

Physical Education: Study of Different Perceptions of Students on The Concept of Physical Education in First Middle School and Vocational Middle School

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ABSTRACT

Abstract: This research aims to measure the truth level of the perception of the students on the physical education concept, and to figure out the difference perception between male and female students at the junior high school and vocational high school levels. Method used is survey with the use of closed inventory questionnaire. This study is conducted on two populations, that are 3700 students of X class at Vocational High School in the Regency of Banyuwangi and 750 students of VIII class at Junior High School in the Regency of Pacitan. Study sample is taken by purposive so that it is obtained 370 vocational high school students and 150 junior high school students. Data analysis technique uses descriptive statistics to figure out the percentage of correct and wrong perception; and to test difference perception between male and female students is used t-Test parametric statistics and Mann Whitney u-Test non-parametric. Research results show that the truth level of the junior high school students' perception on the education concept is in the very good category, while at the vocational high school level it is in the good category; there is difference perception on students at vocational high school level, while at the junior high school level there is no difference perception.

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Physical Education is one of required school subjects that must be studied by all students. It is because the subject contains various physical activities in the form of motion, directed for optimizing whole the students' potential (Guijarro et al., 2020; Hopper et al., 2005). By doing movements that are practiced, it is believed that the students will get valuable experience, which is experience that is not just related with physical aspect, but also experience which affects mental, moral, social, intellectual, and even spiritual aspects (Hernández et al., 2019; Kolayis et al., 2012).

Physical education is closely related to physical activity in the form of human movement. All physical learning activities are based on motion (Osipov et al., 2016; Mashud, 2018). By moving, students will get varied experience, whether in the form of movement variety aspect, effort/process of struggling in reaching the movement skill, or social interaction in studying the motion and in showing their move skill in an event/competition. According to (Mordal-Moen & Green, 2014; Pill & Stolz, 2017) physical education is very important field for developing motoric and coordination skill, and it is often ignored, which are values in developing cognitive learning skill and other, as needed by the students for filling all curriculum field requirements. The position of physical education is as formal study field in school which based on standard (Kolayis et al., 2012; Hills et al., 2015).

The concept of physical education as an educational process is has been widely presented by experts. Osipov et al, (2016) :Brown & Penney, (2012) states that essentially physical education is physical educational process that uses physical activities and sports for producing holistic changes in individual quality, good in physical, mental and emotional things. Similarly, Pill & Stolz, (2017): Lopatiev et al., (2017) defines physical education as an educational process that utilizes physical activities for shaping a man completely. This also supported by Kolayis et al, (2012) who says: "*Physical education is the formal inculcation of knowledge and values through physical activity*". Strengthening the explanation, Zhang & Zhang, (2017) states that "*physical education is the activity of body to develop people's "nature", physical education is to strengthen the body, physical education is one kind of education through body, physical education is a social cultural activity, and so on*". Based on those opinion, it can be said that the meaning of physical education is as an educational process, which uses physical activities in the form of motion as the medium, and it aims for shaping and forming man completely, that is optimizing whole potency of the students, whether physically, psychology, mentally, social, and spiritual Quennerstedt et al., (2014): Maksymchuk et al., (2018).

Human motion as an essence element from physical education is interpreted as the embodiment of human existence in interacting with the environment (Starc & Strel, 2012). Moving human means that person is on process of showing his existence, showing his true identity when interacting and communicating in declaring certain intention and purpose (Mashud et al., 2021) Even though the meaning of motion is place shifting, but the truth is one of human nature in upgrading his life quality (Kirk, 2006: O'Brien et al., 2020). In order to fulfil that objective, move is being manipulated like that, so its shape becomes more varied and more dynamic Varea & González-Calvo, (2020) In context this, moving in physical education could be directed in form of play, games, and sports. The three forms of the move could be used as media for producing comprehensive pleasure/recreation (recreation sports), fitness/healthiness (sports education), and/ or for reaching self-actualization in the form of achievement performance as high as possible (*sport/sport achievement*) (Barker et al., 2015). The difference between physical education and sport is described in table 1.

Table 1. Difference between Physical Education and Sport

Aspects	Physical Education	Sport
Objective	Education (the growth of the whole personality)	Maximum motoric performance for reaching high achievement
Material	Child centered (customized with ability of the children and basic competence/goal learning)	Focusing on desired achievements and practice content based
Nature of the motion task	Multilateral/thorough ability	Specific/appropriate sport
Shape	Comprehensive (play, game, sport)	Competition
Characteristics of motion	In harmony with daily life motion	Limited to functional motion related to the sport involved
Subject	Student/teacher	Athlete/coach
Regulations/tools/infrastructures	Flexible/appropriate to the situation and condition of school	Standard
Participant	All students must follow/egalitarian	Limited to those who meet qualification/eliter
Money/test	Use to entry behavior/evaluation material for remedial and or enrichment	Use for selection to choose fulfilling subject qualification

From the aspect of its shape movement, according to Lovecchio et al, (2019): Quennerstedt & Larsson, (2015) physical education teacher and trains technique practices from various individual games and teams, water activities such as swimming, gymnastics, athletics, sports for fitness, and various dances. Guijarro et al, (2020): Hills et al., (2015) states that physical education does not only teach sports, but also more than that, scope of physical education is wider, that covers development and maintenance of body, gymnastics, and athletics, even includes knowledge about diet, exercise and hygiene, as well as physical training focused on *musculo-skeletal* and psycho-social mechanism (Jones, 2007).

