



Ekonomi Sınıfında Kara Deliğe Yolculuk: Türkiye Beden Eğitimi ve Spor Pedagojisi Paradigmasına Thomas Kuhn Perspektifinde Eleştirel Bir Bakış*

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Makale Bilgisi	ÖZET
<i>Geliş Tarihi:</i> 08.07.2020	Türkiye’de Beden Eğitimi ve Spor Pedagojisi (BESP)’ne ilişkin bilimsel çalışmalar hızla artış göstermektedir. Buna karşın, bilimsel faaliyetlerin alan paradigması üzerindeki etkileri henüz net olarak bilinmemektedir. Bu çalışmada nitel araştırma yaklaşımı temel alınarak Türkiye’de gerçekleştirilen BESP bildirimleri (2014-2018) içerik analizi yöntemi ile incelenmiştir. Elde edilen bulgular Thomas Kuhn’un bilimsel çalışmalar ve paradigma konusundaki yaklaşımları temel alınarak değerlendirilmiştir. Bulgular ve değerlendirmeler, Türkiye’deki BESP çalışmalarının genellikle zaman, maliyet ve enerji açısından “ekonomi” ve kolay araştırma” boyutlarında yürütüldüğünü, araştırmaların kalite ve öz parametrelerinin göz ardı edildiğini ve kalıplaşmış araştırmacı eğilimleri etrafında şekillenen bir paradigma oluşumunun bulunduğunu göstermektedir. Mevcut araştırma paradigma özelliklerinin Thomas Kuhn’un bakış açısıyla değerlendirilmesi ve “Bilimde Kara Delik Etkisi” önermesinin yapılması ile sonuçlandırılmıştır.
<i>Kabul Tarihi:</i> 03.01.2021	
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Economy Class Journey into the Black Hole: A Critical Evaluation of Turkish Physical Education and Sport Pedagogy Paradigm from Thomas Kuhn Perspective

Article Information	ABSTRACT
<i>Received:</i> 08.07.2020	Physical Education and Sport Pedagogy (PESP) studies in Turkey have recently been increasing rapidly while the effects of these studies on the paradigm are not yet known clearly. PESP proceedings (2014-2018) were analyzed through qualitative content analysis in present study and findings were examined by Thomas Kuhn perspective. Findings and evaluations show that PESP studies in Turkey are usually centered around stereotyped tendencies that are conducted on the “economy” aspect in terms of time, cost and energy and neglecting the quality and deep parameters of the research. The study concluded that the paradigm was examined within Thomas Kuhn’s perspective and suggested the “Black Hole Effect in Science”.
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1. INTRODUCTION

Activities of physical education and sport which play an important role in individuals’ healthy cognitive, affective and social developments as well as meeting their psycho-motor requirements have their first examples deeply back in history. However

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they found their place as a discipline in the scope of modern educational practices in the early 19th century (Mechikoff, 2013). Besides, fundamentals of academic activities could not be laid until the middle of the 20th century. Physical education and sport pedagogy (PESP) was first defined by German scientists as a discipline in which theoretical and practical research was carried out concerning learning and teaching practices in physical education, sport and motor skills (Grupe, 1969; Haag, 1989).

