of the parent company's country (e.g. topography, water resources, raw materials)	2	0	**Rejected**
1.2. demographic factors of the parent company's country (e.g. age, education)	3.74	0.98	Not rejected
1.3. technical and technological factors of the parent company's country (e.g. available technologies, artificial intelligence, robotics)	4.24	1	Not rejected
1.4. sectoral factors of the parent company's country (e.g. buyers, suppliers, competition)	4.06	1	Not rejected
1.5. economic factors of the parent company's country (e.g. GDP, inflation, unemployment, economic conditions)	3.62	0.97	Not rejected
1.6. political and legal factors of the parent company's country (e.g. national policies and regulations)	3.88	1	Not rejected
1.7. cultural factors of the parent company's country (e.g. national values, lifestyle, patterns of consumer behaviour, the role of the state, religion, tradition)	4.15	1	Not rejected
2.1 natural factors of the SSC's country (e.g. topography, water resources, raw materials)	2.06	0	**Rejected**
2.2. demographic factors of the SSC's country (e.g. age, education)	3.97	1	Not rejected
2.3. technical and technological factors of the SSC's country (e.g. available technologies, artificial intelligence, robotics)	4.06	1	Not rejected
2.4. sectoral factors of the SSC's country (e.g. buyers, suppliers, competition)	3.88	1	Not rejected
2.5. economic factors of the SSC's country (e.g. GDP, inflation, unemployment, economic conditions)	4.02	1	Not rejected
2.6. political and legal factors of the SSC's country (e.g. national policies and regulations)	3.97	1	Not rejected
2.7. cultural factors of the SSC's country (e.g. national values, lifestyle, patterns of consumer behaviour, the role of the state, religion, tradition)	4.24	1	Not rejected
3.1. global culture (dominant consumption model, unified tastes and model of life, multiculturalism)	3.74	1	Not rejected
3.2. information technologies, ICT (e.g. information and communication technologies, Internet, automation and robotisation)	4.18	1	Not rejected

Table 2 – continue

| Factors tested (for alpha = 0.05)	Factors average	*p*-value	Test result – potential rejection of the statistic hypothesis
3.3. urbanisation (e.g. megacities, smart city systems)	3.59	0.93	Not rejected
3.4. new demographic trends (e.g. population growth, aging society, immigration, expansion of the middle class, education of women)	3.83	1	Not rejected
3.5. growing importance of non-state actors and non-governmental organisations	3.29	0.56	Not rejected
4.1. business profile of the parent company	4.29	1	Not rejected
4.2. production capital (production assets) of the parent company	3.35	0.64	Not rejected
4.3. cash capital (funds at the disposal of the company)	3.76	1	Not rejected
4.4. structural capital (e.g. organisational structure, hardware and software, databases, management processes)	4.12	1	Not rejected
4.5. human capital (including employees, their knowledge, skills, competences)	4.29	1	Not rejected
4.6. relational capital (e.g. relations of the organisation with clients, local governments, universities, associations)	3.56	0.98	Not rejected
5.1. business profile, services and process of the SSC	4.24	1	Not rejected
5.2. production capital (production assets) of the SSC	3.18	0.28	Not rejected
5.3. cash capital (funds at the disposal of the company)	3.74	1	Not rejected
5.4. structural capital (e.g. organisational structure, hardware and software, databases, management processes)	4.26	1	Not rejected
5.5. human capital (including employees, their knowledge, skills, competences)	4.74	1	Not rejected
5.6. relational capital (e.g. relations of the organisation with clients, local governments, universities, associations)	3.85	1	Not rejected

Source: author's own work.

been confirmed for 29 out of 31 tested factors. The implementation of the goal, which was the selection of the main factors shaping the organisational culture of shared service centres of transnational corporations in Poland, came down to the selection of 29 out of 31 factors described in Table 2, which did not allow for the development of a so-called "short list" of factors.

To achieve the second goal of the study, which was the selection of a dominant category of factors shaping the organisational culture of the SSC, two further t-Student tests were carried out. The first was a Student t-test for one group, which aim was to show that each of the five categories is important, i.e. that its arithmetic average is significantly greater than 3. Before the test, 2 irrelevant factors from the first test were rejected (1.1. and 2.1.), and then all the responses for a given group were counted. This showed that all categories are relevant, as shown in Figure 4. Figure 4 shows that the average results of each category are significantly greater than 3. Additionally, one of the categories

of external factors (external SSC) and internal factors (internal SSC) are equal to or greater than 4. To compare the average results of the factor categories with

Figure 4

Comparison between the categories of external and internal factors shaping the organisational culture of SSCs
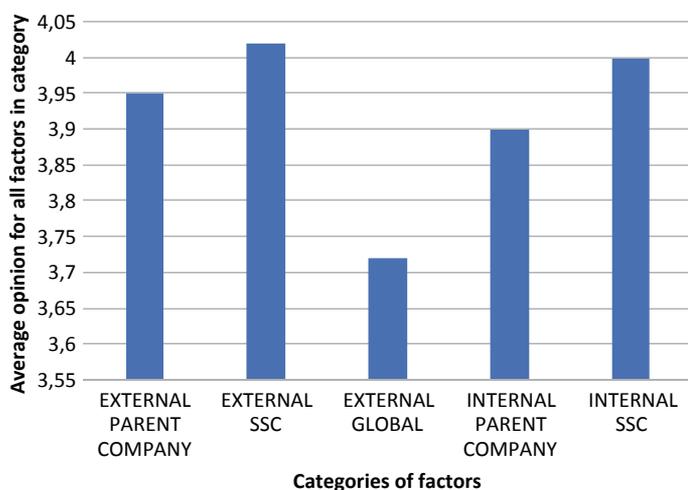
Source: author's own work.

Table 3
Comparison of results across factor categories

	p-value for Category 1	*p*-value for Category 2	*p*-value for Category 3	*p*-value for Category 4	*p*-value for Category 5
p-value for Category 1		0.79	0.02	0.31	0.72
p-value for Category 2	0.21		0	0.09	0.4
p-value for Category 3	0.98	1		0.95	1
p-value for Category 4	0.68	0.91	0.05		0.86
p-value for Category 5	0.28	0.6	0	0.14	

Source: author's own work.

each other, a Student t-test was performed for two groups. Table 3 shows a comparison between the factor categories verifying the p-value for the hypothesis that the factor category in a given row has an average greater than the factor category in the column.

Based on the calculations in Table 3, the comparative results of the categories indicate that each category is in total greater than 3. Category 5 dominates only over category 3. After the statistical tests had been conducted, the results of the survey gave a relatively uniformly-averaged picture of the factors and factor categories that influence shaping of the SCC organisational culture.

Non-numeric responses in the survey

In addition to numeric values, the survey also provided non-numeric responses, with the possibility of giving factors other than those suggested. These factors constituted a low percentage of all responses: the responders indicated 7 external and 7 internal factors, but the vast majority of these factors coincided with the examples from the questionnaire, although they were named differently. By indicating these factors below the author puts greater emphasis on some aspects of a given factor (e.g. social culture, the

approach to women, the acceptance of minorities, freedom of expression as an element of national culture), or connecting the factor with the manifestation of the organisational culture, e.g. communication in a company, the time when a company was set up and the company's history as the manifestations of culture – its language and communication as well as shared memory and organisational myths. The factors entered by the respondents are presented in Table 4.

Discussion

The conducted research has its limitations, caused primarily by a limited research sample. However, the study was of a pilot nature, and its research results constitute the basis for further, in-depth scientific exploration. The study resulted in the division of some complex factors, with a large number of variables, into several simple ones. The future direction of the study is to examine the full range of factors that could be conducted on the employees of the SSCs' population, with a full range of positions: from juniors to top management. In order to eliminate errors in such a study, in which the number of tested factors as well as the number of respondents significantly increases, the described pilot study served as a verification and

Table 4
Non-numeric answers of the respondents

External factors (both for the SSC and parent company)	Number of responses	Internal factors (both for the SSC and parent company)	Number of responses
The social culture of the parent company's country	1	Date and the company's history	1
The approach to women, acceptance of inorities, freedom of expression	2	Internal communication in the company	2
Universities and other SSCs in the region / city and employment opportunities	2	Managers management style	2
Infrastructure in the SSC country	2	Competences of SSC employees, such as knowledge of foreign languages	2

Source: author's own work.

exploratory stage: it was not exhaustive, but the collected conclusions may constitute the basis for further scientific exploration. The additional scope of research could be done by:

1. Interviewing SSC employees, especially those on junior and specialist positions. The respondents in the study were from a group of experts and top managers, therefore they were not critical of the culture, and did not give opinions of it as a tool of manipulation, which is raised by Critical Management Studies (CMS) (Alvesson & Willmott, 1992; Krzyworzeka, 2012). Getting to know the opinions of employees on lower positions could have brought different results, atypical to the power of domination or cultural stereotypes.

2. Comparing the organisational cultures of SSCs broken down into types of services provided by the SSC, e.g. customer service, finance and banking, IT support, HR and payroll services. This would allow to study the discrepancy between values, principles or norms in different SSCs. This approach was mainly applied to different units in one organisation rather that between a group of similar organisations (Kamiński, 2020; Trice, 1993).

3. Expanding the factors' list by adding the impact of the pandemic. The described research was carried out before the pandemic broke out, that is why global health threats caused by the COVID-19 were not included in the questionnaire form. The crisis truly affected the organisation and culture of work, especially in the aspect of greater flexibility regarding the form, time and scope of work, as well as the appearance of health and safety requirements.

Conclusion

The conducted research presents an "ex-ante" approach focused on the process of shaping a given organisational culture, which seems less described in literature than the "ex-post" approach, concentrating on the character or role of the organisational culture.

An analysis of the SSC environment has revealed its complex nature. Under the conditions of a less predictable environment there is a need to adapt company strategies to new market conditions. Although organisational culture is not a product tailored to the current market needs, knowledge of the factors that are influential for this culture may help in interpreting the spectrum of the behaviour of employees, which in turn may help to develop tailored solutions for the organisation. The main conclusions of the study conducted by the author are the following:

1. In the study of factors influencing the SSC's organisational culture, the vast majority of the studied factors and factor categories received a similar response, which does not allow us to completely reject a greater number of factors,

or indicate a clear leader among the factor categories. Out of 31 factors only 2 were rejected, which consequently prevented the development of a so-called "short list" of factors shaping the SSC's organisational culture.

