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INTEGRATION OF POSITIVE YOUTH DEVELOPMENT AND 21ST CENTURY SKILLS THROUGH OUTDOOR EDUCATION

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Abstract
This study aims to analyze the influence of integrated outdoor education (OE) on the positive development of PYD 12 Cs adolescents and 21st century skills. The method used was an experiment with the Pretest - posttest control group design with more than one experimental, where the free variable was outdoor education (OE) and the bound variable was PYD 12Cs and 21st century skills. The population was students and students in grades 10A-10D of SMA Labschool UPI Bumi Siliwangi with a total of 107 participants, sampling using purposive sampling by using a fitness test and a personality profile test to divide students into 4 groups: the A1, A2, A3 program group and the A4 control group. The program provided is 12 OE activities that are integrated with each component of PYD 12Cs and 21 century skills which are carried out for 3 days and 2 nights with the use of an effective learning time of 2440 minutes (24 credits) in Subang, West Java. The research instrument used the PYD 12 Cs questionnaire and the 21st century skills questionnaire conducted before and after the intervention. Data were analyzed using the paired sample T-Test, variance analysis (ANOVA oneway) and independent sample T-Test. The results of the study in the PYD 12 Cs variable showed that 4 groups of programs had an increase in scores, with the highest increase occurring in the A1 group. Meanwhile, the 21st century skills variable shows that 4 program groups have an increase in scores, with the highest increase occurring in the A2 group. These findings indicate that the principle of integration in OE should be a key strategy in supporting adolescent development and preparing them for future global challenges.

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Authors' contribution:
A - Conception and design of the study; B - Acquisition of data; C - Analysis and interpretation of data; D - Manuscript preparation; E - Obtaining funding

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INTRODUCTION

In the last 2 decades, from several problems experienced by adolescents, many adolescent emotional problems have been found in the form of symptoms of emotional distress such as internal conflicts, frustration and external conflicts in individuals (Rajagopal et al., 2022). In the end, to solve the problems faced quickly, adolescents tend to commit various crimes such as drug use, liquor, theft, persecution, juvenile delinquency, murder, free sex (Lateef & Balakrishnan, 2023). Disputes often occur starting from this digital world at the end often causing physical crimes with persecution, murder, wars between citizens and even disputes between countries (Saleem et al., 2024). Not to mention the problem Bullying students who cause trauma among students in the long term, the problem of Bullying This cannot be underestimated because it results in long-term psychological consequences for students (Djoeaeriah & Sofyan Iskandar, 2024). So that technological development and modernization must be balanced with education and a positive youth development paradigm so that technology can lead to positive things (Yudanagara et al., 2023).

Organized sports interventions are an effective strategy for the positive development of young people. Sports participation has been shown to have a positive impact on youth development outcomes (Bruner et al., 2023). Given the potential of sport to influence individual growth across the physical, cognitive, and social domains and high levels of sport participation among youth, government agencies and researchers have invested substantial time and resources to develop PYD-related interventions to promote youth development One of the youth development can be through sports, sports play an important role as a social and human personality builder; then the PYD program can be one of the programs implemented by the government to advance development in a country. The main literature on positive development concerns how sports programs are implemented based on two main approaches, namely explicit and implicit approaches (Weiss et al., 2021).

Outdoor Education (OE) is a trend that is always in demand by young people, research shows that students are happy and interested in learning outdoors compared to learning in the classroom (Apollo & Andreychouk, 2023). YOU In broad terms that refers to organized outdoor learning, where the learning process in various environmental and environmental activities that are physically and psychologically demanding to create learning in individuals or groups (Simson-Woods & Kappes, 2023). Activity orientation YOU focuses on self-and group development in which an activity experience occurs and is related to the potential of the outdoor environment to stimulate physical and psychological activity (Akin et al., 2020).