Concerning on the complexity of form and purpose of physical education, then in its practice multidisciplinary approach is used. It involves many fields of knowledge such as biomechanics, sports physiology, sport sociology, history, philosophy and psychology (Pill & Stolz, 2017). This is in accordance with Álvarez-Ferrándiz et al., (2021) that interdisciplinary learning approach in physical education is key success because of the complexity of its curriculum.

In fact, from the goal aspect that want to be achieved, physical education learning aims for optimizing whole potency of the students, so the students can be a figure of whole person, can have good personal quality, can be smart and competitive (Sugden & Wright, 2014). A whole and intelligent personality covers ability in whole aspect life, that is physical, mental, moral, intellectual, social, and spiritual. More technically, Portwood, (2003) states that the objective of the physical education is for developing body movement control. Whereas a complete and thorough statement is delivered by Lovecchio et al., (2019) who states that the objective of physical education is giving the opportunity to students for learning various body activities that build and develop their potential in physical, mental, social, emotional and moral aspects. In line with that explanation, Pérez-Trabazo et al., (2020) states “The goal of physical education is to impart the knowledge, skills, and confidence necessary for students to enjoy a life of healthy physical activity”. By more comprehensive, Álvarez-Ferrándiz et al., (2021), states that physical education is a part of education, and is through various balance and coherent activities, which aims for giving contribution to develop the potency of an individual including growth and development, physical competence and psycho-social (Hernández et al., 2019).

From the aspect of learning, physical education learning is a system. There are 4 (four) related components one to another, namely objective, content, method, and evaluation. Those four components are systematically arranged in order (Guillamón et al., 2021). The first thing to be done in learning physical education is formulating the learning objective that contains the description of a student's figure as what will achieve, then appropriate material/content will be arranged according to the objective. It is because the goal is producing a complete figure, that covers cognitive, affective, and psychomotor, then finally method and evaluation of the learning should be in accordance with that (Lovecchio et al., 2019).

Empirical facts show that physical education learning has not yet done optimally. Due to the inappropriate perception, physical education learning is more focused on training action for maximizing physical performance in achieving achievement in certain branch sport. The consequence is the cognitive and affective field is not being concerned enough; not all student capable of participating actively; curriculum completeness accomplishment does not occur; and the learning process could not yet create fun and busy atmosphere for all students.

Those mistakes on the concept of learning need to be fixed as soon as possible because physical education is strategic subjects for educating the students to be tough inside in undergoing everyday life in society. Physical education learning is prioritized to build harmony between the big influence on the students' body and also the influence on daily life (Galan et al., 2020). By carrying out the right learning, the students are able to become qualified and competitive figures, and are expected to be able to use their competence to participate actively in the family and community. Guijarro et al., (2020) states that the physical education contribution at school is as a good and suitable context to teach about living skill. The reasons are: (1) living skill and physical skills is studied with the same way through demonstrations and exercises, (2) there are a lot of skills that is learned in physical education that can be diverted to the living field, that is ability for working under pressure, ability for solving problem in deadline time and or certain challenge, ability for setting goals, ability for communicating and collaborating, ability for handling problem in success and failure condition, ability for accepting bait and getting benefit from it, (3) physical education in sports format is activity that is popular among students and society.

Ideal physical education learning includes four principles, namely fun, busy, complete, and modification (Johnson et al., 2017). Education learning should be done in fun atmosphere because it will encourage the motivation of the students in following the class and can improve the effectiveness and efficiency of the achievement goal (Agbuga et al., 2016). Busy principle means that learning the physical education should be able to make the students keep busy in focusing on the learning process, which are studying about motion/running the motion task and not busy listening another activity (Hortigüela et al., 2016). Complete principle directs the learning hits all over the students' potency, not only on physical aspect, but also in terms of knowledge and attitudes, while principle of modification underlying the needs of the teachers' ability to adapt the learning with the characteristics of learning objectives, characteristics of students, and local situation as well as condition (Zaravigka & Pantazis, 2012).

The ideal characteristics of the physical education learning need to be understood by the students (Ghofrani & Golsanamlou, 2008). With correct perception, it will improve the motivation of the students in following physical learning education. Perception is a series of complex processes through senses, for acquiring and interpreting the information (Ava, 2013). In addition, Mordal-Moen & Green, (2014) interprets perception as: ... the sensory analysis of incoming streams of stimuli, aimed at learning the underlying physical attributes that characterize the environment in an on-line manner. Practical activity in doing perception is sorting, interpreting, analyzing, and integrating the stimuli that is brought by the senses to brain for getting the complete understanding (Gorucu & Kksal, 2015). Perception is formed through the process that begins with sense something, that is doing observation by seeing, hearing, touching, feeling, and receiving, then selection, organizing, and interpreting is done on the incoming information in order to make that thing becomes meaningful picture (Baek et al., 2020). In short, Behzadnia et al., (2018) interprets the perception as a process of regulating and feeling something through sense for interpreting and giving meaning to the environment (Anderssen, 1993).