2. Factors with the greatest impact on shaping the SSC's organisational culture include those related to the activity profile (both for the SSC and parent company) and human capital (age, competences, qualifications, the gender of employees both for the SSC and parent company). The complex nature of these factors, especially in the case of human capital, with a simultaneous high response score, indicates the need for refinement, dividing such factors into simpler ones with only one variable (e.g. only age, only gender, only competences).

3. The selection of a large number of important factors influencing the shaping of the SSC's organisational culture could indicate a broad perception of the organisational culture. The effect of such a wide spectrum is the indication of a large number of factors from the internal and external environment of the company as those influencing the process of its shaping: in the study of main factors, 29% of respondents chose the two highest values on the scale (4 or 5), which indicate that a given factor definitely has or rather has an impact on shaping the SSC's organisational culture.

4. A pragmatic conclusion from the research also shows the need to change the structure of the questionnaire form so that each respondent chooses only one of the most important factors, instead of determining their weight on a scale. The next corrective action to be implemented is the decomposition of factors into simple ones. Instead of analysing the human capital factor it would be more appropriate to examine its individual elements, i.e. age, competences. This would allow for more expressive (statistically separate) answers and give clear results.

The study and the conclusions from the research show that culture is worth analysing, especially for narrow types of organisations that combine various elements of culture. Despite the fact that organisational culture has been well described for almost 80 years, not all its aspects have been equally explored. One such aspect is the issue of factors shaping the organisational culture of a growing number of shared service centres of transnational corporations in Poland. Poland is a destination country for SSCs in Central and Eastern Europe, with cultural and economic conditions pointing to Poland as a good hub for European, American and Asian investors who build centres of unique, specialised competences in shared service centres. The variety of processes supported in the SSCs, as well as the impact of many external and internal factors influencing the SSCs indicate that research conclusions can be generalised to other types of organisation.

The impact of culture on an enterprise is undeniable, the research challenge is to measure this impact and select culture descriptors. The hierarchy approach to the factors shaping organisational culture proposed in this article is an attempt to meet the research challenges and systematise this area of cultural management.

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Developing innovation competences in schools. A practical perspective

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Abstract

This article argues that the development of innovation competences should take a more formalised role within the national education curriculum. The authors have developed a list of eighteen competences based on literature review and consultations with experts, with empirical results from a national study commissioned by the Polish Ministry of Development. The main purpose of the study was to propose a set of measures and recommendations in regard to the national reform of the education system in Poland. Based on extensive empirical data from that study the authors propose a set of hypotheses necessary to further investigate the possible relationships between variables analysed during the study commissioned by the Ministry, which include some of the demographic characteristics of Polish teachers in regard to their attitudes towards those competences. Although this is not the first endeavour in research on education to develop such a set of competences, the added value of this particular study is the acceptance and implementation of the research findings as a national benchmark in the Polish national education system. The results are of value to both teachers and teacher educators, and we position our research as Translational Research, attempting to bridge the gap between basic research and the world of practice, which involves teachers, as well as school and system-level leaders.

Keywords: innovation competences, innovation development, education system, teacher development, Translational Research

Introduction

The empirical results presented here were obtained from a national study commissioned by the Polish Ministry of Development in 2017. The main purpose of the study was to propose a set of measures and recommendations in regard to the national reform and development plan of schools in Poland. We have developed a list of 18 innovation competences following a thorough literature review. The research findings are used in a pilot project currently operated by the non-government organisation CEO (https://szkoladlainnowatora.ceo.org.pl/). For the purpose of this study we extended the scope of our investigation and looked at some of the demographic characteristics of Polish teachers in regard to their attitudes towards innovation competences. The growing interest in innovation around the world was reflected in the decision of the Polish government to take action towards increasing the innovation performance of the Polish economy. We argue that the role of primary and secondary education in the development of innovation competences is somewhat overshadowed by the vastly overestimated role of higher education in the development of these skills. Fostering critical thinking, creativity, and behavioural and social skills should be viewed as a central element of the remit of schools, colleges and universities (OECD, 2016), as creativity and innovation are key to EU education policy (Coate & Boulos, 2012; European Union, 2010), and OECD countries have long recognised the need to develop skilled people through education and training (OECD, 2011).

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Defining innovation competences

Over the last 20 years a range of terms such as key or core skills, key or core competences, and objectives to be achieved have been used in European countries and, depending on the country and sub-sector of education and training, one or another may be favoured (Gordon & O'Toole, 2015). Competences are described as clusters, bundles, or "a complex combination" of commitments, knowledge, skills, understanding, values, attitudes. Creativity or innovation is neither a specific competence in most national sets or frameworks, nor is it specifically identified as a 'skill'. According to the OECD (2019) "skills are the ability and capacity to carry out processes and be able to use one's knowledge in a responsible way to achieve a goal. Skills are part of a holistic concept of competency, involving the mobilisation of knowledge, skills, attitudes and values to meet complex demands".

In order to answer the fundamental question: "What are the innovation competences for schools?" and develop an innovation competence guiding framework, a meta-analysis of the many competence tools was conducted (Alshannag & Hamdan, 2015; Amabile, 1983; Bailey & Ford, 2003; Bakhshi & Mateos-Garcia, 2013; Banaji et al., 2013; Berger, 2014; Brookhart, 2013; Brown & Eisenhardt, 2004; Cropley, 2015; Csapó & Funke, 2017; Erol et al., 2012; Fuller & Clarke, 1994; Gordon & O'Toole, 2015; Hallam & Ireson, 1999; Hebert & Link, 2006; Heilmann & Korte, 2010; Kabukcu, 2015; Muijs & Reynolds, 2011; OECD, 2011; OECD, 2014; OECD, 2015; OECD, 2016; Scott & Bruce, 1994; Scott et al., 2010; Sternberg & Williams, 1996) and 55 research papers pertaining to innovation/education/creativity (e.g. European Innovation Council, 2021; Heilmann & Korte 2010; Markides, 2013; Mwasalwiba, 2010; Ramankulov et al., 2016; Samašonok & Juškevičienė, 2021; Samašonok & Juškevičienė, 2022; Shaheen, 2010). The result of this analysis contributed to the development of a comprehensive framework, with the aim to encompass all perspectives, and for use in this study (see: Figure 1.) Our approach to developing the list of competences shares many similarities with the approach presented by Guilford (1985), who saw his list as an educator's 'periodic table' (p. 255) and believed that his model (of creativity development) could be used to guide curricula. Guilford's 'periodic table' included 150 intellectual abilities with which teachers could assist students and suggested that teachers could use his list in the preparation of their lesson plans, in making assignments, and in assessing classroom performance. The model organised various abilities along three dimensions: content, product, and process. Guilford's research procedure consisted of tests for each combination of the possibilities on these three dimensions, expecting that a person could be high on some of these abilities while being low on others (see: Barlow, 2000).

Figure 1

Eighteen innovation competences

1. Curiosity and exploring possibilities: teaching to be curious and looking beyond the horizon.

2. Idea formation: teaching how to develop your own ideas and other people's ideas.

3. Problem solving: teaching how to solve problems and overcome obstacles.

4. Independent thinking: Identifying useful sources of information and gathering and utilizing only that information which is essential.

5. Divergent thinking: teaching on how to change the perspective and see the problem from another angle.

6. Framing problems: teaching how to put an abstract and vague concept into measurable frames which can be described and elaborated.

7. Multiple idea facilitation: teaching how to work on parallel ideas without premature selecting the 'correct one'.

8. Ability to learn: active approach to one's learning. This means asking for feedback and accepting criticism from others.

9. Courage and risk-taking: teaching to be brave and facing the challenges.

10. Problem visualization and developing imagination through useful metaphors.

11. Decision making: meeting deadlines, taking responsibility and risk management

12. Leading people: teaching how to be leaders, teaching about the importance of good leadership for the success of your plans, taking initiative.

13. Delayed gratification, or deferred gratification: the ability to resist the temptation for an immediate reward and wait for a later reward.

14. Change management and improvision.

15. Perseverance: importance of not giving up; trying harder, testing all options, not being discouraged to easily, working-hard.

16. Developing hobbies and teaching that having a hobby is an asset: rewarding students for nourishing their extracurricular interests; encouraging students to engage in extracurricular activities.

17. Collaborating: teaching how to achieve synergies, use the resources and skills of other people on the win-win basis; teaching to listen to suggestions from others and to trying new ideas.

18. Developing future orientation: teaching about the benefits of looking to the future opportunities.

Source: authors' own work.

Research design

Context of study, research background and challenges

The recognition of innovation competences, Figure 1, as important drivers of the modern economy was the foundation of a research project we conducted in 2017. The main goal of the research project was to obtain at least some proxy of the relationship between the performance of the most innovative economies in the world and the level of emphasis on the development of innovation competences in their systems of education. The main research task consisted of the following steps:

1. Definition of innovation competences.
2. Developing a questionnaire.
3. Conducting a national survey.
4. Data analysis.

The questionnaire consisted of two main questions:

1. A question containing 18 statements, where each statement was linked to the 18 pre-defined competences. For example, in the case of the first competence: "Curiosity and exploiting possibilities" the item in the questionnaire read: "In our school we teach curiosity and to explore possibilities" followed by a 2–4 sentence definition intended to avoid ambiguity and misinterpretation. Each of the 18 items was ranked on a Likert scale.
2. The second question in the questionnaire consisted of 11 opinions regarding the school management and pedagogies.
3. The third question was an open-end question in which the respondents were requested to share their opinions and suggestions regarding the development of innovation competences.

At the end of the questionnaire there was a demographics section in which we asked about the following information: (a) age of the teacher; (b) occupied position; (c) gender; (d) administrative region of Poland (województwo). Our research approach, where the teachers were the subjects and their answers considered as representative, was similar to the research approach taken by Chell and Athayde, 2009.

Research background and challenges

We did not differentiate between school levels and types of school, as our main focus was the system of education as such. Each respondent expressed their opinion on their school. In specific, before developing the final version of the questionnaire, we considered asking the respondents about their opinion on *their own personal experience* ("I teach …") and we finally chose to ask about *their school* ("In our school we teach/develop…") assuming that such formulation of an opinion should offer an option to express a more objective assessment, especially that we were interested in the system of education and not the personal practices of individual teachers. Thus, it was 'the school' (in the opinions of teachers) rather than the personal practice of a teacher that was the unit of analysis. Every item in the first question, in its full version in Polish, started with the following: "In our school we teach/develop…". We could not apply fully objective criteria for the measurement of competences (as they do not exist) and resorted to the assessment by the respondents which are most knowledgeable about the situation in their direct environment.