This research design was carried out as an effort to increase the capacity of youth by carrying out the process of integrating PYD 12 Cs and 21st century skills into OE. The researchers wanted to see the effectiveness of OE activities designed against the improvement of PYD and 21st century skills. Further research focused on differences in influence between structured and intentional given groups (intentionally

structured) (Yulianto et al., 2023). To see the effectiveness of the integration program, the researcher here divides it into 3 groups of programs. The (A.1) program is the OE program of PYD 12Cs Integration, (A.2) the OE program of combination of PYD and 21st century skills and (A.3) the non-integration program (group control). The purpose of integration here is to take the concept from the principle of integration in life skills learning is (1) focus one component on one activity in one session (2) convey the objectives of the component at the beginning of the activity (3) apply learning strategies in applying components throughout learning (4) reflect and discuss after learning activities (Kendellen et al., 2016). By dividing into 3 groups, the researcher wants to see the effectiveness of the program in increasing positive youth development in adolescents.

METHOD

This research design was carried out as an effort to increase the capacity of youth by carrying out the process of integrating PYD 12 Cs and 21st century skills into OE. The researchers wanted to see the effectiveness of OE activities designed against the improvement of PYD and 21st century skills. Further research focused on differences in influence between structured and intentional given groups (intentionally structured) (Yulianto et al., 2023). The method used in this study is the method experiment research. The research design used in this study is Pretest-Posttest Control Group Design with more than one experimental (Christensen et al., 2019). The use of the design is adjusted to the characteristics of the research. The population was taken from 10th grade students who attended Labaschool UPI Bumi Siliwangi High School with a vulnerable age of 15-18 years totaling 267 people. From the existing population, the researcher then determined a sample that had criteria, namely (1) students who have an interest in outdoor activities (2) do not have a history of disease as evidenced by a health certificate (4) have good physical fitness through the Balke test which has a capacity of VO2 max 33 and above for women and VO2max 38 and above for men. The researcher determines the sample with the stages of the survey and provides a personality profile questionnaire through Google Form to students. Then the researcher divided the sample into 4 groups, namely the experimental group (A1) OE integration of PYD 12 Cs, the experimental group (A2) OE integration of 21st century skills, the experimental group (A3) OE combination of PYD integration and 21st century skills, the regular control group (A4) non-integration of PYD and 21st century skills. In the study, the researcher used two research instruments, the first using a 21st century skills questionnaire adapted from (Wijaya et al., 2016) while to measure PYD, researchers developed instruments that have gone from 7Cs to 12Cs, adopting existing instruments, but developed again according to the times. The research program was carried out in the Subang area, West Java for 3 days and 2 nights with an effective learning time of 2,440 minutes or equivalent to 24 credits. Data processing

uses the paired sample T-Test, the and Tukey Test. For more details program, you can see the research scheme in the image below.

Table 1.
Integration Program Outdoor Education

Program	Group Integrasi			
	Positive youth Development	21st Century Skills	Combination	Non-Integration
Camping	Connection	Problem Solving	Connection & Problem Solving	Non-Intgr
Hiking	Competence	Communication	Competence & Communication	Non-Intgr
Orientering	Contribution	Critical Thingking	Contribution & Critical Thingking	Non-Intgr
Running	Consistence	Adaptability	Consistence & Adaptability	Non-Intgr
Cycling	Competitive	Information Literacy	Competitive & Information Literacy	Non-Intgr
Tree Climbing	Creativity	Collaboration	Creativity & Collaboration	Non-Intgr
Rapeling	Commitment	Responsibility	Commitment & Responsibility	Non-Intgr
Obstacle Outbound	Collaboration	Creativity	Collaboration & Creativity	Non-Intgr
Slackline	Confidence	Innitiative	Confidence & Innitiative	Non-Intgr
Climbing	Character	Media Literacy	Character & Media Literacy	Non-Intgr
Spider Web	Caring	Leadership	Caring & Leadership	Non-Intgr
Rafting	Comprehensive	Innovation	Comprehensive & Innovation	Non-Intgr

RESULTS

The data obtained from the research results is a gain score from the pretest and posttest data. Data collection carried out before the sample is treated is the best data. As for the posttest data, it is obtained after the treatment is given to the sample. The two tests were carried out on four sample groups, namely the A1 OE program group integrating PYD 12Cs, the A2 OE program group integrating 21st century skills. In this discussion, the researcher first explained in a simple way the overall data of the results of the calculation of the average value and standard deviation is the first step for the next test. Test mean (mean) and standard deviation (standard deviation) using raw data from test results and measurements for each variable.