Sensing is an important component in perception. Limitations on the senses and subjectivity in interpreting the incoming information really decide whether correct or not the perception of someone (Pennington et al., 2019). The truth of perception is determined by the factor of somebody's ability in collecting and interpreting the information, is also determined by the complexity of the incoming information (Røset et al., 2020). The more complex something information, it is more difficult to be perceived as true/correct.

As a complex phenomenon, physical education needs to be analyzed by details to identify its essential components. The assessment to the component will make it easy for students to get the correct perception. Perception to the physical education learning is directed at aspects of definition, purpose, and characteristics of its activities. Misperception of those three things will result on problems related to the existence of the physical education learning, for example low appreciation to physical education, and low motivation in following physical education learning. Supporting that idea, Johnson et al., (2017) concludes: "...that students' perceptions of their physical school environment are related to key educational outcomes and the way in which they interact with their environment".

The understanding about the students' perception on the physical education is urged to be done as one of efforts to make the physical education can be understood and executed appropriately. This study focuses on studying the truth level of the students' perception on the physical education, and differences perception between male students and female students. Data and information obtained from this study is very useful as study material and foothold in improving the quality of physical education learning.

Based on the interview with physical education teachers in this study, it is obtained that information about the students' perception on physical education is still very low. Studies about perception of the students on the definition, purpose and characteristics of physical education has not yet many done. Some of relevant studies are carried out by (Yilmaz, Esenturk, Demir, Gonul, & Ilhan, Ekrem, 2017: Pang et al., 2019) who finds that the students' perceptions on physical education teachers are positive, and physical education teachers are perceived as a guide and facilitator to gain knowledge; (Mutodi & Ngirande, 2014: Darmaji et al., 2019) also conclude that perception can be influenced by the motivation of the teachers, parents and the subject matter provided during the learning process; Agyeman, George, Frimpong, Emmanuel, & Ganyo, Elvis, (2016) concludes that interaction with other subjects, environment characteristics, and certain roles has an influence on the perception of the students' academic performance.

Related to the differences on the perception between male and female students, Sözen & Korur, (2019) find differences in perception between male and female students and also age towards the physical education and other school subjects; Jaakkola et al., (2015) concludes that there was no significant difference in male and female students' perceptions of physical education. This empirical evidence strengthens the conclusion that study about perception of the students is urged to be done for getting clear information about their understanding level to the physical education concept. Thus, it could be studied further its logical consequences in order to find out the solution in improving the quality of physical education learning. Based on that, the problem studied in this study is how the truth level of the students' perception on the physical education concept, and whether there is any difference perception between male and female students on the physical education concept.

METHODS

Type study is descriptive quantitative research with using survey approach (Zaluchu, Sonny, 2020: Montolalu & Langi, 2018: Laborda, 2014). Data collection uses closed inventory questionnaire to know the truth level of the students' perception on the definition, purpose and characteristics of the physical education (Larini & Barthes, 2018: Mullen & Hultquist, 1970). The questionnaire in this study contains 71 statement items that must be responded by the students by giving true or false answer.

This study is conducted on two populations, which are 3700 student of X class at the Vocational High School in the Banyuwangi Regency and 750 students of VIII class at the Junior High School in the Pacitan District. The sample of this study is taken by purposive technique sampling, so that it is obtained 370 vocational students and 150 junior high school students.

The data analysis technique uses descriptive statistics to figure out the correct or wrong perception percentage; and for testing the difference perception between male and female students uses t-test parametric statistics and *Mann Whitney u-Test* non-parametric statistics (depend on whether the assumption test is fulfilled or not (normality and homogeneity distribution of data) which becomes prerequisite (Leppink, 2019). To interpret the percentage of the analysis results, it uses criteria as listed in the table 2.

Table 2. Criteria of Data Percentage Interpretation (Vaughn, Bebbie & Lomax, 2016)

No	Percentage	Predicate
1	85—100%	Very good
2	69—84%	Well
3	53—68%	Enough
4	37—52%	Less
5	20—36%	Very less

RESULTS

Physical education concept is separated into three aspects, namely definition, purpose and characteristics of activity. Analysis result about the level truth of the students' perception on the physical education concept is presented in this table 3.

Table 3. Results of Students' Perception Data Analysis

Physical Edu. Concept	Junior High School (SMP) (%)		Vocational High School (SMK) (%)	
	Answer: Right	Answer: Wrong	Answer: Right	Answer: Wrong
Definition	92	8	85	15
Objective/Purpose	85	15	84	16
Activity	78	22	70	30
Average	85	15	80	20

Based on the table of interpretation criteria, it can be concluded that the perception of the junior high school students is very good, while the perception of vocational high students is in good category. Difference test analysis for knowing the level of difference perception between male and female students requires assumption test, namely normality test and homogeneity test. Normality test uses Kolmogorov Simonov technique, while the homogeneity test uses *levene's test* technique. The assumption test analysis results for junior high school students data shows that all data are normally distributed and homogeneous (level of the resulting significance > 0.05), hence for difference test analysis, parametric statistic is used, which is t-test or independent sample T test, while for vocational high students data show that all data are not normally distributed and homogeneous (level of the resulting significance < 0.05), thus for difference test analysis, Mann Whitney u-Test nonparametric statistic is used. Results of the sample T Test Independent test between male and female students' perception at the junior high school level are shown in table 4.