In order to identify innovation competences we searched for articles containing such terms as 'innovation skills/competences', 'creativity (skills)', 'creative environments'. The limited number of resources reflects the scarcity of literature on the subject (see for example: Davies et al., 2013). The first research objectives examined in this paper were to establish a list of innovation competences in a shape and form matching the current state-of-the-art in social sciences. We carried out a meta-analysis and customary compilation of existing interpretations of innovation competences and developed a list which would be later used for practical (not academic) applications within the system of education on a large scale (including: Amabile, 1983; Amabile, 1997; Banaji et al., 2013; Barnett, 1953; Brookhart, 2013; Fuller & Clarke, 1994; Heilmann & Korte, 2010; Markides, 2013; OECD, 2014). The list was then used in a national survey among Polish teachers to identify those innovation competences that are most and least efficiently developed in Polish schools. Our second research objective was to establish the degree to which Polish schools are effective in developing innovation competences.

The third research objective was to identify the difference degrees of variation in assessment of different competences developed in schools depending on the different teacher positions and age groups. We supported our literature review with consultations with international experts (one from each of the several countries which we covered and which were indicated by the Ministry as our benchmarks). As a result we collected a list of 148 competences, which following analysis and iteration, grouping competences and skills which bore some resemblance, we shortened down to 18. In this paper we present only the results from the quantitative study in Poland. Similar studies were carried out in benchmark countries, although using another method (Figure 1). For each question a 5-point Likert scale with 5 categories of response was applied (*definitely does not develop or support this skill, rather does not develop or support this skill, develops the skill to a certain extent, definitely develops or supports this skill, don't know or undecided*). In order to identify those factors which are the most and the least pertaining to innovation competences, as developed by respective school units, we calculated (estimated) means for their comparison (Figure 2).

Figure 2

Most and least developed innovation competences in Polish schools

Competence	Value
Developing hobbies and teaching that having a hobby is an asset	3,73
Problem solving	3,68
Perseverance	3,65
Collaborating	3,63
Decision making	3,59
Idea formation	3,49
Framing problems	3,49
Ability to learn	3,48
Problem visualization and developing imagination through useful metaphors	3,46
Curiosity and exploring possibilities	3,44
Divergent thinking	3,43
Courage and risk-taking	3,42
Developing future orientation	3,40
Leading people	3,32
Delayed gratification, or deferred gratification	3,25
Independent thinking	3,19
Multiple idea facilitation	3,15
Change management and improvisation	3,11

Source: authors' own work.

The aims of the study and hypotheses

We formulated the following goals:

1. To identify the innovation competences which are most and least efficiently developed by Polish schools.
2. To identify the differences in assessment of different competences developed in schools depending on the different teacher positions and age groups.

The research goals ensued from the pragmatic standpoint: the Polish Ministry of Development aimed to align Poland's innovation policy with the strategic objective of the Polish Ministry of Education, which was interested in the current picture of the Polish K12 education. We measured the performance of the Polish education system through the opinion of teachers. We associated "efficiency" with the alignment of the Polish system of education with the demands of an innovative knowledge-based economy, which Poland aims to expand, and referred to the most innovative economies of the world (World Bank, 2017).

Generally speaking, it is difficult to measure the impact of schooling as there are no direct cause-effect relationships. Given the level of bureaucracy in many education systems, including Poland, the formulation of clear guidelines and a common point of reference may offer great potential for change management, as encapsulated in the famous quote: "What gets meas-

ured gets managed" by V. F. Ridgway (1956). We chose two demographics characteristics of teachers for statistical analysis: 'teacher position' and 'age'. These variables frequently used in studies on education systems. The age may indicate the possible forthcoming changes in the education system: if younger teachers demonstrate a more supportive stance towards the development of innovation competences one can predict a positive change in the future. If, in turn a similar study is conducted in the future and indicates a similar structure of answers, then we may be able conclude that as teachers grow older, their capacity to develop innovation competences diminishes. We perceive our study as a small contribution to a larger debate on how education systems should be managed and re-shaped. The position is also a relevant variable to analyse. Consequently, resulting from these project aims, we postulated the following two hypotheses:

H1: Competences which require creativity and the ability to find unconventional solutions from students are least developed in schools (these include: *ability to improvise, work without a pre-set agenda, breaking mental model*s and *thinking "outside the box").*

H2: The type of position held by teachers more often than their age differentiates opinions about the type of innovative competences developed by schools.

Research sample

The online survey was conducted over 7 weeks, between 28 February 2017 and 22 March 2017, among 15,400 Polish teachers representing all of the 16 regions of Poland. For further statistical analysis the research sample was narrowed down to 10,050 questionnaires in order to ensure accurate and appropriate representation of all major segments. We also gleaned information on the location of each school (rural/urban), the demographics of our sample are presented in Table 1. The representativeness of the research sample was assessed based on a chi-square statistical test analysing the compliance of the distribution of the research sample and the distribution of the general population in relation to two traits: the position held and the age of the teacher. Over 80% of respondents were females, which corresponds with the distribution of gender traits in the general population of Polish teachers (83%).

severance (3.65). Other competences that are relatively well-developed in Polish schools include *collaboration* (3.63) and *decision making* (3.59).

Compared with *developing hobbies and teaching that having a hobby is an asset*, *idea formation* and *analytical thinking* ranked slightly lower (both: 3.49). According to the teachers, schools could be more efficient in developing the ability *how to learn* (3.48). The teachers also identify deficits in openness to the world: *curiosity and exploring possibilities* is ranked (3.46), *changing the perspective of looking at the problem* (3.44) and *explaining and making sense to the world* (3.43). The teachers are of the opinion that more emphasis should be put onto *independent thinking, even when it entails courage and defying logic* (3.25). Sadly, according to our study, developing (intrinsic) motivation among pupils poses a challenge, which is expressed in low scores of such competences as *delayed gratification, or deferred gratification* (3.19) and

Table 1
Demographics and the general population

Demographic feature	Item	Share in the general population	Share in the research sample	Test value χ2
Position held	Trainee teacher	4.6	3.8	3.42
	Contract teacher	16.3	13.5	
	Appointed teacher	27.1	21.7	
	Chartered teacher	52.0	61.0	
Age in years	Up to 30	12.5	8.6	2.24
	31–45	44.8	46.7	
	46–55	32.7	32.5	
	Over 55	9.9	12.1	

Note. Critical value chi2 for α = 0.05 and n − 1 = 3 amounts to 7.82.

Source: authors' own work.

Data analysis and discussion

For each of the 18 items of the Likert scale an average value was calculated. This allowed us to identify the most and least developed innovative competences in Polish. Average values of competence development assessments for particular age groups and for teaching positions were also calculated. The identification of differences among the opinion of teachers depending on their position and age was calculated with the ANOVA Kruskal-Wallis test (the assumed significance level α = 0.05) using STATISTICA 13.1. Statistically significant differences ($p < 0.05$) are marked in bold (see: Table 2 and 3).

The average score for the development of the 18 innovation competences was 3.44. *Developing hobbies and teaching that having a hobby is an asset* is a competence which, according to teachers, is developed in Polish schools to the largest extent among the 18 competences. It was rated 3.73 points on a 5-point scale. The second rank, attributed to *problem solving,* ranked (3.68), and the third rank was attributed to *per-*

multiple idea facilitation (3.15). Schools also incorrectly teach competence *change management and improvisation*. This competence has the lowest score among all of those assessed (3.11). Thus, our findings confirm hypothesis H1, which says that the least developed innovation competences in school are those which develop creativity and looking for unconventional solutions.

Development of innovation competences and teachers' positions and age

The statistical analysis reveals significant differences is opinions regarding the development of innovation competences in relations to the positions held and the age of teachers. We tested whether different positions held by teachers could explain the differences in innovation competences. Tables 2–3 show the data analysis for the hypothesis H2: The type of position held by teachers differentiates opinions about the type of innovative competences developed by schools more often than their age.

Some significant differences among the opinions of teachers based on their professional position were observed in 7 out of 18 innovation competences. Three of them were listed among the five competences that teachers included as those which are least developed by schools, which are: *change management and improvisation* ($p = 0.037$), „independent thinking", that is unconventional thinking against conventional wisdom ($p = 0.000$) and *leading people* ($p = 0.012$). The lowest average characterises trainee teachers, which are teachers at the lowest level of professional development, and increases along with the level of professional development. Thus, the teachers who are probably under the largest pressure to deliver and perform are also those who are most critical about the efficiency of developing employment innovation competences in schools. At the other end of the continuum, which describes the intensity of focus on the development of certain competences, are chartered teachers, i.e. those who have achieved the highest professional status. Only in the case of *change management and improvisation* are the opinions equally critical with the opinions of the youngest teachers.

Teachers also vary regarding their opinions on *divergent thinking*, i.e. the ability to produce less expected ideas ($p = 0.040$) and the *ability to learn* ($p = 0.001$). This should not be surprising, however, as in the case of other previously mentioned competences, trainee teachers are more critical regarding the ability of schools to develop innovation competences. These teachers are likely to possess the most up-to-date knowledge on education, contrary to many teachers who do not strictly keep up with the recent developments in teaching theories. Trainee teachers are also more critical about the ability of schools to develop *idea formation* ($p = 0.009$). *Idea formation* is perhaps the most important competence for an innovative, knowledge-based economy. Trainee teachers less often than teachers holding other positions on the professional development ladder agree with the opinion that schools develop *perseverance* ($p = 0.033$). At the same time the ability not to give up easily is one of the three competences considered to be the best developed in Polish schools, according to all groups of teachers. Opinions regarding the remaining 18 competences do not significantly vary according to the

Table 2

Average rating of competences and values of ANOVA Kruskal-Wallis test by position of teachers

Name of competence	Total	Position held by the teacher				Kruskal--Wallis test	Significance p
		Trainee	Contract teacher	Appointed teacher	Chartered teacher		
Change management and improvisation	3.11	3.10	3.14	3.14	3.09	8.48	**0.037**
Multiple idea facilitation	3.15	3.13	3.15	3.18	3.15	2.86	0.414
Independent thinking	3.19	3.10	3.15	3.17	3.22	18.85	**0.000**
Delayed gratification, or deferred gratification	3.25	3.30	3.25	3.26	3.24	2.87	0.410
Leading people	3.32	3.25	3.29	3.31	3.34	10.76	**0.012**
Developing future orientation	3.40	3.35	3.39	3.40	3.40	1.78	0.620
Courage and risk-taking	3.42	3.36	3.46	3.42	3.42	5.81	0.121
Divergent thinking	3.43	3.35	3.45	3.44	3.42	8.34	**0.040**
Curiosity and exploring possibilities	3.44	3.38	3.45	3.43	3.44	3.51	0.319
Problem visualization and developing imagination through useful metaphors	3.46	3.38	3.46	3.46	3.46	3.46	0.325
Ability to learn	3.48	3.33	3.49	3.49	3.49	16.58	**0.001**
Framing problems	3.49	3.43	3.44	3.50	3.50	7.37	0.061
Idea formation	3.49	3.48	3.54	3.50	3.48	11.50	**0.009**
Decision making	3.59	3.51	3.60	3.59	3.59	7.15	0.067
Collaborating	3.63	3.57	3.64	3.63	3.64	5.60	0.134
Perseverance	3.65	3.57	3.66	3.66	3.65	8.71	**0.033**
Problem solving	3.68	3.63	3.69	3.70	3.68	6.77	0.079
Developing hobbies and teaching that having a hobby is an asset	3.73	3.68	3.70	3.72	3.74	5.62	0.131

Source: authors' own work.