Table 2.
Summary of Statistical Data of Research Results

Variable	Source Statistics	A1	A2	A3	A4
PYD 12Cs	N	10	10	10	10
	M	25,7	10,8	17,5	4,8
	ΣX	257	108	175	48
	σ	2,790	1,135	3,472	1,316
21st century skills	N	10	10	10	10
	M	9,7	22,1	16,8	6,3
	ΣX	97	221	16,8	63
	σ	1,337	2,024	1,932	1,494
PYD and 21st century skills	N	10	10	10	10
	M	35,4	32,9	34,3	11,1
	ΣX	354	329	343	111

Information:
N : Number of samples on each program
M : Average improvement in PYD score 12Cs and 21st Century Skills
ΣX : The amount of increase in the score of the program group
σ : Standard deviation

From the summary of the data above, it shows that in the PYD variable 12 Cs group A1 has the highest increase in score gain with an average score of 25.7 and the lowest is the A4 group with an average score of 4.8. Meanwhile, in the 21st century skill variable, the A2 group had the highest increase with an average score of 22.1 and the lowest was A4 with an average score of 6.3. As for the overall PYD 12 Cs and 21st century skills, the highest score increase was the A1 group with an average increase of 35.4 and the lowest was the A4 group with an average score increase of 11.1. This proves that the PYD 12 Cs integrated in the Outdoor education program has the most influence on the improvement of PYD 12 Cs and 21st century skills. Meanwhile, non-integrated outdoor education programs have the least influence. So that the process of integrating outdoor activities is a key word to get more effective benefits in outdoor activities compared to non-integrated ones.

Differences in Effects in Groups A1, A2, A3 and A4 on the increase in PYD 12 Cs

Table 3. Output Results of Tukey HSD Test Gain Score of Positive Youth Development In Groups A1, A2, A3 and A4

Group (I)	Vs	Group (J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence interval	
						Lower Bound	Upper Bound
A1		A2	14.90	1.069	.000	12.02	17.78
		A3	8.20	1.069	.000	5.32	11.08
		A4	20.90	1.069	.000	18.02	23.78

Based on the results of the HSD tukey test output in SPSS version 27 presented in table.3. above, a sig value of 0.000 was obtained in the three groups smaller than 0.05 (0.000 < 0.05). Based on the results of the SPSS output and the decision-making criteria, it can be concluded that H_0 rejected or "There was a difference in the effect between the A1 experimental group and the A2 experimental group, the A3 experimental group and the A4 control group on the increase in PYD 12Cs".

Based on tests, the main purpose of this test is to compare the averages between several groups in pairs to see if there is a statistically significant difference between them. In this context, the A1**,** A2**,** A3 and A4 is a group that has been tested for its effect on PYD 12 Cs upgrade**.** Tukey HSD test results show Mean Difference (I-J): 14.90 showed that the average increase in PYD 12 Cs in the A1 group was higher 14.90 points compared to the A2 group. Value Sig. = .000 indicates that this difference is statistically significant, since the p-value < 0.05. Confidence Interval (CI) 95%: 12.02 to 17.78 indicates that we are 95% sure that the average difference is between 12.02 and 17.78. This shows that there is a significant difference between groups A1 and A2, this means that integration or intervention given to group A1 has Greater influence against PYD 12 Cs compared to group A2.

Tukey HSD test results show Mean Difference (I-J): 5.30 showed that the average increase in PYD 12 Cs in the A1 group was higher 8.20 points compared to the A3 group. Value Sig. = .000 indicates that this difference is statistically significant. Confidence Interval (CI) 95%: 5.32 to 11.08 indicates that this difference is between 5.32 and 11.08 at a 95% confidence level. This shows that there is a significant difference between A1 and A3, this shows that the methods or approaches applied in the A2 group are different in effectiveness compared to A3 in improving PYD 12 Cs. This difference may indicate that strategy used in A2 is more focused compared to A3, which results in better PYD 12 Cs results.