Table 4. Results of Analysis of Independent Samples Test

		t-test for Equality of Means					95% Confidence Interval of the Difference	
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
students' score	Equal variances assumed	-.030	148	.976	-.02667	.89847	-1.80216	1.74883
	Equal variances not assumed	-.030	142,587	.976	-.02667	.89847	-1.80272	1.74938

Result of the calculation obtains significance score: 0.976. This value is bigger than 0.05 significance level, so it can be concluded that there is no difference between male and female students' perception on the physical education concept. Data analysis calculation by using statistics *Mann Whitney u-Test* nonparametric statistics is shown in the table 5.

Table 5. Analysis Results of Mann Whitney u-Test

	SCORE
<i>Mann-Whitney U</i>	12749.000
<i>Wilcoxon W</i>	29954.00
<i>Z</i>	-4.248
<i>Asymp. Sig. (2-tailed)</i>	.000

Analysis results show that the z value: -4,248, with *Asymp. Sig. (2-tailed)* value: 0.00. This value is smaller than 0.05 significance level, so it can be concluded that there is difference between male and female students' perception on the physical education concept.

DISCUSSION

In general, the truth level of the junior high school students' perception on the physical education concept is in very good category, while for vocational high students is in good category. It shows that in the overall of definition, purpose, and characteristics of the physical education subject activities, the students have understood it appropriately. By quantity, there is a difference category of perception between the junior high school and vocational high school students. It shows that at younger age, students' perception on the physical education is more appropriate than older age students.

The above facts are also supported by the results of the study from Mordal-Moen & Green, (2014) which shows perception of the XII class students on the physical education learning is categorized as medium, while Pang et al., (2019) finds fact that perception of the VIII class students on the physical education learning is categorized as good. Based on those findings, it can be concluded that the higher of a level education of the students, the lower appropriateness on understanding the physical education concept.

More specific, from the three aspects studied, the lowest score is in the aspect of characteristics of physical education activity, while the highest score is in the aspect of definition and purpose of physical education. Understanding to the definition and purpose of physical education tends to be easier to be done compared with understanding to characteristics of its activities. Definition and purpose of physical education is a whole unity. It means that if a student understands the definition of physical education, the student will directly understand the objective appropriately. This finding is in line with the results of study by Mashuri, (2017), and that conclude the perception of the students to physical education is in good category. On the other hand, understanding to characteristics of physical education activity needs more complex thoughts because concerning on the various variety shape of motion which is essence in physical education.

Understanding to something is the main indicator of someone's perception. To get proper understanding about the physical education, the students are required to directly and appropriately involve in physical education learning. This statement is supported by results of study by Agbuga et al., (2016). During the process in learning, the students interact and communicate with friends and teachers in doing moving task. Process of interaction and communication involves rich learning experience, like seeing, hearing, observing, feeling, discussing, and cooperating. The cognitive event that exists in that learning experience will determine the level of the students' perception on the physical education concept. Appropriate or positive perception will be obtained when learning that has been done impresses the students, makes students happy and excited, makes social atmosphere becomes familiar, and makes the students directly feel the benefits obtained for themselves.

The appropriate/correct learning experience in doing moving/motion task will be felt by the students when the learning held by the teacher is also correct/appropriate. It means physical education teachers is ordered to show professional performance in doing their job. Teachers' professionalism is determined by the level of competence in mastery material and in guiding the students. Study by Yilmaz et al, (2017) shows that perception of the students on physical education teachers is positive, and physical education teachers are perceived as mentor and facilitator to gain knowledge.

Physical education material about motion is basically not only for practicing the physical aspect of the student, but also for optimization whole and thorough aspect/potential of the students. This concept becomes basic understanding on the definition and purpose of the physical education. By implementing the concept, physical education learning will be done with 4 (four) educational principles, namely fun, busy, complete, and modified. Those principles become typical or characteristics of the visible activity in learning physical education. Appropriate physical education learning will capable of creating fun and busy atmosphere. Learning task that is given to the students is packed as good as possible, so that it could be done happily. The excitement of doing the motion task also influences on the seriousness of the students to always focus on the completion process of the motion task, not on other things outside learning. Good physical education learning will keep the students busy, which the students are intensively motivated and facilitated to be active and creative in the learning process.

The exhilarating and busy atmosphere in physical education learning will be occurred if the existing materials, methods, tools, and infrastructures are customized with the characteristics of students. In this context, the teachers' ability in doing modification/adjustment is very decisive on the successfulness of the objective learning achievements. The modification can appropriately ensure the implementation and success of the students in doing the motion task in fun, effective and efficient way, even capable of creating conducive environment for the optimization of the whole students' potency. The objective of the physical education is: "...to impart the knowledge, skills, and confidence necessary for students to enjoy a life of healthful physical activity" (Mordal-Moen & Green, 2014).

The occurrence of the appropriate learning will influence the students to have a good/appropriate perception. By doing the learning, basically the students build perception, that is using their sense during learning processes, feeling and interpreting which becomes something that can be understood its existence. Good and appropriate learning environment will build expected perception, because perception is influenced by the environment (Mutodi & Ngirande, 2014; Agyeman, George et al, 2016).