Kruskal-Wallis test. The analysis of averages indicates the intensity of focus on the development of certain competences of trainee teachers as high compared with other categories of teachers, especially compared to chartered teachers (Table 2).

Compared with the level of professional development, the age of the teacher is a factor that differentiates the opinions of teachers regarding the development of innovation competences to a significantly lower degree. Only in the case of four competences can significant statistical differences be observed. The most visible difference of opinions among teachers representing different generations refers to *independent thinking* ($p = 0.000$). A similar difference can be observed for *ability to learn* ($p = 0.022$) and *idea formation* ($p = 0.032$). The most critical opinions regarding these competences are voiced by young teachers aged up to 30. The age differentiates the teachers in respect to *framing problems* ($p = 0.005$). The efficiency of schools in developing *framing problems* received the highest notes from the oldest teachers. The results confirm Hypothesis 2, which states that the position of professional development differentiates the opinions of teachers

on the efficiency of development of innovation skills better than the age of teachers.

As well as comparing the age and positions of the teacher, impacting their opinion of innovation competences, we were also interested in which segments or clusters teachers can be identified with, in relation to their assessment of innovation competences. For this purpose we used the two-step segmentation method for cluster analysis, an exploratory tool designed to reveal natural groups (or clusters) in such a way that objects in the same group are more similar (in some sense) to each other than to those in another group (clusters). This is among the main tasks of exploratory data analysis, and a common technique for statistical data analysis. The advantage of this method in comparison to the traditional (hierarchical) cluster analysis is the possibility to analyse clusters based not only on continuous variables but also on those measured in nominal and ordinal scales, automatic selection of the number of clusters and, what is also relevant to our research – the capacity to effectively analyse large data sets. Analysis based on the two-step segmentation method was carried out using the IBM SPSS Statistics 27.

Table 3

Average rating of competences and values of ANOVA Kruskal-Wallis by age of teachers

Name of competence	Total	Age of teachers				Kruskal-Wallis test	Significance *p*
		up to 30	31–45	46–55	over 55		
Change management and improvisation	3.11	3.14	3.11	3.09	3.10	2.88	0.411
Multiple idea facilitation	3.15	3.13	3.17	3.14	3.14	3.67	0.299
Independent thinking	3.19	3.10	3.17	3.23	3.25	27.55	**0.000**
Delayed gratification, or deferred gratification	3.25	3.27	3.25	3.24	3.24	0.98	0.806
Leading people	3.32	3.28	3.31	3.34	3.35	6.78	0.079
Developing future orientation	3.40	3.39	3.41	3.38	3.40	4.37	0.224
Courage and risk-taking	3.42	3.45	3.42	3.41	3.45	4.89	0.181
Divergent thinking	3.43	3.43	3.44	3.41	3.44	6.92	0.075
Curiosity and exploring possibilities	3.44	3.44	3.42	3.45	3.48	6.88	0.076
Problem visualization and developing imagination through useful metaphors	3.46	3.43	3.45	3.46	3.49	2.69	0.442
Ability to learn	3.48	3.44	3.48	3.48	3.54	9.64	**0.022**
Framing problems	3.49	3.47	3.48	3.48	3.56	14.15	**0.005**
Idea formation	3.49	3.52	3.51	3.48	3.46	0.80	**0.032**
Decision making	3.59	3.59	3.60	3.57	3.59	7.07	0.070
Collaborating	3.63	3.67	3.62	3.63	3.65	5.37	0.147
Perseverance	3.65	3.66	3.65	3.65	3.68	1.38	0.710
Problem solving	3.68	3.68	3.68	3.67	3.69	2.47	0.481
Developing hobbies and teaching that having a hobby is an asset	3.73	3.73	3.72	3.74	3.73	2.47	0.481

Source: authors' own work.

The analysis of the age variable indicates that two clusters of teachers can be identified. Cluster 1 includes teachers who are critical of more often than their age he Innovation competence amongst students. Comparing this cohort with teachers from Cluster 2, their average assessment is lower by one point. This cluster includes approximately one third of the teachers and is populated by teachers aged up to 30 years old (27.7%) and teachers aged 46–55 years old (21.3%). Cluster 2 includes teachers who's opinions on the ability of schools to develop innovation competences are more positive, although the difference between the two cohorts is merely 0.2–0.3 points compared to the general average. A lack of clear dominance of any age group in either of the two segments confirms that the age variable is differentiating the assessment (21,3%). Cluster 2 consists of teachers, whose opinions on the ability of schools to develop innovation competencies are more positive. In other words, younger teachers are not exceptionally more critical of the innovation competences than older teachers.

Larger differences can be observed between the teachers according to the level of their professional development. Here we also identified two clusters. In the cluster of teachers who gave a low assessment in regard to the ability of schools to develop innovation competences of students the dominating group are trainee teachers. Such teachers include as many as 43.3% of all teachers. Only in the case of a few competences did the average in cluster 1 exceed three points in a five point scale. These included: *developing hobbies* (3.18), *decision making* (3.06), *perseverance* (3.12). *problem solving* (3.26) and *collaboration* (3.11).

Research limitations

In our research we emphasise the importance of two demographic features of teachers: age and the level of professional training. We did not, however, analyse the type of school with regard to developing innovation competences. We assume that the type of school – public or private, strongly influences the efficiency in developing innovation competences. We also did not look at the results achieved by students, as such research would require the development of psychometric tools covering a very broad spectrum of human behaviour. Nevertheless, if more time and resources were to be engaged, a more comprehensive study involving other stakeholders (parents. employers. students) as well as other complementary methods of data gathering would certainly further increase the quality of the findings. Lee Cronbach (1971) proposed that an assessment is a procedure for making inferences: 'One validates not a test, but an interpretation of data arising from a specified procedure', and this was the approach adopted. We also support the view that a datum (in our case the responses from teachers) becomes evidence in some analytic problem when its relevance to one or more hypotheses being considered is established (Black

& William, 2018). A more in-depth study of the efficiency of developing innovation competences would have to include a longitudinal study comparing on several intervals the position of Poland in innovation rankings compared with the results of the following editions of our survey. Such a study would still have its limitations, which would be flawed with all studies on systems of education, that is the unavoidable interference of other non-school-related factors.

The data we presented describes the performance of specific schools where the respondents were working. Some responses may come from more than one teacher from the same school (the total number of schools in Poland is approximately 23,000). Thus, the unit of analysis is an isolated teacher expressing their opinions on behalf of their school. In our research we looked at the impact of only two background variables (the age and 'position' of teachers). These factors are especially relevant as education systems, as they give a bird's eye view of the system. In our research we endeavoured to connect the micro (classroom level) perspective of individual teachers (analysed in our survey) with an attempt to draw some macro-level conclusions. We believe that by demonstrating both to the practitioners (through the list of the 18 innovation competences) and the researchers (through conducting a statistical analysis of some results from our survey) we were able to mainstream the concept of translational research to foster engagement and conversation between researchers and practitioners. The research approach we took (for example by demonstrating the relationships between only a limited number of dependent and independent variables) is a compromise between the expectations of practitioners who seek simple, hands-on, easy to implement solutions, and the researchers. There might be many other influencing factors from the perspective of teachers, and factors from the perspective of schools, which are certainly more important, were not taken into account. Without other variables no serious conclusions could be drawn regarding teacher and school related factors influencing the effective development of innovation competences of students.

Conclusions

Our research confirms that schools are not well suited for 'intellectual rebels', and the current curricula and teaching methods do not offer sufficient conducive conditions for intellectual development that would enhance curiosity of the world amongst talented and strongly-motivated individuals. The obligatory national curriculum does not offer space for the development of critical thinking and problem-solving skills in classroom discussions. Some approaches to overcoming such obstacles are developed in extra-curricular classes, special interests' group. e.g. the arts, theatre, science etc. These approaches, however, are limited, as extracurricular classes are not present in all schools and are therefore an option for few students, and many such schools are underfunded

with low budgets for purchasing educational aids. In essence, there are not many public or private schools efficient in developing innovation competences. With regard to developing innovation competences, it is the personality and level of motivation of the teacher that help to motivate the students. Our analysis revealed that unlike trainee teachers, teachers who occupy higher positions are less inclined to provide critical comments (which does not imply that they are oblivious to these perceived problems). Paradoxically, less experienced teachers are better at identifying and incorporating innovation. The more experienced teachers tend to focus on 'teaching for tests', whereas young teachers recognise the need to develop innovation competences. As indicated at the beginning of the paper, the results of this study are intended as translational research, i.e. the kind of research that seeks to produce more meaningful, applicable results. The actions and recommendations ensuing from the study are presented in a separate publication (see: Fazlagić, 2018).

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Dynamics of integration of process drama in EFL classrooms: A holistic approach of activity based pedagogy

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Abstract

Theatre/drama is an art form that conveys feelings and emotions, as well as thoughts and concerns from the history of human civilisations. Theatre and drama have been used and defined for educational purposes in many different ways. They can be effectively assimilated in language classes to achieve a communicative goal through the integration of four basic language skills (LSRW), and are a powerful tool for engaging students with content. Drama engages students in social contexts where they can think, imagine, talk, manipulate concrete materials and share their views on various social issues. This study uses a quantitative method to collect data from respondents and explores students' perspectives on the use of drama techniques for educational purposes.

This paper aims to explore the main problems and challenges faced by teachers in real classroom situations. It also describes how educational drama activities can be assimilated into second-language classrooms, and highlights the strategies of role-play, visualisation and classification, as well as how they can be used in the classroom. It also aims to discuss how drama techniques can be effectively improvised and implemented in English language teaching in an EFL/ESL context.