Tukey HSD test results show Mean Difference (I-J): 20.90 showed that the average increase in PYD 12 Cs in the A1 group was higher 20.90 points compared to the A4 control group. Value Sig. = .000 shows that this difference is statistically significant. Confidence Interval (CI) 95%: 18.02 to 23.78 indicates that this difference is between 18.02 and 23.78 at a 95% confidence level. This shows that there is a significant difference between A1 and A4. Group A4 as control group does not get integration and specialized interventions, so if there is a significant difference between A2 and A4, it indicates that intervention given to A1 has a real influence compared to no integration (control group). If A1 indicates Significant improvement compared to A4, means that the method used in A1 is effective in increasing PYD 12 Cs.

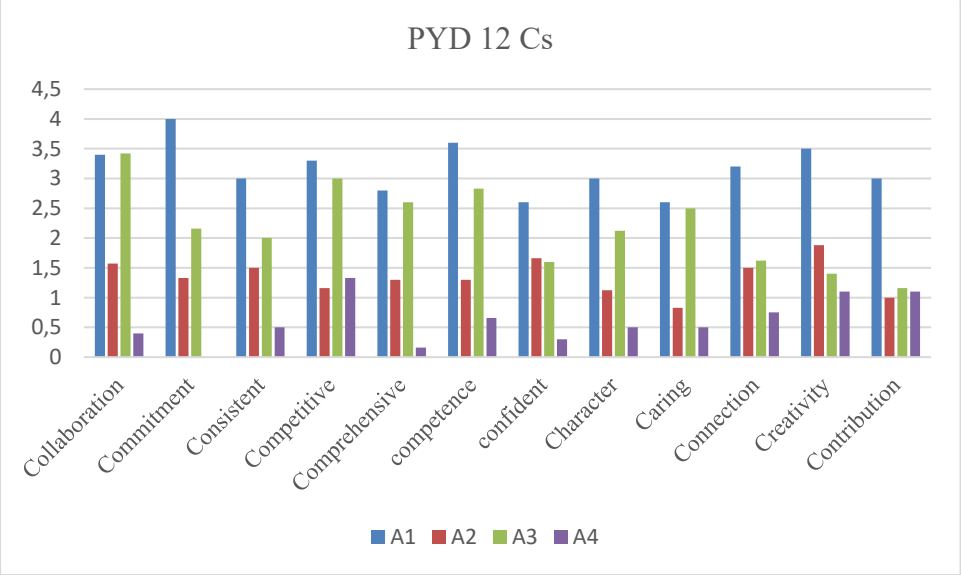

Figure 1.
Average Score Gain Chart of Group A1, A2, A3 and A4 on the PYD 12Cs component

According to the bar chart image above, the result of the gain of the average score on the PYD 12Cs variable obtained an increase in the value of each component. The increase with the highest increase in components commitment of 4 and the lowest is Caring and Confident by 2.6. This proves that the A1 OE program integrating PYD 12Cs is an OE activity that can be the best choice to improve commitment somebody. Group A1 is a group that has a dominant personality profile of extraversion, where extraversion personality is a person's personality trait whose interests lead to the outside world and social phenomena. The graph you provided shows a comparison of the increase of the four groups (A1, A2, A3, A4) on the 12 Cs component of Positive Youth Development (PYD). Overall, the A1 group showed the highest increase in almost all components of the 12 Cs PYD, followed by the A3 group. Groups A2 and A4 tend to be lower in improvement, with A2 slightly better than A4 in many components.

Differences The Effect of the Integration OE Program on Groups A1, A2, A3 and A4 on 21st Century Skills Improvement

Table 4. Output Results of Tukey HSD Test Gain Score of 21st Century Skills In Groups A1, A2, A3 and A4

Group (I)	Vs	Group (J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence interval	
						Lower Bound	Upper Bound
A2		A1	12,40	0,710	.000	10,49	14,31
		A3	5,30	0,710	.000	3,39	7,21
		A4	15,80	0,710	.000	13,89	17,71

Based on the results of the HSD tukey test output in SPSS version 27 presented in table 4 above, a sig value of 0.000 was obtained in the three groups smaller than 0.05 (0.000 < 0.05). Based on the results of the SPSS output and the decision-making criteria, it can be concluded that H0 rejected or "There is a difference in the effect between the A2 experimental group and the A1 experimental group, the A3 experimental group and the A4 control group on 21st century skill improvement".