It is reported that uncertainties were experienced in the process of defining PESP as an academic discipline. When initial resources concerning the field were examined (Siedentop, 1983; Haag, 1989; Bain, 1990; Brettschneider, 1991; Schempp, 1993; Laker, 2003), the fact that this discipline was only newly developing scientifically caused the content map of field not to be defined clearly by scholars. Scientific studies in PESP initiated by German scholars in Europe developed further in different cultures and geographies upon the inclusion of North American. This fact brought about two different scientific subcultures held by Germany and North America (Crum, 1986). While scholars in the United State of America (USA) adopted positivist and behaviorist approaches mostly, their European colleagues, adopted more critical and hermeneutic theories (Tinning, 2010). As Crum (1986) states it, PESP studies are ignored in empirical terms in Germany whereas they are limited in semantic, critical, hermeneutic and theoretical aspects in USA and England. Moreover, the discrepancies in the field definitions and approaches of researchers from different countries influenced the emergence of uncertainties on PESP concepts (Tinning, 2008). According to Tinning (2008), some researchers focused their activities solely on physical education and sport practices at schools, while some others included different subjects and contents like movement and training sciences, clubs, trainers, extracurricular activities in their research. In addition to this, Lawson (1990) emphasizes that PESP studies rapidly improve quantitatively in the establishment of a paradigm, but should also be developed qualitatively so as to have high functional value. Nowadays, the PESP paradigm evolves to use theoretically pluralistic, eclectic approaches and globalization (Borms, 2009; Tinning, 2010).

The first developmental phases of PESP underwent the periods of "prescience and normal science" among the steps of paradigm circles suggested by Kuhn (1962) within the scope of the concept of "paradigm". As a matter of fact, the predominance of uncertainties in the first step of the scientific development period points to the characteristics of pre-science. In later steps, it is reported that there was a quantitative accumulation in PESP studies leaving functional aspects restricted (Lawson, 1990) while theoretical diversity was neglected (Crum, 1986). This corresponds to the period of normal science when unsolved problems and contradictions increase together with the increase in the number of studies. On the other hand, the fact that the paradigm was proceeding with limited approaches around North America and Germany was keeping its existing tendencies within the scope of these two scientific subcultures. In the normal science period, there is progress continuously going around the same approaches, the accepted paradigm is supported by the majority and the emergence of different theories and scientific subcultures is prevented (Kuhn, 1962). Nevertheless, another characteristic of the normal science period is that it causes depression and crises in the upcoming processes together with the emerging quantitative accumulation in research (Kuhn, 1962). Parallel with this need for change, the structure of the international paradigm today went into a period of pluralist understanding; incorporated different theories and approaches and came to an eclectic structure. Eclectic approaches including the choice of the appropriate theory and method with the subject of the study (Tinning, 2010). Kuhn defines this state with the change in the generally accepted paradigm and concept of "model drift" which explains change in researchers' thinking and action tendencies in order to find solutions to the crises of normal science (Kuhn, 1962). In fact, today it is stated that progress has been made in the development of paradigm framework in PESP studies; in addition, paradigm wars that emerged as a result of uncertainty and depression have come to an end (Tinning, 2010). A variety of theoretical and methodological approaches started to be used (Borms, 2009; Tinning, 2010). Today's paradigms which have centered on eclectic approaches have moved away from the bipolar structure of German and North American context and gradually changed and globalized.

Scientific research in the field of PESP keeps developing and becoming popular in countries other than Germany, The USA, England and Australia. However paradigms are unclear in countries where field scientific activities are newly developing. In Turkey, one of the countries where scientific activities have just began to become popular, it is reported that the first department in relation with PESP studies was established in the mid-1980s and according to data from 1997, PESP is the department with the number of lowest studies conducted on sport sciences in Turkey (Açıkada, 1997). It is seen that there are only 13 PESP studies corresponding to 1.9% of the studies conducted in the 1982-1992 period within the scope of sport sciences and only 66 academic studies accounting for 5.85% of all studies carried out between 1992 and 1996 (Açıkada, 1997). Within the scope of reconstructing higher education in Turkey, the number of higher education institutions offering physical education and sport training increased from 10 in 1990 to 93 in 2018 (Açıkada, 1997; Council of Higher Education, 2018). Following this increase in educational institutions providing education in sport sciences, the number of PESP-specific departments reached 72 countrywide (Council of Higher Education, 2018), and in this parallel a significant increase has been observed in academic studies. As of the year 2019, it was seen that a total of 894 master's thesis and doctoral dissertations can be found in the search on the national thesis center using the keyword "physical education" (Council of Higher Education, 2019a). It is seen that the initiation and development of academic activities of PESP in Turkey occurred rather later compared to the tendencies around the world. Institutions and studies have become common especially since 2000. In this respect, quantitative development of the PESP field has moved on by numbers of articles, thesis, and institutions in Turkey so far. However, the knowledge and datas are limited regarding qualitative development of the PESP field in Turkey by philosophic and critical perspectives. Although our knowledge, datas and criticisms on the international paradigm of PESP have been constructed by different studies around the world (e.g. Borms, 2009; Crum, 1986; Lawson, 1990; Tinning, 2008; Tinning, 2010). Therefore, there is a need for the evaluation of qualitative properties of the existing paradigm of Turkish PESP studies. The aim of the present study was to examine the Turkish PESP paradigm by a qualitative and critical perspective.