Keywords: theatre, drama approaches, language skills, improvisation, implication, language learning, pedagogy, integration, dynamics

Introduction

As a discipline, and all over the world, language teachers face a dilemma as to which specific methodology is most likely to support intensive language learning. Globalisation and technological developments have made it much easier to reach all corners of the globe, but linguists are still searching for the ideal approach, method or technique for learning a foreign language. However, second language acquisition is a complex and difficult process in many ways. For example, students who learn English as a foreign language do not have exposure to native English on a regular basis and do not have the opportunity to use the language in everyday conversations. Even though English in India is considered a second language, and is the official language in a classroom environment, undergraduate students still have a relatively poor grasp of the language.

Communicating with other people around the world to exchange information, seek knowledge or do business is a bare necessity in today's world. To communicate with the rest of the world you need a common medium, and that medium is English. It is a bridge connecting you to the rest of the world. Gavin Bolton very rightly perpetuates that drama can be the medium of language through which human emotions, thoughts and feelings travel. Drama and theatre can be a medium whereby teaching and learning can be done more easily, with less effort, especially in an ESL context, as such students are not directly exposed to English in everyday life.

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The dynamics of drama approaches and their evolution in classroom pedagogy

Educational drama a term in itself suggests that it is a process approach rather than a product. The origins of the idea of educational drama can be seen in the works of Brian Way, Gavin Bolton, Dorothy Heathcote, Peter Slade and Winifred Ward (*Creative dramatics*, 1930), who work in the respective fields of drama in education and theatre in education. The idea of incorporating and improvising drama and theatre techniques into classroom pedagogy dates back to around 1954, when Peter Slade wrote a book entitled *Child drama* (1954), followed by Brian Way's groundbreaking work *Development through drama* (1967), after which the concept was enriched by Bolton's *Towards a theory of drama in education* (1979), Bolton and Dobson's *Drama in education: Learning medium or arts process* (1983), and later Robinson's *Exploring theatre and education* (1980). The concept emerged as a teaching methodology when Cecily O'Neill published her groundbreaking works *Drama worlds: A framework for process drama* (1995) and *Drama structures: A practical handbook for teachers* with Alan Lambert in 1982. Subsequently, a number of researchers, such as B. J. Wagner (2007a) and Shin-Mei Kao & Cecily O'Neill (1998), also contributed to the genre with rich ideas and concepts. A book by Philip Taylor and Christine D. Warner (2006) entitled *Structure and spontaneity: The process drama of Cecily O'Neill* is an important resource that discusses the dynamic interaction between drama theory and practice in education, process drama and many other perspectives on approaches to teaching with drama. Another key researcher, Erika Piazzoli (2010), argues that "through a combination of different drama strategies, students are able to engage in intercultural development and awareness, and in this respect process drama and drama in education positively influence students' attitudes towards a wider range of contexts and language skills" (pp. 400–401).

Theatre and drama, as a medium for teaching English, facilitate understanding of complex linguistic structures; they formulate situations through which students can grasp the concept of syntax and semantic use of language; and, above all, they address hesitation in real-life situations, developing creativity and collaboration among peers. They are a powerful and flexible framework of pedagogy that supports and extends morphological reinforcement and semantic understanding

More so, drama continually enlivens the learning of a language and transforms classroom pedagogy by introducing fictional roles and situations that meet the unpredictability of real life. Traditionally, teachers were the main source of knowledge in the classroom. They were like observers and facilitators of everything that happens in the classroom. Nowadays, classroom dynamics have changed and students are heterogeneous and multilingual. As teachers and educators, the current needs are to embrace students in order to re-imagine tomorrow. This is only possible by implementing drama methods in classroom pedagogy. With materials now more readily available at our fingertips than ever before, teachers have the opportunity to make our classrooms less teacher-centred, with the focus shifting towards student autonomy. Drama brings students and teachers together on one platform and will be the foundation of successful classrooms.

The drama approach as a teaching concept aims to make language learning easier and more meaningful for students, and can be used in ESL or EFL classrooms. Imagination is one of the key aspects of drama in education. Additionally, it is an approach to language teaching in which the teacher and students can swap roles to understand language forms and their functions. The method is flexible, student-centred and develops classroom motivation among students. In language classrooms in India, where traditional teaching methods are still in use, this teaching method offers speaking and writing practice and enhances students' skills by facilitating their imagination and experiences to enrich creativity and discovery rather than memorisation. The drama approach is a postmethod idea that promotes student autonomy in the classroom. Cecily O'Neill, a renowned researcher and international authority on educational drama, describes theatre and drama as a method of exploring a problem, situation, ideas and themes through the use of improvisation, artificial roles and situations through the use of unscripted drama. It requires educators to reflect in their roles. Furthermore, Alam (2022) emphasises:

> In order to develop an effective and efficient teaching strategy model, language inquiry-based activities that aim to improve productive and receptive English language learning skills are a key pragmatic strategy that can be developed and applied in foreign language classrooms. (p. 2)

Drama approach in the classroom usually involves the whole class performing activities for which the teacher assigns roles. Students and teachers work together to create an 'invented' dramatic world in which specific real-life issues are considered and many other problems are addressed. It is the teacher's responsibility to allow for dramatic tension and complexity in the performance, as the aim is to seek pedagogical outcomes. This helps students to learn as well as think beyond their perception, and contemplate many other perspectives on the same topic through different role plays. For example, a single linguistic structure of English can have multiple interpretations that could be used in different social settings. Each form has multiple functions, and through drama students can easily understand the use of language structures. As such, creating complexity and helping students explore multiple dimensions of a topic is the idea behind the use of educational drama in classroom pedagogy.

Figure 1
Drama approaches and classroom pedagogy module
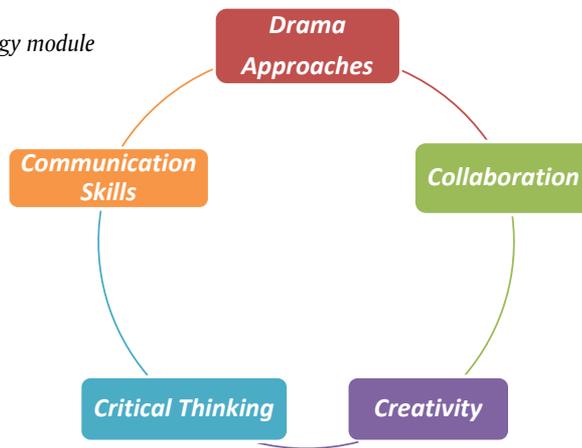
Source: authors' own work.

Educational drama develops the ability to perform in 'real life' by casting students into artificial roles and situations. Betty Jane Wagner (2007b) writes:

> The aim of educational drama and process drama is to create an experience through which learners can understand human interactions, emphasise the importance of other people and internalise alternative points of view. In process drama participants encounter a situation or problem, but the dialogue and gestures they create are in response to circumstances that the group imagines or improvises. (pp. 5–6)

Collaboration, synthesis and group cohesion

The CLT approach in language teaching supports techniques such as group work, pair work and think-pair-share. Drama in pedagogy initiates classroom collaboration between students for better learning outcomes. It is also considered a pedagogy model of student teaching. Cecily O'Neill and Alan Lambert (1995) emphasise:

> Drama is essentially social in nature and involves contact, communication and negotiation of meaning. The group nature of it places some pressure on the participants, but also brings significant benefits. Students are trained to work individually, and to be both competitive and possessive about their achievements. Drama, on the other hand, works on the strength of the group. It draws on a common pool of experience and thus enriches the minds and feelings of the individuals in the group. The significance of drama is built from the contributions of individuals, and if this work is to develop, these contributions must be monitored, understood, accepted and responded to by the rest of the group. By group here we mean the whole class, including the teacher. (p. 13)

Drama in the classroom also teaches students how to work and succeed in a group. O'Neill and Lambert (1995) argue that:

> In drama, the representation of experience that each individual offers to the group is subject to the scrutiny of the others. What is offered can be modified by others, who in turn have to modify their own contributions. The group's ability to build on the contributions of others and respond appropriately will increase with experience in this process and will be accompanied by increasing confidence in dealing with unexpected or unpredictable elements that arise. Within the safe framework of acting, individuals can see that their ideas and suggestions are accepted and used by the group. They can learn how to influence others, rationalise effective arguments, present them appropriately, and put themselves in other people's shoes. They can try out their roles and receive immediate feedback, with the group thus becoming a powerful source of creative ideas and effective criticism. (p. 13)

The drama approach identifies the key role of dialogue and conversation in the classroom through the development of fictional situations and roles. It applies dialogue techniques as an adventure for students who take on the roles of others. Through role-playing, students gradually develop new perspectives and open doors through which they can learn about real language use.

Furthermore, dialogues and conversations define who we are as human beings, which is the first step to developing relationships with others in or outside the classroom. In addition, educational drama informs, excites and engages students in productive dialogue to develop language skills. It offers the opportunity to learn something new and discover other people's perspectives on different issues. It is like reading a book – you can turn any page and skip to your favourite chapter. Dialogue has the potential for immediate feedback.

Figure 2

The nature of the classroom when using drama as a pedagogical strategy
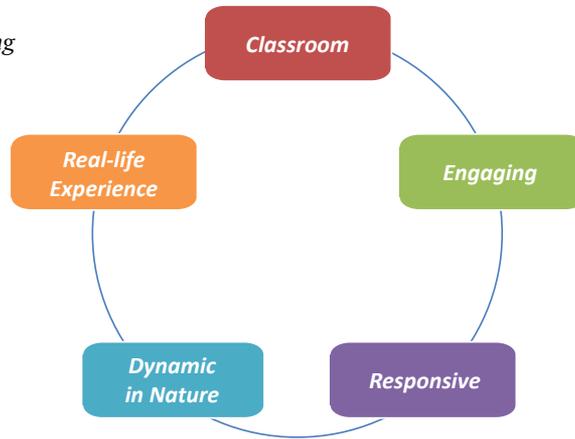
Source: authors' own work.

Figure 3

Strategies used in real classroom pedagogy while applying drama techniques
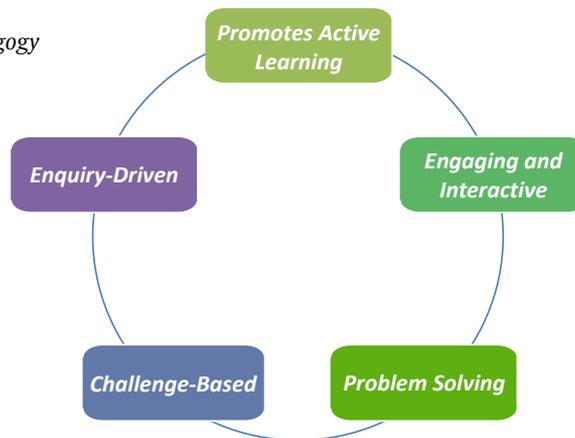
Source: authors' own work.