Based on tests, the main purpose of this test is to compare the averages between several groups in pairs to see if there is a statistically significant difference between them. In this context, the A1**,** A2**,** A3 and A4 is a group that has been tested for its effect on 21st Century Skills Enhancement. Tukey HSD test results show Mean Difference (I-J): 12.40 shows that the average 21st century skills improvement in the A2 group is higher 12.40 points compared to the A1 group. Sig. = .000 indicates that this difference is statistically significant, since the p-value < 0.05. Confidence Interval (CI) 95%: 10.49 to 14.31 **i**ndicates that we are 95% sure that the average difference is between 10.49 and 14.31. This shows that there is a significant difference between the A2 and A1 groups, this means that Approach or Intervention given to group A2 has Greater influence against 21st century skills compared to the A1 group.

Tukey HSD test results show Mean Difference (I-J): 5.30 shows that the average 21st century skills improvement in the A2 group is higher 5.30 points compared to the A3 group. Sig. = .000 indicates that this difference is statistically significant. Confidence Interval (CI) 95%: 3.39 to 7.21 indicates that this difference is between 3.39 and 7.21 at a 95% confidence level. This shows that there is a significant difference between A2 and A3, this shows that the methods or approaches applied in the A2 group are different in effectiveness compared to A3 in improving 21st century skills. This difference may indicate that strategy used in A2 is more suitable or more focused compared to A3, which results in better 21st century skill outcomes.

Tukey HSD test results show Mean Difference (I-J): 15.80 shows that the average 21st century skills improvement in the A2 group is higher 15.80 points compared to the A4 control group. Value Sig. = .000 shows that this difference is statistically significant. Confidence Interval (CI) 95%: 13.89 to 17.71 indicating that this difference is between 13.89 and 17.71 at a 95% confidence level. This shows that there is a significant difference between A2 and A4. Group A4 as control group usually does not get any special intervention, so if there is a significant difference between A2 and A4, this indicates that intervention given on A2 had a noticeable effect compared to no intervention (control group). If A2 shows Significant improvement compared to A4, means that the methods used in A2 are effective in improving 21st century skills.

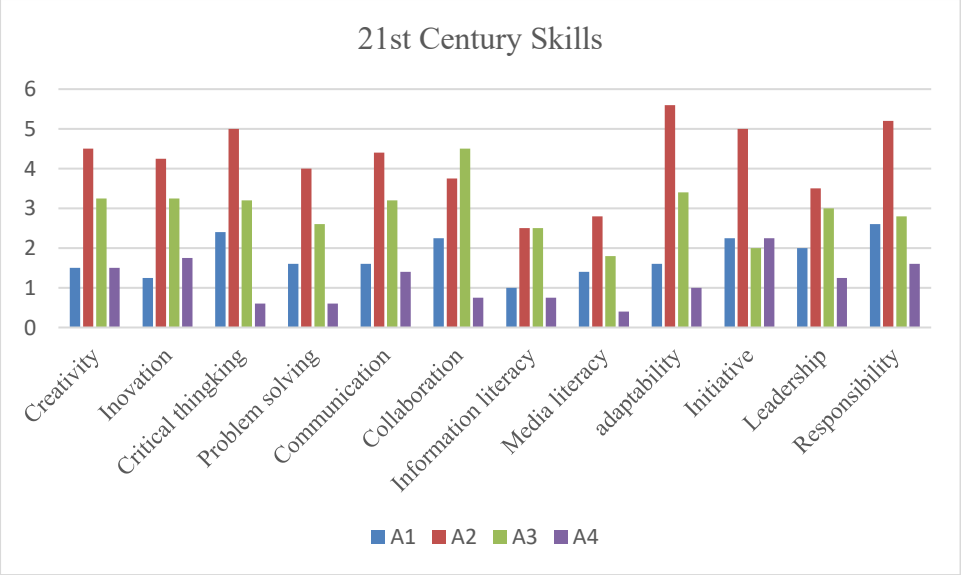

Figure 2.
Average Score Diagram Gains of Group A1, A2, A3 and A4 scores on the 21st Century Skills component