2. Methods

2.1. Model and Theoretical Ground

The study was carried out based on a qualitative research approach and a descriptive content analysis method was used in order to examine PESP studies. Content analysis is a research method based on a systematic organization of the interrelated subjects, concepts and themes through codes and their interpretation thereafter (Creswell, 2012). This method enables us to review the similarities and differences among studies, specify the weaknesses and strengths of these tendencies deeply and create a comprehensive descriptive map concerning scientific studies (Cohen, Manion and Morrison, 2011).

Thomas Kuhn's paradigm structure and his philosophical views are used to examine and criticize paradigm properties. Beside, the theoretical and philosophical ground of the present study is based upon "Critical Realism" that acts as a bridge between the objective and subjective types of knowledge. Critical realism emerged as a philosophical approach which was based on relativism epistemologically and realism ontological (Bhaskar, 2008). Essence and form of the objects are not the same in critical realism. While dialectic makes evaluations concerning the essence of objects, science provides superficial findings concerning the objects by experiences. On the other hand, science and philosophy are not tackled as disconnected processes. Dialectic can broaden its evaluations concerning the essence of objects by considering superficial knowledge which is received by science (Bhaskar, 1993). Opposing the singular scientific approaches in contrast with positivist and post-positivist approaches, critical realism emerged as a novel philosophical approach that creates a synthesis of these approaches. In addition to this, critical realism that is based on a synthesis of objective and subjective knowledge forms and defends the existence of a novel scientific language beyond the single scientific approaches (Sayer, 1992).

2.2. Sample

Based on the aim and problem state, a purposive sampling method was used to select a sample group to represent Turkish PESP studies population. Kuhn (1962) states that it would be effective to examine recently published research proceedings to determine the paradigm and tendencies in a certain field. In this regard, PESP studies presented in the International Sport Sciences Congress (Turkey) participated broadly by researchers from different universities and institutions from many provinces in Turkey composing the sample group. The International Sport Sciences Congress which has been held by Sport Sciences Association since 1992 is known as the most deep-rooted and biggest organization in terms of the field studies in Turkey. Concerning their participants, other congresses organized in Turkey represent researcher groups in a specific and local province and have rather small numbers of participants. Considering all these data, field studies presented in the PESP sessions of International Sports Sciences Congress were included in the study. Within the scope of the concerned congress, by examining the studies conducted by researchers participating from different universities and provinces in Turkey, external validity is strengthened, which is the prerequisite for the generalizability of results in qualitative research. On the other hand, in order to increase internal validity and reliability, in addition to the studies included in the congress held in 2018, other studies conducted in 2014, 2016 and 2017 were also included in the present study, which broadened the sample and scope on a timely basis and quantitatively with the aim of representing up to date paradigm.

2.3. Data collection, Coding and Analyses

Three PESP scholars participated in data collection and analysis processes. In the pre-reviewing stage, congress books published between 2014 and 2018 about PESP sessions were reviewed by 2 experts. Number of experts for the pre-review stage was determined in accordance with inter-expert reliability analysis that is proposed by Miles and Huberman (2014). Criteria of being expert was considered "conducting scientific researches in PESP field as a scholar and having at least a doctorate degree (PhD). Following the pre-review stage, experts came together and as a result of the 2nd evaluation, 55 studies were excluded from content analysis. These studies excluded from the analysis consist of proceedings which were stated not to be delivered during the congresses and not related to the field. As a result of all these assessments, a total of 397 proceedings were included in analyses (Table 1).