The findings of this study show that the physical education subject has been appreciated by the students. The developing interaction and communication in physical education produces appropriate perception about physical education concept. During doing the instructed motion task, appropriate perception will improve the quality of learning interaction and communication, which in the end will also improve the effectiveness and efficiency of the learning. It is in accordance with the opinion of Sugden & Wright (2014) which state: "interaction of student with student and student with the teacher must always be built for improving the communication and discussion about every activity in learning". Similarly, Bonk, (Johnson et al., 2017) state that interaction has important role in learning.

On the characteristics aspect of activity all students have a perception on the good category. It is suspected because several things, which are: (1) characteristics of physical education activity is very complex and has relatively large and wide scope, so, in order to understand, it requires relatively difficult effort, (2) the situation and condition of the Covid-19 pandemic also cause impact which is the decreasing of collective practical activity at school, so that it reduces the effectiveness of the physical education learning, and have an impact on the students' perception.

As a complex process, physical education learning with all components that support it, is opened to be perceived in many ways. The findings of this study show that at the junior high school level, there is an equality perception between male and female students, but at the vocational high student level there is no equality perception between male and female students. As a unique individual, students may have different perception about obtained benefits from physical education (Agbuga et al., 2016). Not all students have correct/appropriate perception on physical education concept, because many factors may influence it. Environmental factor is very influential to students' perception (Hortigüela et al., 2016), while the students' internal condition also gives significant influence. Ghofrani & Golsanamlou, (2008) states that a number of main factors that gives influence to form someone's social perception is the receiver, the situation, and the target factor. Likewise, the findings of Arifin, Hadi, Fuady, & Kuswarno, (2017) concludes that in general, individual internal and external factors have real influence on the perception. Study from Mutodi & Ngirande, (2014) concludes that difference perception between male and female students is influenced by confidence, interests, teachers, and supporting material, while Boediarsih, Shaluhiyah, & Mustofa, Syamsulhuda, (2016) finds that the difference perception of the students is influenced by their place origin, gender, and same age friend influence.

Difference perception between male and female students in physical education learning is also found in research by Behzadnia et al., (2018) there is difference perception between male and female students as well as age on the physical education and other school lesson, while Guillamón et al., (2021) concludes that there is a significant difference of perception's influences between male and female students on the physical education.

Logical consequence on findings of this study is the need of improving teachers' professionalism in organizing the learning. With appropriate learning, correct perception will be created. Appropriate perception will improve motivation and learning outcomes of the students (Ramadhan, Arwan, 2015; Mulyana et al., 2013). To get appropriate/correct perception, it requires active involvement of the students in the process of physical education learning, and it should be accompanied by teachers' efforts intensively for conditioning other influential factors, namely: designing the learning material, methods, media, tools and infrastructures carefully to be customized with definition, purpose and characteristics of physical education activity.

CONCLUSIONS

Physical education is a mandatory learning subject based on physical activity in the form of motion that is used as a medium to educate students. This physical education essence needs to be perceived appropriately by students, in order to become solid foundation in carrying out the learning. Error in perceiving the physical education concept will become obstacle in achieving the objective effectively and efficiently, on the contrary, by having appropriate perception, it will influence on the successfulness of the students in learning.

In this study, the perception on the physical education concept is directed on three aspects, which are definition, purpose, and characteristics of physical education activity. Research's results show that: (1) perception of the junior high school students is in the very good category, while perception of the vocational high school students is in the good category, (2) at the junior high school level, there is no difference perception between male and female students, while at the vocational high school level there is difference perception between male and female students.

This study gives important information about the truth level and the difference perception of the students on the physical education concept. With this information, it is expected that it can be a research literacy for all related parties with the topic of physical education learning. It is recommended for the teachers to use the findings of this study as reflection material for improving performance quality in giving academic services to the students, and specially, the teachers need to do more study or research related to the learning quality that has been done, so that the perception of the students on the physical education will be more positive. For other researchers, it is suggested to follow up this study on a wider field, so it will be obtained information that is more complete and representative. Besides that, it needs to do repetition study on the instrument used to measure the students' perception in order to obtain a truly valid and reliable instrument.