According to the bar chart image above, the result of the gain of the average score on the 21st century skill variable obtained an increase in the value of each component. The increase with the highest increase in components adaptability of 5.6 and the lowest is Media literacy by 0.5. This proves that the A2 OE program integrating 21st century skills is an OE activity that can be the best choice to improve adaptability somebody. Group A2 is a group that has a dominant personality profile of openness, where openness is a person's personality trait that is open and easily accepting of new things and able to adapt to existing conditions. This graph shows a comparison of the improvements of the four groups (A1, A2, A3, A4) in the various components of 21st century skills. Overall, the A2 group showed the most significant improvements in most components of 21st century skills, particularly in adaptability, innovation, critical thinking, and initiative. Group A3 is in second place in many components, while groups A1 and A4 tend to have lower improvements with little difference between the two.

DISCUSSION

The concept of integration provided in each program is key in the upgrading of PYD 12Cs and 21st century skills. This happens because the focus of the program on each component makes the participants' understanding more directed from the beginning of conveying the purpose and objectives of the activity, the process of continuing the activity to the conclusions reached among the participants (Kendellen et al., 2016). The concept of integration provides guidance in structuring the thinking of participants when doing something, so that participants in activities do not think wildly and interpret individually in carrying out activities (Leadbeatter, 2021). Learning

activities in the outdoors are activities that do not have too many distractions and temptations, When learning in nature one avoids the noise of motor vehicles, the sound of modern communication tools so that participants can focus more on being given learning (Cenić et al., 2023). Activities in the outdoors provide an opportunity for a person to learn with their nature, because in fact humans and nature have a close relationship. The sound of the rustling of water, the rustling of the wind, the chirping of birds give a person peace both in terms of his cognitive mind and his inner feelings so that in this calm state a person can receive more effective learning (Pierce & Beames, 2024).

In this research activity, it was carried out 3 days and 2 nights, although in a short time the author is confident that it can provide good learning because participants are more focused on obtaining lessons and experiences directly in the outdoors with quieter conditions without the noise of vehicles and communication tools which in our daily lives are usually an obstacle to being able to focus on doing something. In learning the integration of PYD 12 Cs is a learning of humanity, so that OE activities are a suitable medium to be given because nature is a true friend of humans, besides that in OE activities uncertainty is a challenge for a person to continue to be alert and prepare to face any conditions (Pierce & Beames, 2024). Learning through outdoor media allows participants to experience various challenges, the challenges that become lessons can come from the stimulus of activities given and then added to themselves, the surrounding environment and between friends. Outdoor activities allow a person or group to be more focused and reduce distractions to learn Soft Skill And Hard skill. Activities that use outdoor facilities are not only used as media, but also meaningful out of bounderise "Getting out of the frame or frame of habit" where participants are invited to think extraordinarily and make new breakthroughs. Outdoor or outdoor training activities that are fun and challenging. The form of activity is in the form of life simulations that are creative, recreative, and educational both individually and in groups with the goal of self-development (personal development) or group (team development) (Akin et al., 2020).

Uncertainties make learning more meaningful, but directing every event to make a learning is the key to this learning integration. The importance of the role of facilitators and facilitators also determines the success of this integration program, because the role of facilitators in conveying explanations of activities, the purpose and objectives of the activity, being able to reliably make observations during the implementation of activities, and being able to conduct discussions and reflections with participants so as to make learning meaningful for participants (Nordentoft & Olesen, 2023). In addition, administrative tools prepared by companions and facilitators in conducting observations and reflections are important to be prepared properly so that reflections are more neatly arranged, so that they can be seen and analyzed the development of changes in attitudes and behaviors of participants (Nolbeck et al., 2024). The task of companions and facilitators is open to patronize

but more to arouse participants to gain awareness of the purpose and objectives given, as well as provide feedback to participants to be aware, know, understand and explore the meaning behind the challenges given (Parr & Hawe, 2017). So that the ability of companions and facilitators also determines the success of this integration program.

Differences in the Influence of Program Group (A1) OE PYD 12Cs Integration, Program Group (A2) OE 21st Century Skills Integration, Program Group (A3) OE Combination Integration, Control Group (A4) on the Improvement of PYD 12Cs.