Table 1.
Distribution of Proceedings Included in the Content Analysis

	2014	2016	2017	2018	TOTAL
Proceedings included in pre-review	88	82	138	144	452
Proceedings excluded	7	4	23	21	55
Oral proceedings	51	57	73	109	290
Poster proceedings	30	21	42	14	107
Total proceedings	81	78	115	123	397

The second stage of the data collection process followed Denzin and Lincoln's (2005) 5-stage coding system concerning data analysis obtained in qualitative research: 1) Data coding, 2) specifying themes, 3) organizing codes and themes, 4) calculating frequencies of the data and reliability, 5) describing and interpreting the results. Firstly, 397 studies were listed with their titles and authors. In the second stage, based on the content information presented in the studies, 13 different themes were specified

as the sample size, characteristics of the sample groups (3 different themes), research methods employed (3 different themes), data collection instruments, number of researchers, distribution of researchers by universities they work, studies including teachers/experts/trainers, cooperative studies conducted with other department/disciplines and the research subject. At this point, two research classification forms developed by Sözbilir, Kutu and Yaşar (2012) were used, which were also employed in the content analysis practices conducted previously. Considering the subscales of sample size, research methods, data collection instruments of the related forms, the coding system concerning 4 of the themes were generated using these forms. The data concerning the remaining 9 themes were specified with a new coding form by examining the individuals, data, methods and subjects in the studies.

Coding was performed on 397 studies by 2 experts using the final research classification form including the 13 themes. The reliability of data obtained in two separate forms was determined using the inter-expert reliability method. Miles and Huberman (2014) proposed this method to attain reliability in qualitative studies conducted with multiple experts, is based on the formula of $[\text{Number of consensus} / (\text{consensus} + \text{disagreement}) \times 100]$. Reliability scores pertaining to themes which the 2 experts agreed on, ranged between .85 and .98, and the reliability score pertaining to all the themes was found as .94. After calculating the reliability scores, in a session participated by the 3rd expert, a joint evaluation was made to define a single coding system for disagreed data. In the last stage, the data obtained were coded on IBM® SPSS 24.0 (2016) package program and put into descriptive statistics analysis.

3. RESULTS

In the examination of the distribution of the sample groups by the level of education, it was seen that the most frequently preferred sample group was individuals at the higher education level. On the other hand, preschool (n=15, 4.37%) and elementary school (n=19, 5.53%) were found to be the two least frequently preferred sample groups (Figure 1).