REFERENCES

- Agbuga, B., Xiang, P., McBride, R. E., & Su, X. (2016). Student perceptions of instructional choices in middle school physical education. *Journal of Teaching in Physical Education*, 35(2), 138–148. <https://doi.org/10.1123/jtpe.2015-0010>
- Agyeman, George, A., Frimpong, Emmanuel, A., & Ganyo, Elvis, R. (2016). Students' Perception of Socio-Cultural Factors Affecting Academic Performance. *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS) ISSN (Print) , and Sciences (ASRJETS)*, 19(1), 2313–4410. <http://asrjetsjournal.org/>
- Álvarez-Ferrándiz, D., Contreras-Machado, L., & Álvarez-Rodríguez, J. (2021). Mobile telephony in students of physical education dependency or addiction. *Journal of Human Sport and Exercise*, 16(2), 235–246. <https://doi.org/10.14198/jhse.2021.162.01>
- Anderssen, N. (1993). Perception of physical education classes among young adolescents: Do physical education classes provide equal opportunities to all students? *Health Education Research*, 8(2), 167–179. <https://doi.org/10.1093/her/8.2.167>
- Arifin, Hadi, S., Fuady, I., & Kuswarno, E. (2017). Analisis Faktor yang Mempengaruhi Persepsi Mahasiswa terhadap Keberadaan Perda Syariah di Kota Serang. *Jurnal Penelitian Komunikasi Dan Opini Publik*, 21(1), 88–101.
- Ava, T. (2013). *Kia Marama Te Au Tauira Ite ' Āite ' anga Ote Au Peu ' UiTūpuna : students ' perceptions of cultural activities in Physical Education*.
- Baek, K. W., Gim, J. A., & Park, J. J. (2020). Regular moderate aerobic exercise improves high-fat diet-induced nonalcoholic fatty liver disease via monoacylglycerol O-acyltransferase 1 pathway suppression. *Journal of Sport and Health Science*, 9(5), 472–478. <https://doi.org/10.1016/j.jshs.2018.09.001>
- Barker, D., Quennerstedt, M., & Annerstedt, C. (2015). Learning through group work in physical education: a symbolic interactionist approach. *Sport, Education and Society*, 20(5), 604–623. <https://doi.org/10.1080/13573322.2014.962493>
- Behzadnia, B., Adachi, P. J. C., Deci, E. L., & Mohammadzadeh, H. (2018). Associations between students' perceptions of physical education teachers' interpersonal styles and students' wellness, knowledge, performance, and intentions to persist at physical activity: A self-determination theory approach. *Psychology of Sport and Exercise*, 39(May 2017), 10–19. <https://doi.org/10.1016/j.psychsport.2018.07.003>

- Boediarsih, B., Shaluhayah, Z., & Mustofa, Syamsulhuda, B. (2016). Persepsi Remaja tentang Peran Gender dan Gender Seksualitas di Kota Semarang. *Jurnal Promosi Kesehatan Indonesia*, 11(1), 28. <https://doi.org/10.14710/jpki.11.1.28-37>
- Brown, T., & Penney, D. (2012). Learning 'in', 'through' and 'about' movement in senior physical education? the new Victorian certificate of education physical education. *European Physical Education Review*, 19(1), 39–61. <https://doi.org/10.1177/1356336X12465508>
- Darmaji, D., Kurniawan, D. A., Astalini, A., Kurniawan, W., Anwar, K., & Lumbantoruan, A. (2019). Students' perceptions of electronic's module in physics practicum. *Journal of Education and Learning (EduLearn)*, 13(2), 288–294. <https://doi.org/10.11591/edulearn.v13i2.13005>
- Galan, Y., Andrieieva, O., Yarmak, O., & Shestobuz, O. (2020). Programming of physical education and health-improving classes for the girls aged 12-13 years. *Journal of Human Sport and Exercise*, 15(3), 525–534. <https://doi.org/10.14198/jhse.2020.153.05>
- Ghofrani, M., & Golsanamlou, M. (2008). Students' Perception of Physical Education Courses and ITS Relationship with their Participation in sport activity. *Sport SPA Journal*, 9(1), 21–31.
- GORUCU, A., & KOKSAL, O. (2015). Examining secondary school students metaphor perceptions of the concept of physical education lesson. *Turkish Journal of Sport and Exercise*, 17(1), 105–105. <https://doi.org/10.15314/tjse.2015112546>