Sports activities including outdoor activities are basically able to increase the PYD value of 12 Cs, according to research (Holt et al., 2017) that Organised sport has been identified globally as a context with the capacity to promote positive youth development, There is a consensus in the youth sports literature that PYD can be defined as a power-based conception of development in which children and adolescents are seen as having 'resources to develop' rather than 'problems to be solved'(Bruner et al., 2023). Outdoor sports activities have long been loved by school-age teenagers to adults (Vigane & Dyrstad, 2022), so that in line with the youth's penchant, outdoor activities have also been proven to be effective in improving the values and components in the PYD 12 Cs.

There are 12 outdoor activities carried out in this study, including camping, hiking, orienteering, running, tree climbing, rappelling, slackline, climbing, spider web, rafting is a fun OE activity but also contains theory, philosophy, insight and requires skills and competence for those who do it. The activities carried out contain a risk of injury if not accompanied by an expert companion as well as directing the meaning behind the activities given. Where each individual involved will be able to feel, see directly and carry out these activities, so that knowledge transfer based on experiences in nature can be felt, translated, developed based on their abilities. This approach hones the physical and social activities of the individual where the individual will do more activities that indirectly involve cooperation between friends and the individual's exploration abilities (Kiviranta et al., 2024). The concepts of interaction between individuals and nature through simulation activities in the open air can be seen as a conducive situation to form the attitudes, ways of thinking and creative and positive perceptions of each individual in the group who are given OE treatment to form a sense of togetherness, openness, tolerance and deep sensitivity, which will ultimately be able to provide enthusiasm, initiative and new patterns of empowerment in their lives. will also be able to develop their own potential and life skills, both individually and in groups (Cenić et al., 2023).

The results of this study show that the (A1) OE program integration of PYD 12Cs, the (A2) OE program of 21st century skills integration and the (A3) OE program of combination integration can both have a significant influence on the increase in the value of PYD 12 Cs. However, of the four groups, group A1 is the highest group in increasing PYD 12 Cs. Researchers see this phenomenon considering that the

integration carried out is considered to be more effective than integration combination of PYD 12Cs, especially with integrations that are outside of PYD 12Cs. So that in outdoor activities, all components or several components in OE activities should be integrated according to the needs and conditions of students.

The difference in the increase in the PYD score of 12 Cs in group A1 and group A2 has an average score difference of 14.01, this shows a difference in high improvement, when viewed from the effectiveness of the program, it is clear that group A1 is better than A2. During the research process, it can be seen that group A1 is more dominant in socializing and smelling with other groups, in contrast to group 2 which looks more individualistic but shows creativity in individuals.

The difference in the increase in the value of PYD 12 Cs in group A1 and group A3 has an average score difference of 8.01, this shows a fairly low difference in improvement, when viewed from the effectiveness of the program, it is clear that group A1 is better than A3. This A3 program group is a combination integration group, so indeed for the average PYD 12 Cs improvement score is not much different. Because the program and learning objectives are not too different, it's just that this group has other integrations. During the research process, it was seen that group A1 and group A3 were not too different, no one was more dominant in socializing and mingling with other groups. In solving the challenges given, A1 tends to be almost similar to A3.

The difference in the increase in the value of PYD 12 Cs in the A1 group with the A4 control group had an average score difference of 20.01, this shows a high difference in improvement, when viewed from the effectiveness of the program, it is clear that the A1 group is better than A4. The A4 group is a group that does not have integration, so it looks freer but is not directed tends to be wilder and difficult to condition. During the research process, it can be seen that group A1 is easier to work with, more disciplined in time, easier to condition and When reflecting more and sharing opinions and sharing experiences while doing the given activities, it is different from group 4 which looks more wild but has high enthusiasm, unfortunately difficult to condition, slow to respond to instructions and a little difficult to manage, Many jokes do not lead to the essence of the program.

Differences in the Influence of Program Group (A1) OE Integration PYD 12Cs, Program Group (A2) OE 21st Century Skills Integration, Program Group (A3) OE Integration Combination, Control Group (A4) on 21st Century Skills Improvement.