Aims and objectives of the study

The aim of the study is to test the effectiveness of the drama approach and its various techniques used in classroom pedagogy, with focus on developing accuracy and fluency in learning. It also focuses on strengthening vocabulary, critical thinking, and social, cultural and personal values among students. This study seeks to identify different elements of drama approaches in EFL/ESL pedagogy that develop communicative competence among students based on the respondents' perspectives.

Research methodology, hypothesis, and procedure of data collection

The methodology carried out in this study is based on a quantitative data collection method using a researcher-developed questionnaire. The reliability and validity of the questionnaire was tested through Cronbach's alpha (0.9) and a pilot study before the actual data collection from the sample population. The sample for the study was selected by purposive sampling. The target population comprises undergraduate students studying a variety of courses and departments. The study covers 1003 undergaduate

students, both male and female, studying at the Aligarh Muslim University in India. The procedure to collect data from the participants used a method in which the researcher himself visited multiple classrooms with a large number of students available. In general, the number of undergraduate students in Indian general English classes is high. The researcher obtained permission from the relevant authorities to collect data. Each class consisted of approximately 50 to 60 students, and it took about two years to collect all the data from the students. The current study is an extension of the researchers' doctoral thesis.

Ho1: The study hypothesis is that activities based on theatre and drama approaches can be used in a more interesting/motivating approach to learning than other ESL/EFL classroom pedagogy approaches.

Ho2: Drama approaches and techniques can result in improved accuracy and fluency among learners. It also improves non-verbal skills, vocabulary, critical thinking, and social, cultural and personal values in real-life situations through the use of classroom pedagogy activities.

Details of the data collection procedure are described below (Table 1). Due to the short duration of the classes, the researcher had 40 minutes with each class. In this time frame, the researcher had to

Table 1

Details of the data collection process (Aligarh Muslim University, India, 2017–18)

Faculty	Classroom where the activities where administered	No. of students (Male and Female)	Time
Arts Faculty & Women's College	12	435	35 minutes
Social Science	8	223	35 minutes
Engineering	4	95	35 minutes
Commerce	4	120	35 minutes
Law	2	50	35 minutes
Science	3	80	35 minutes

Source: authors' own work.

discuss, introduce the concept and then divide the classes into groups of 5 or 6 depending on the size of the class. The data collection took almost two years (2017–18) to complete. This study is an extension of the researcher's doctoral thesis.

Sample activities

Sample activity I
Objective: To develop reading and speaking skills
Level: Undergraduate *Time:* 10 minutes for each group
Group: Heterogeneous *Material Required:* Any short story from a prescribed textbook with a length of at least 300 words.
Skills involved: Speaking, reading and comprehension
Preparation: Prepare copies of the story according to the number of students in the class and distribute it among pairs of students to read silently.
Procedure: Divide the students into pairs or groups, depending on the needs of the activity, and give everyone a copy of the story. Student A reads a randomly selected line from the story and student B is then tasked with finding the passage in the text. Once students A and B have completed the task, it is continued by other pairs and groups of students. In the meantime, the teacher should play the role of torch bearer and give clues to help students find specific lines. Ask students to choose any issue they feel comfortable with in front of the class. This will minimise students' hesitation and by performing this exercise they will improve their pronunciation. At first, it is recommended to help students feel more comfortable in performing their lines from the passage.

Sample activity II
Objective: Developing imaginative power and speaking and writing skills.
Level: Undergraduates *Time:* 10 minutes for each group
Group: Heterogeneous *Material Required:* Videos with different characters and situational dialogues.

Skills involved: Speaking and cognition
Preparation: Find and choose a video containing a discussion on any current issue that is going in the country. Erase the voice-over of the video or mute the video in order to make students imagine the discussion going on.
Procedure: Divide the class into groups of three students. Explain that they should imagine new inventions to get rid of existing problems such as sanitation, waste management, etc. Distribute one sheet each to the groups of three. The sheets contain pictures and descriptions of recent inventions to minimise social problems. If they do not answer, the teacher should suggest ideas to them. After preparation, let them present it to the class. While they present their idea, the others should carefully observe and rate the presentation on a scale of 1 to 10. One by one, after the presentation, the teacher should provide them with any necessary feedback and tell them where and how they should improve their spoken and written language.

The present study follows a dynamic methodology of learning-by-doing or a real-life representation of activities based on educational drama and can be used to teach English in an actual classroom. More than thirty questions were asked, based on a five-point Likert scale, but a few questions and their data were selected for this study. A limitation of the study is that the researcher cannot include all the data in the current study. Some items were deliberately selected and included in the present study to test and demonstrate the effectiveness of educational drama in ESL/EFL pedagogy.

The questionnaire included questions based on different aspects of educational drama, which primarily aimed to gather students' perspectives on approaches to using action-based learning in actual classroom pedagogy. The study deliberately selected questions that focused on action-based learning. A detailed analysis carried out for the study is discussed below, along with conclusions on the data collected through the questionnaire.

Analysis and conclusions of the study

The study used SPSS version 20 software to analyse the data, which was collected using a questionnaire designed by the researcher. Careful data coding and classification is performed and the percentage and cumulative percentage were calculated with the help of SPSS software. However, there were seven statements based on a five-point scale included in this study.

The first statement is based on a simulation (S1), with the individual statements relating to situational language use helping to improve students' accuracy and fluency, and enrich their vocabulary. Acting out dialogues in a given situation is an effective way to motivate students to develop their speaking skills.

The responses recorded show that twenty-two (22) students selected 'strongly disagree', thirty-two (32) students selected 'disagree', one-hundred-and-ninety-six (196) students selected 'neutral', four-hundred-and-ninety (490) students selected 'agree' and two-hundred-and-sixty-three (263) students selected 'strongly agree' (Figure 4).

The participants are convinced that engaging in a dialogue in a specific situation will improve their language skills. These exercises are also beneficial in improving students' pronunciation. The data collected for statement S1 provide important information about the use of dialogues as a strategy to improve language and pronunciation. Figure 4 shows us that dialogues influence the language used in social situations. Only 5.45% of students responded negatively to this statement, while 75.3% of students responded positively. Dialogues are an easy way to improvise in a language classroom to provide students with a form of verbal training.

The next simulation statement (S2) aims to explore the usefulness of simulation as a way of describing any situation or concept using body language. It is a problem-solving activity that helps students use language according to the situation.

The responses recorded were as follows (see Figure 5): twenty-one (21) students responded 'strongly disagree' to the statement, fifty-seven (57) students responded 'disagree' two-hundred-and-three (203) students responded 'neutral', four-hundred-and-eight (408) students responded 'agree' and three-hundred-and-fourteen (314) students responded 'strongly agree'.

As Figure 5 shows, only 7.8% of students responded negatively to this statement, while 72.2% of students responded positively. This demonstrates that simulation exercises are helpful for learning unfamiliar situations and using language structures in unscripted real-life situations. As most simulation activities are semi-structured or half-structured, it challenges students to speak and use body language gestures to describe and make their peers understand difficult life situations.

The next statements are based on cognitive abilities, which were coded for classification as CA. This statement aims to address the issue of non-verbal classroom drama activities improving students' body language. Body language is an important aspect of language learning, namely kinesiology, the study of gesture and posture.

The recorded responses showed that (see Figure 6): twenty-nine (29) students selected 'strongly disagree', sixty-nine (69) students selected 'disagree', three-hundred-and-seven (307) students selected 'neutral', four-hundred-and-eleven (411) students selected 'agree' and one-hundred-and-eighty-seven (187) students selected 'strongly agree'. As illustrated in Figure 6, only 9.8% of students responded negatively, while 59.8% of students responded positively to this statement. However, 30.6% of students responded neutrally to the question about the contribution of non-verbal actions in improving body language. The data clearly shows that students' non-verbal skills are improving, and they believe that by using these activities they will enhance their productive language skills. However, many respondents were unable to determine their progress because these skills are not visible when using them in a real-life situation.

Another cognitive ability statement (CA2) seeks to ask how active and engaged students feel when

Figure 4
(Data based on simulation)
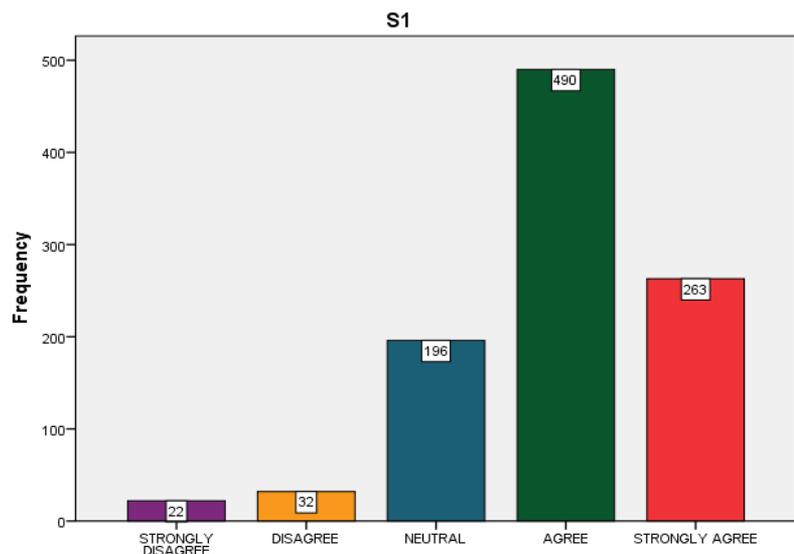
Source: authors' own work.