- Guijarro, E., Rocamora, I., González-Víllora, S., & MariÁ Arias-Palencia, N. (2020). The role of physical education in the achievement of international recommendations: A study based. *Journal of Human Sport and Exercise*, 15(4), 849–860. <https://doi.org/10.14198/jhse.2020.154.12>
- Guillamón, A. R., Cantó, E. G., & García, H. M. (2021). Motor coordination and academic performance in primary school students. *Journal of Human Sport and Exercise*, 16(2), 247–260. <https://doi.org/10.14198/jhse.2021.162.02>
- Hernández, R. M., Gómez, R. M. M., & Padorno, C. M. (2019). Verbal interaction amongst students during physical education. *Journal of Human Sport and Exercise*, 14(3), 560–570. <https://doi.org/10.14198/JHSE.2019.143.07>
- Hills, A. P., Dengel, D. R., & Lubans, D. R. (2015). Supporting Public Health Priorities: Recommendations for Physical Education and Physical Activity Promotion in Schools. *Progress in Cardiovascular Diseases*, 57(4), 368–374. <https://doi.org/10.1016/j.pcad.2014.09.010>
- Hopper, B., Grey, J., & Maude, T. (2005). Teaching Physical Education in the Primary School. In *Teaching Physical Education in the Primary School*. <https://doi.org/10.4324/9780203977590>
- Hortigüela, D., J, F. R., & A, P. P. (2016). Long-term effects of the pedagogical approach on the perceptions of physical education by students and teachers. *Journal of Physical Education and Sport (JPES)*, 16(4), 1326–1333. <https://doi.org/10.7752/jpes.2016.04210>
- Jaakkola, T., John Wang, C. K., Soini, M., & Liukkonen, J. (2015). Students' perceptions of motivational climate and enjoyment in finnish physical education: A latent profile analysis. *Journal of Sports Science and Medicine*, 14(3), 477–483.
- Johnson, C. E., Erwin, H. E., Kipp, L., & Beighle, A. (2017). Student perceived motivational climate, enjoyment, and physical activity in middle school physical education. *Journal of Teaching in Physical Education*, 36(4). <https://doi.org/10.1123/jtpe.2016-0172>
- Jones, L. (2007). *The Student-Centered Classroom*. Cambridge University Press.
- Kirk, D. (2006). Sport education, critical pedagogy, and learning theory: Toward an intrinsic justifi cation for physical education and youth sport. *Quest*, 58(2), 255–264. <https://doi.org/10.1080/00336297.2006.10491882>
- Kolayis, H., Turan, H., & Ulusoy, Y. O. (2012). Comparison of Problem-Solving Disposition of Students in Physical Education Teacher and Psychological Counseling and Guidance. *Procedia - Social and Behavioral Sciences*, 46, 1939–1942. <https://doi.org/10.1016/j.sbspro.2012.05.407>
- Laborda, J. G. (2014). Stein, Jared & Graham, Charles R (2014) Essentials for blended learning Routledge (New York & London) isbn 978-0-415-63616-2 210 pp £19.99 <http://www.routledge.com/books/details/9780415636162/>. In *British Journal of Educational Technology* (Vol. 45, Issue 4). https://doi.org/10.1111/bjet.12177_5
- Larini, M., & Barthes, A. (2018). Quantitative and Statistical Data in Education. In *Quantitative and Statistical Data in Education*. <https://doi.org/10.1002/9781119451457>
- Leppink, J. (2019). Statistical Methods for Experimental Research in Education and Psychology. In *Springer Text in Education*.
- Lopatiev, A., Ivashchenko, O., Khudolii, O., Pjanylo, Y., Chernenko, S., & Yermakova, T. (2017). Systemic approach and mathematical modeling in physical education and sports. *Journal of Physical Education and Sport*, 17(1), 146–155. <https://doi.org/10.7752/jpes.2017.s1023>
- Lovecchio, N., Papini, L., Codella, R., & Torre, A. La. (2019). Physical education classes improve foot function in high-school students using technological tools. *Journal of Human Sport and Exercise*, 14(4), 784–792. <https://doi.org/10.14198/jhse.2019.144.07>
- Maksymchuk, I., Maksymchuk, B., Frytsiuk, V., Matviichuk, T., Demchenko, I., Babii, I., Tsymbal-Slatvinska, S., Nikitenko, A., Bilan, V., Sitovskiy, A., & Savchuk, I. (2018). Developing pedagogical mastery of future physical education teachers in higher education institutions. *Journal of Physical Education and Sport*, 18(2), 810–815. <https://doi.org/10.7752/jpes.2018.02119>