The educational, social, and practice-based context of adventure education and outdoor learning is undeniably influenced by this broader process of technological change. Along with this, our motivation stems from the recognition that little consensus exists either in the literature or practice regarding the place, role, and (non) use of technology when taking learning in the outdoors (Reed et al., 2024). The researcher saw a difference of 4 groups that seemed to be very quick in responding and taking a stance to solve the problem/task given, for example one of the

participants in the group took the initiative to try to overcome the given problem and then solved it with teamwork. While what happened in other experimental groups, they relied more on friends in one group to complete the task given. This happens because other groups do not get material on 21st century skills at the beginning of the implementation of the activity so they do not understand the importance of teamwork, problem-solving, decision-making and interpersonal communication. So far, OE has been understood as a physical activity oriented towards recreational education, the term intentionally structured is a method of conveying to students the important values contained in OE activities. In accordance with the research, combining outdoor learning will provide a new perspective on learning themes and can connect school content with real-world problems (Anggreiny et al., 2023).

The results of this study show that the (A) OE program integrating PYD 12Cs, the (A2) OE program integrating 21st century skills and the (A3) OE program integration combination can both have a significant influence on the improvement of the value of 21st century skills. However, of the four groups, the A2 group is the highest group in improving 21st century skills. Researchers see this phenomenon as thinking that 21st century skills are not just talking about technology, but more about how our cognitive and affective responses are u sed in using technology.

The difference in the increase in the value of 21st century skills in the A2 group and the A1 group has an average score difference of 12.40, this shows a high difference in improvement, when viewed from the effectiveness of the program, it is clear that the A2 group is better than A1 in improving 21st century skills. During the research process, it was seen that the A2 group was more dominant in solving challenges, activities were more critical and liked to solve problems.

The difference in the increase in the value of 21st century skills in the A2 group and the A3 group has an average score difference of 6.01, this shows a fairly low difference in improvement, when viewed from the effectiveness of the program, it is clear that the A2 group is still better than A3. This A3 program group is a combination integration group, so indeed the average score of 21st century skill improvement is not too different. Because the program and learning objectives are not too different, it's just that this group has other integrations. During the research process, it was seen that group A2 and group A3 were not too different, no one was more dominant in socializing and mingling with other groups. In solving the challenges given, group A2 tends to be almost similar in characteristics to group A3.

The difference in the increase in the value of 21st century skills in the A2 group and the A4 control group has an average score difference of 16.7, this shows a difference in high improvement, when viewed from the effectiveness of the program, it is clear that the A2 group is much better than the A4 control group. The A4 group is a group that does not have integration, so it looks freer but is not directed tends to be wilder and difficult to condition. During the research process, it can be seen that group A2 is easier to work with, more disciplined in time, easier to be conditioned and

When reflecting more to express opinions and share experiences while doing the given activities, it is different from group 4 which looks more wild but has high enthusiasm, unfortunately difficult to condition, slow to respond to instructions and a little difficult to manage, Many jokes do not lead to the essence of the program.

CONCLUSION

The experience of OE activities has a significant influence on the positive development of individuals, especially in the context of Positive Self-Development (PYD) and 21st century skills. Through OE activities, individuals can improve their caring, connectedness, initiative, social skills, creativity, and critical thinking abilities and contribute to others. Activities in the program including camping, hiking, orienteering, running, cycling, tree climbing, climbing, spider web, juggling ball and rafting have been proven to allow participants to learn to work together, communicate effectively, and overcome challenges directly. In addition, interaction with the natural environment also contributes to improved mental and emotional health, which is important for supporting the growth of one's character and confidence. By facilitating an educational and enjoyable experience, outdoor activities can be an effective means of equipping individuals with the necessary skills in an ever-changing world. Therefore, the integration of outdoor experiences in educational curricula and self-development programs is highly recommended, to support the formation of a generation that is better prepared to face the challenges of the 21st century. Going forward, further research needs to be conducted to dig deeper into the most effective methods and approaches in utilizing OE activities for the development of PYD 12Cs and 21st century skills.

The results of this research are expected to be useful and contribute to the world of education, especially physical education as a vehicle to increase general understanding of PYD provisions and 21st century skills cognitively, affectively and psychomotor students, especially those who can improve the ability of their students to face the progress of the times in the 21st century.

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