Figure 5
(Data based on simulation)
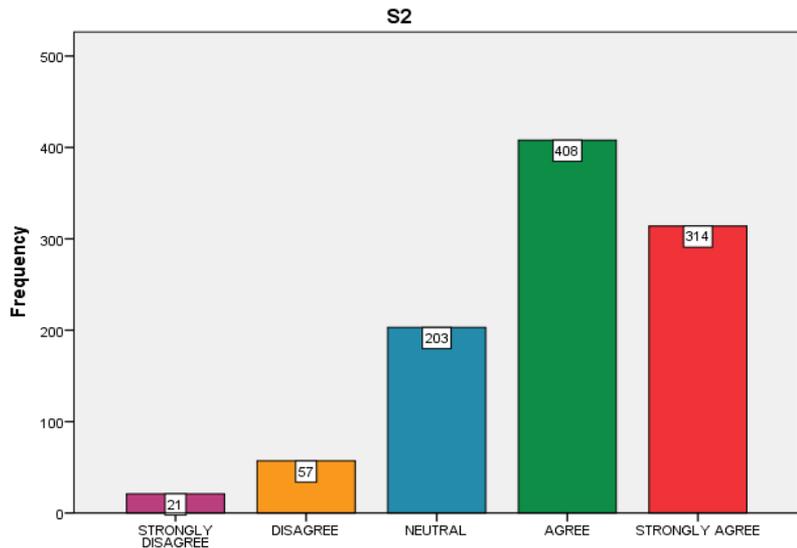
Source: authors' own work.

Figure 6
(Data based on cognitive ability)
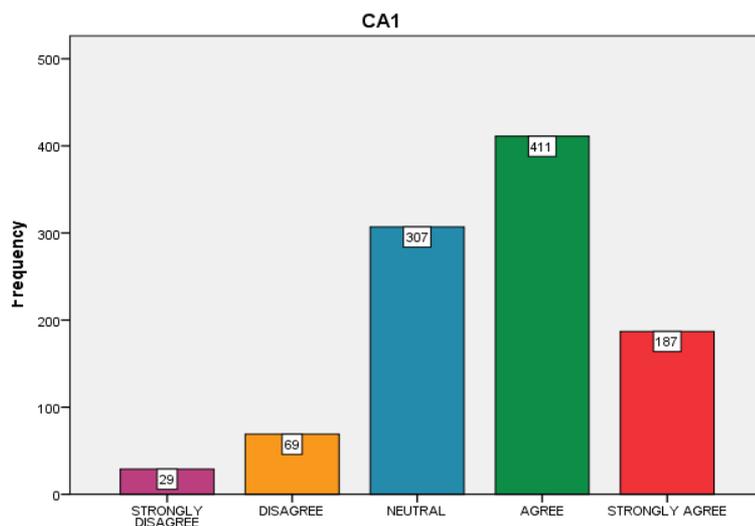
Source: authors' own work.

drama and theatre activities are used in the classroom. The drama approach in education gives autonomy to students in the classroom and engages them in the learning process.

The recorded responses after data classification showed that: thirty-seven students answered 'strongly disagree', fifty-one students answered 'disagree', two-hundred-and-forty-one (241) students answered 'neutral', five-hundred-and-fourteen (514) students answered 'agree', and one-hundred-and-sixty (160) students answered 'strongly agree'. Figure 7 shows that only 8.8% of students responded negatively, while 67.4% of students responded positively to this statement. The participants' responses show that students who are involved in classroom pedagogy using drama activities have to move from one place to another and use language spontaneously with their partners. Thus, the students accepted that they feel more involved when their teacher uses drama activities in classroom pedagogy.

Another finding of cognitive ability (CA3) relates to students' choices of whether or not to play vocabulary

development games on different platforms such as newspapers, mobile phones or the Internet. Nowadays, the Internet is full of sites promoting online learning through various language exercises, lessons and activities.

The recorded responses were as follows (see Figure 8): twenty-nine (29) students selected 'strongly disagree', sixty-five (65) students selected 'disagree', two-hundred-and-twenty-four (224) students selected 'neutral', three-hundred-and-seventy-six (376) students selected 'agree', and three-hundred-and-nine (309) students selected 'strongly agree'.

In addition, mobile apps are an easy way to acquire language skills and are easily accessible for everyone. The internet is easily accessible to students, and they can make good use of it if they use it in a positive way. Online dictionaries and newspapers (offline and online) are authentic sources to develop vocabulary. Figure 8 shows that only 9.4% of students responded negatively, while 68.5% of students responded positively to this statement.

Figure 7
(Data based on cognitive ability)

CA2
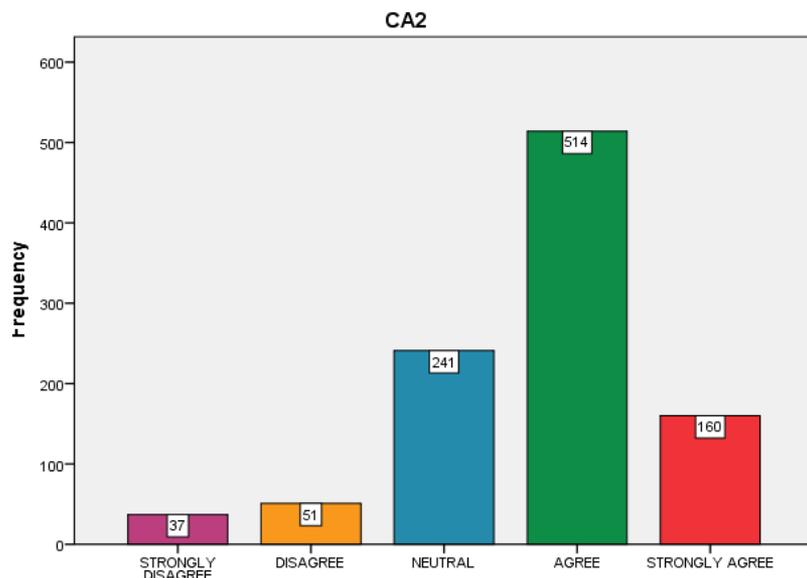
Source: authors' own work.

Figure 8
(Data based on cognitive ability)


CA3
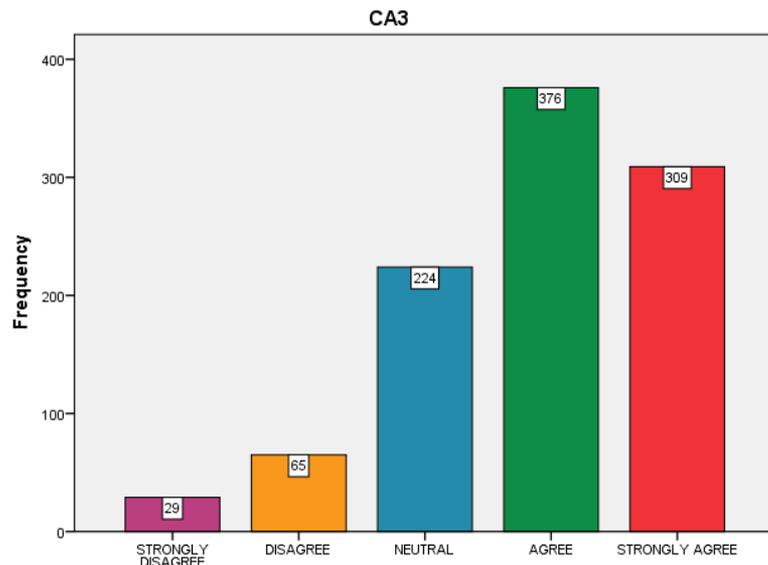
Source: authors' own work.

A further statement based on cognitive ability (CA4) inquires about the role of drama-based activities in developing students' communicative ability.

The recorded responses after classification (see Figure 9) showed that: eighteen (18) students selected 'strongly disagree', forty-nine (49) students selected 'disagree', two-hundred-and-thirteen (213) students selected 'neutral', four-hundred-and-sixty-three (463) students selected 'agree', and two-hundred-and-sixty students selected 'strongly agree'. Figure 9 shows that only 6.7 percent of students responded negatively, while 72.3 percent of students responded positively to this statement, meaning that a large number of students strongly believe that drama activities enhance their communication skills. This is because they are engaging and allow students to discuss and share their thoughts, feelings and emotions in a healthy classroom environment.

The next statement in this segment (CA5) asks about developing critical thinking among learners using dialogues as an exercise. Dialogues are an effective strategy in second-language classrooms and a holistic process that develops all four language skills.

The recorded responses after classification (see Figure 10) show that: seventeen (17) students selected 'strongly disagree', fifty (50) students selected 'disagree', two-hundred-and-eighteen (218) students selected 'neutral', four-hundred-and-sixty-eight (468) students selected 'agree', and two-hundred-and-fifty (250) students selected 'strongly agree'. As Figure 10 shows, only 6.7% of students responded negatively, while 71.8% of students responded positively to this statement. Dialogues force students to act and speak while acting out a hypothetical situation or personality. They find it an effective way to improve their language skills and cognitive abilities.

Figure 9
(Data based on cognitive ability)

CA4
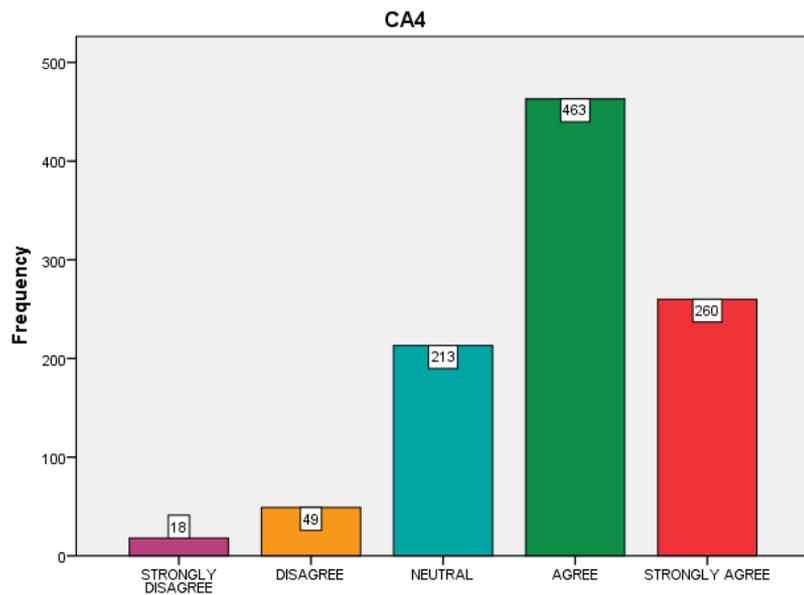
Figure 10
*(Data based on cognitive ability)*

CA5
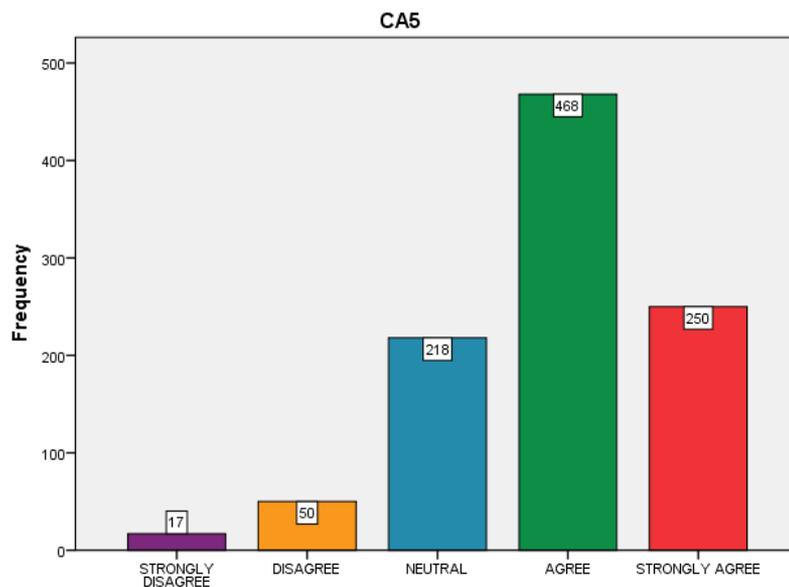
The next statement is designed to address the development of cultural, personal and social values among students through drama activities. The recorded responses (see Figure 11) were: seventeen (17) students selected 'strongly disagree', forty-six (46) students selected 'disagree', two-hundred-and-twenty-three (223) students selected 'neutral', four-hundred-and-sixty-seven (467) students selected 'agree', and two-hundred-and-fifty (250) students selected 'strongly agree'. As shown in Figure 11, only 6.3% of students responded negatively and 71.7% of students responded positively to this statement. The data reveals that drama improves students' social, personal and cultural values.