- Mashud, M. (2016). Model Sekolah Berwawasan Kebugaran Jasmani. *Multilateral Jurnal Pendidikan Jasmani dan Olahraga*, 15(1), 75–86. <https://doi.org/10.20527/multilateral.v15i1.2485>
- Mashud, M. (2018). Analisis Masalah Guru PJOK Dalam Mewujudkan Tujuan Kebugaran Jasmani. *Multilateral Jurnal Pendidikan Jasmani Olahraga*, 17(2), 77–85. <https://doi.org/10.20527/multilateral.v17i2.5704>
- Mashud, M., Warni, H., Arifin, S., Ferry, M., Pebriyandi, P., & Kristiyandaru, A. (2021). The application of discord as an effort to increase students' wellbeing in physical education learning during the COVID-19 emergency. *Journal Sport Area*, 6(3), 335–348. [https://doi.org/10.25299/sportarea.2021.vol6\(3\).6612](https://doi.org/10.25299/sportarea.2021.vol6(3).6612)
- Mashuri, H. (2017). Persepsi Siswa Terhadap Pembelajaran Guru Pendidikan Jasmani di SMA Muhammadiyah Kediri. *Jurnal Pembelajaran Olahraga*, 3(1), 1–11.
- Montolalu, C., & Langi, Y. (2018). Pengaruh Pelatihan Dasar Komputer dan Teknologi Informasi bagi Guru-Guru dengan Uji-T Berpasangan (Paired Sample T-Test). *D'CARTESIAN*, 7(1), 44. <https://doi.org/10.35799/dc.7.1.2018.20113>
- Mordal-Moen, K., & Green, K. (2014). Physical education teacher education in Norway: The perceptions of student teachers. *Sport, Education and Society*, 19(6), 806–823. <https://doi.org/10.1080/13573322.2012.719867>
- Mullen, K., & Hultquist, R. A. (1970). Introduction to Statistics. *Biometrics*, 26(3), 590. <https://doi.org/10.2307/2529118>
- Mulyana, A., Hidayat, S., & Sholih, S. (2013). Hubungan Antara Persepsi, Minat, dan Sikap Siswa dengan Hasil Belajar Siswa dalam Pembelajaran PKn. *Jurnal Pendidikan Dan Kebudayaan*, 19(3), 315. <https://doi.org/10.24832/jpnk.v19i3.291>
- Mutodi, P., & Ngirande, H. (2014). The influence of students' perceptions on mathematics performance. A case of a selected high school in South Africa. *Mediterranean Journal of Social Sciences*, 5(3), 431–445. <https://doi.org/10.5901/mjss.2014.v5n3p431>
- O'Brien, W., Adamakis, M., O'Brien, N., Onofre, M., Martins, J., Dania, A., Makopoulou, K., Herold, F., Ng, K., & Costa, J. (2020). Implications for European Physical Education Teacher Education during the COVID-19 pandemic: a cross-institutional SWOT analysis. *European Journal of Teacher Education*, 43(4), 503–522. <https://doi.org/10.1080/02619768.2020.1823963>
- Osipov, A., Vonog, V., Prokhorova, O., & Zhavner, T. (2016). Student learning in physical education in Russia (Problems and development perspectives). *Journal of Physical Education and Sport*, 16(1), 688–693. <https://doi.org/10.7752/jpes.2016.s1111>
- Pang, B., Varea, V., Cavallin, S., & Cupac, A. (2019). Experiencing risk, surveillance, and prosumption: health and physical education students' perceptions of digitised health and physical activity data. *Sport, Education and Society*, 24(8), 801–813. <https://doi.org/10.1080/13573322.2018.1491835>
- Pennington, C. G., Curtner-Smith, M. D., & Wind, S. A. (2019). Impact of a physical education teacher's age on elementary school students' perceptions of effectiveness and learning. *Journal of Teaching in Physical Education*, 38(4), 279–285. <https://doi.org/10.1123/JTPE.2018-0260>
- Pérez-Trabazo, L., Barcala-Furelos, R. J., Peixoto-Pino, L., & Rico-Díaz, J. (2020). Physical activity in the recess of childhood education: A pilot study using garmin vivofit jr wristbands. *Journal of Human Sport and Exercise*, 16(1), 1–10. <https://doi.org/10.14198/JHSE.2021.161.01>
- Pill, S., & Stolz, S. (2017). Exploring Australian secondary physical education teachers' understanding of physical education in the context of new curriculum familiarisation. *Asia-Pacific Journal of Health, Sport and Physical Education*, 8(1), 67–79. <https://doi.org/10.1080/18377122.2016.1272425>
- Portwood, M. (2003). *Dyslexia and Physical Education*. British Library Cataloguing in Publication.
- Quennerstedt, M., Annerstedt, C., Barker, D., Karlefors, I., Larsson, H., Redelius, K., & Öhman, M. (2014). What did they learn in school today? A method for exploring aspects of learning in physical education. *European Physical Education Review*, 20(2), 282–302. <https://doi.org/10.1177/1356336X14524864>
- Quennerstedt, M., & Larsson, H. (2015). Learning movement cultures in physical education practice. *Sport, Education and Society*, 20(5), 565–572. <https://doi.org/10.1080/13573322.2014.994490>
- Ramadhan, Arwan, N. (2015). The Effects Of Student ' S Perception Of Factors Affecting Learning Achievement Of Vocational Theory On Student 's. *Jurnal Pendidikan Vokasi*, 11(2), 297–312.
- Røset, L., Green, K., & Thurston, M. (2020). Norwegian youngsters' perceptions of physical education: exploring the implications for mental health. In *Sport, Education and Society* (Vol. 25, Issue 6). <https://doi.org/10.1080/13573322.2019.1634043>
- Sözen, H., & Korur, E. N. (2019). "A physical education teacher is like...": Examining Turkish students' perceptions of physical education teachers through metaphor analysis. *International Electronic Journal of Elementary Education*, 12(2), 183–188. <https://doi.org/10.26822/iejee.2019257665>
- Starc, G., & Strel, J. (2012). Influence of the quality implementation of a physical education curriculum on the physical development and physical fitness of children. *BMC Public Health*, 12(1), 61. <https://doi.org/10.1186/1471-2458-12-61>
- Sugden, D., & Wright, H. (2014). Physical education. In *Enabling Access: Effective Teaching and Learning for Pupils with Learning Difficulties*. <https://doi.org/10.4324/9781315067780-12>
- Varea, V., & González-Calvo, G. (2020). Touchless classes and absent bodies: teaching physical education in times of Covid-19. *Sport, Education and Society*, 0(0), 1–15. <https://doi.org/10.1080/13573322.2020.1791814>

- Vaughn, Bebbie, L. N., & Lomax, R. G. (2016). *An Introduction to Statistik Cpncepts* (Vol. 5, Issue April).
- Yilmaz, A., Esenturk, O. K., Demir, Gonul, T., & Ilhan, Ekrem, L. (2017). Metaphoric Perception of Gifted Students about Physical Education Course and Physical Education Teachers. *Journal of Education and Learning*, 6(2), 220. <https://doi.org/10.5539/jel.v6n2p220>
- Zaluchu, Sonny, E. (2020). Strategi Penelitian Kualitatif dan Kuantitatif di Dalam Penelitian Agama. *Evangelikal: Jurnal Teologi Injili dan Pembinaan Warga Jemaat*, 4(1), 28. <https://doi.org/10.46445/ejti.v4i1.167>
- Zaravigka, K., & Pantazis, V. (2012). Equality of the genders in physical education: The students' perceptions. *Journal of Physical Education and Sport*, 12(3), 350–357. <https://doi.org/10.7752/jpes.2012.03052>
- Zhang, T., & Zhang, B. (2017). Further discussion about nature of physical education. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(10), 6671–6676. <https://doi.org/10.12973/ejmste/78187>