Drama activities allow students to share and interact while acting or role-playing in the classroom, and through this strategy they develop and learn social, personal and cultural values by sharing their

views on different ideas and topics, and receiving feedback.

The final cognitive ability statement (CA7) explores the development of understanding and concentration through the use of various drama exercises. The responses recorded for this statement after classification of the data (see Figure 12) were as follows: eighteen (18) students selected 'strongly disagree', forty (40) students selected 'disagree', two-hundred-and-seventeen (217) students selected 'neutral', four-hundred-and-fifty (450) students selected 'agree', and two-hundred-and-seventy-eight (278) students selected 'strongly agree'. The data reveals that drama exercises improve concentration, as students have to listen to their peers while performing various language skills as part of the classroom pedagogy, and they need to listen and respond to their peers in order to actively participate in the classes.

Figure 11
(Data based on cognitive ability)

CA6
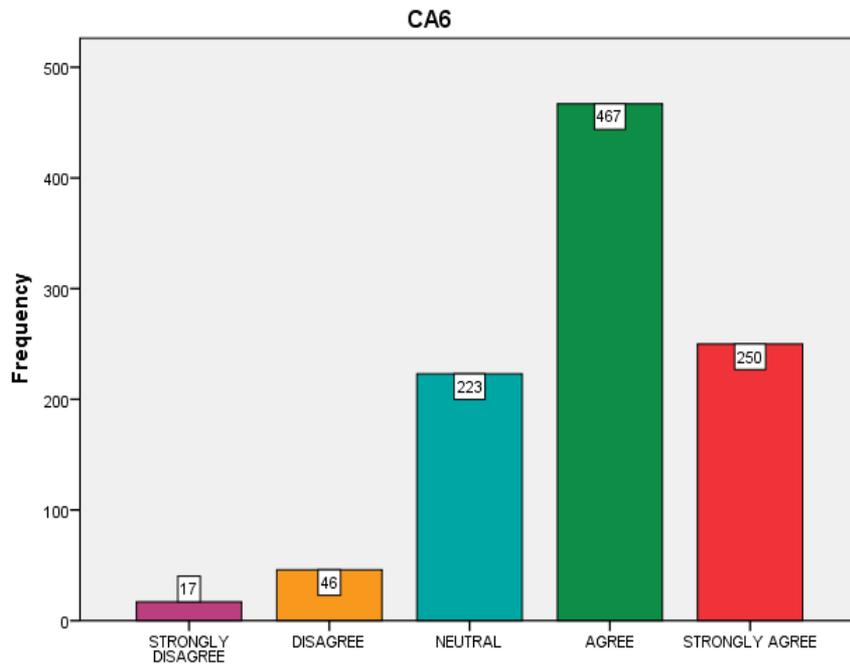
Source: authors' own work.

Figure 12
(Data based on cognitive ability)

CA7
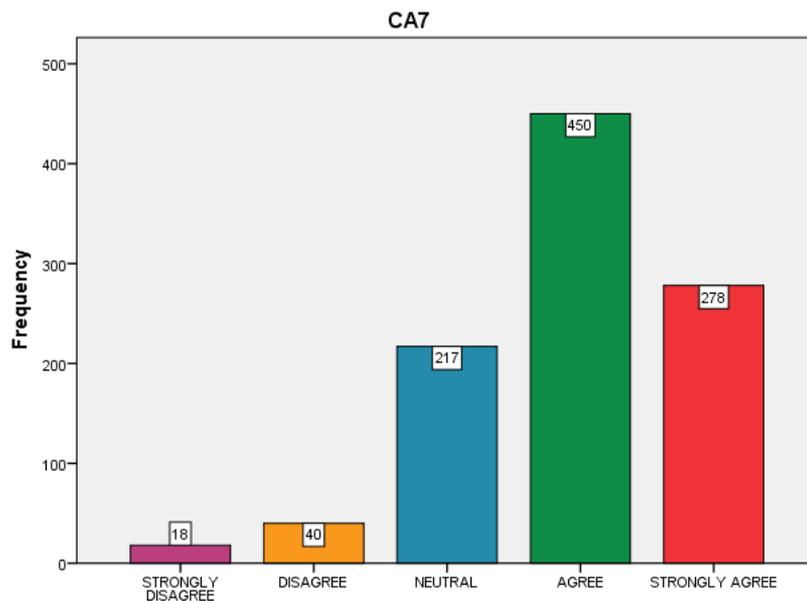
Source: authors' own work.

Findings of the study

The findings of this study are a direct reflection of the hypothesis formulated and discussed above. The findings are:

1. Students are inconsistent with their oral skills when asked to participate in class. This indicates a lack of an autonomous classroom environment, providing a need to introduce activities that are spontaneous and aim to improve students' creativity. Activities are needed that are spontaneous and aim to improve students' creativity, enabling them to be active learners. This finding is directly related to Ho1, where simulation-based activities were used to collect data. In this respect, structured and unstructured activities based on role-play and enactment were also used.

2. The findings suggest that students have difficulty expressing their opinions, feelings and lack conversational skills. It also reveals that there should be a diagnostic test of students' oral and written skills to assess communicative competence, so that future action could be taken to increase language proficiency. This supports Ho2 in that drama activities develop students' communicative skills.

3. It was noticed that the curriculum does not promote students' kinesthetic skills, resulting in hesitant and reluctant body language. It was also found that the curriculum does not include elements that aim to reinforce suprasegmental features of language. Students show a lack of competence when it comes to the delivery of non-verbal language skills, as the curriculum does not give room for the improvement or development of non-verbal language skills. The findings support Ho2 in that drama activities promote critical thinking and non-verbal language skills in real-life situations.

4. In order to strengthen the four language skills and two aspects of the English language (listening, speaking, reading, writing, vocabulary and grammar), the curriculum designer and material developer should propose an alternative and holistic process, covering all components of the language. The syllabus and curriculum should place more emphasis on improving speaking and pronunciation skills, as students are not able or do not have the opportunity to use English in everyday life.

5. It was also observed that students do not have the chance to express themselves in the classroom due to the existing practice of applying lecture-based teaching. An interactive classroom should be encouraged, as it helps to reduce students' hesitation and enables them to learn language expression. Research findings reveal that drama activities provide a more engaging and less authoritarian classroom. It also promotes communicative language teaching.

Conclusions and discussions of the study

The findings of this study are discussed below. Each item was carefully analysed and discussions were carefully conducted after analysing the responses recorded from the students.

1. Since the analysis of students' needs is an important aspect of ELT, it should be introduced into the curriculum through systematic regulation. It was found that the existing curriculum does not promote and develop English language competence when it comes to delivering it in real-life situations, which is among the goals of students choosing English.

2. In addition, the syllabus is not capable of fulfilling the requirement to improve speaking and writing skills in English. It was observed that there is no room in the syllabus and curriculum for authentic materials that can be used by students and teachers to work on oral skills. The materials provided in the syllabus are not suitable for developing the students' performance.

3. The syllabus and materials are not based on ABCD (audience, behaviour, content, and degree), resulting in inconsistencies in classroom

procedures. The syllabus and materials should be designed according to the level and knowledge of the students, which should be achieved through the implementation of pre-behaviour (EB) assessment of students.

4. Best practices are not introduced through a professional development programme focusing on developing knowledge of content, methods and instructional resources to encourage professional development of teachers to update and expose them to the use of theatre and drama approaches in language classrooms.

5. Implementing a reflective practice method in the classroom to enhance the teaching-learning process is also required. It was found that educators are reluctant to use the activity-based method or reflective practice due to the heterogeneous nature of the classroom. The reason for this is the burden of having to complete the syllabus in a set time.

Conclusion

In classroom pedagogy the swing in the communicative approach to language teaching has shifted towards a student-centred classroom, with the role of the teacher being to act as a facilitator and torchbearer, although the teacher as a person can in no way be replaced. A counter-narrative is now available in the form of distance learning, but the teacher is still an essential phenomenon in classroom teaching. Furthermore, drama and theatre as a pedagogical medium are successful because of their potential and the hard work and dedication that the teacher brings to the classroom. As Maley and Duff (2013) put it, drama is not a dead issue, it is like a living organism – it was, is and will continue to be. The teacher's motivation and contribution is equally important, as they know their students and can plan their activities and lessons, or the pace of the class, according to the students' level, understanding and background knowledge. Drama as a teaching methodology recommends the use of self-designed materials and activities in the classroom to explore the power of the method in teaching English. As Alam et al. (2021) point out, 'the approach is able to assimilate all four language skills and can be an effective and efficient pedagogical strategy' (p. 271). Studies by Alam et al. (2020), Alam et al. (2022), Al-hawamdeh and Alam (2022) are beneficial because they discuss some exemplary activities in their research. Either the teacher needs to come up with an activity according to the nature of the class or make some changes accordingly. The articles also discuss the importance of blended learning, and the challenges and problems teachers face in real classroom pedagogy. Finally, success is entirely dependent on teachers' involvement and participation in classroom procedures. Heathcote's idea of the role of the teacher is very relevant in this perspective.

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