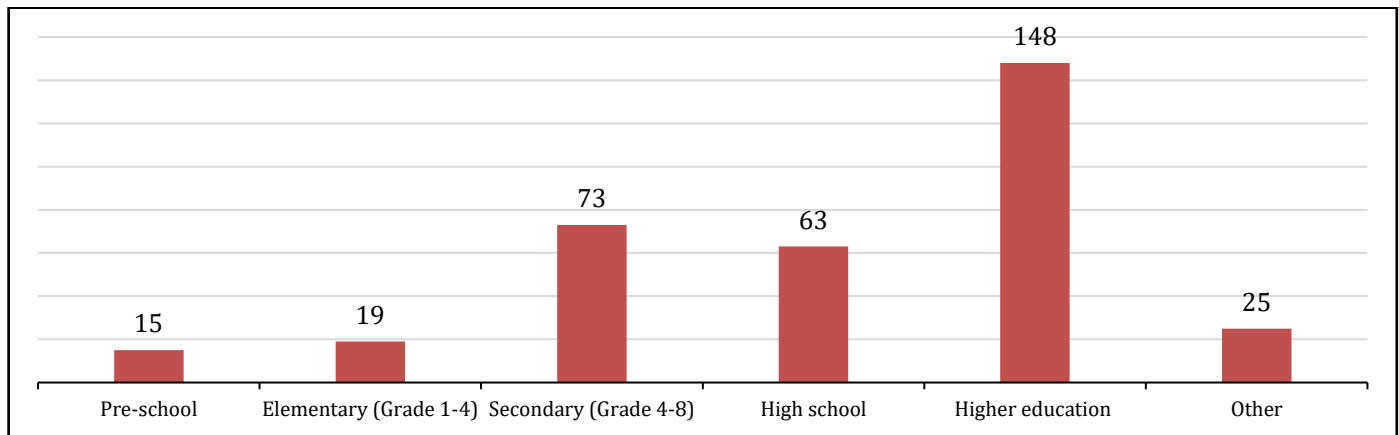


Figure 1. Characteristics of sample groups – distribution of sample groups by level of education

When the distribution of the experts/adults included in the sample groups is considered, physical education and sport teachers (n=52, 57.14%) are most frequently chosen by researchers. It is also seen that other experts or adults are preferred at a low level. (Figure 2).

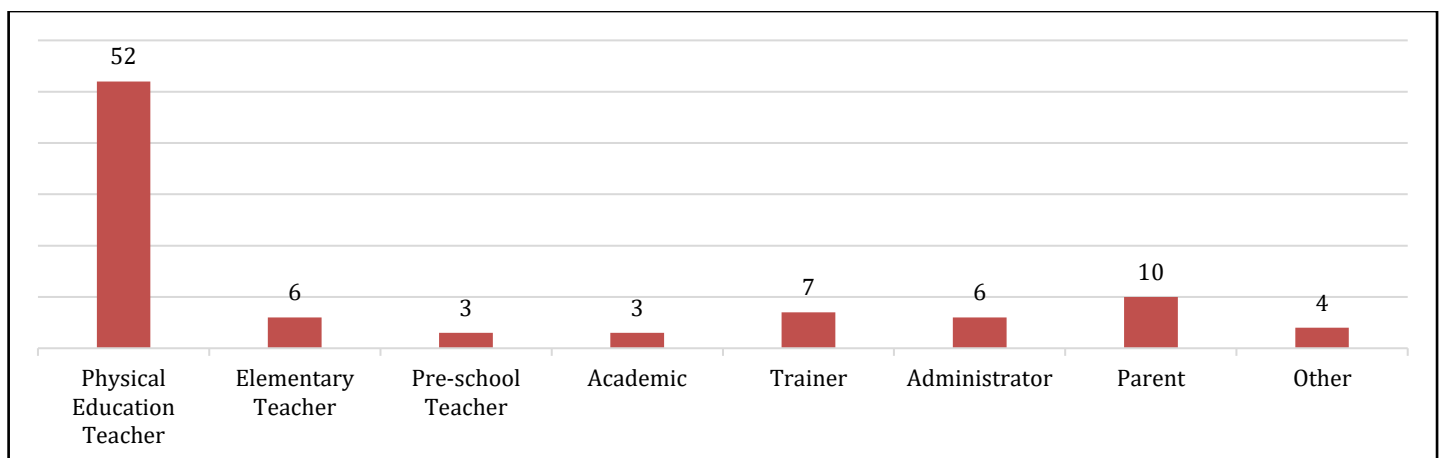


Figure 2. Characteristics of sample groups – Distribution of sample groups by experts and adults

Researches often consist of candidate PE teachers (n=67, 20.74%), secondary school students (n=63, 19.50%), students at sport sciences faculties (n=61, 18.88%) and high school students (n=52, 16.09%). When all under and postgraduate students are considered together regardless of their departments it was observed that the total number of studies was the highest at higher

education (n=161, 49.84%). Another significant finding is low level inclusion in research on preschool and elementary students and candidate preschool and candidate elementary teachers (Figure 3).

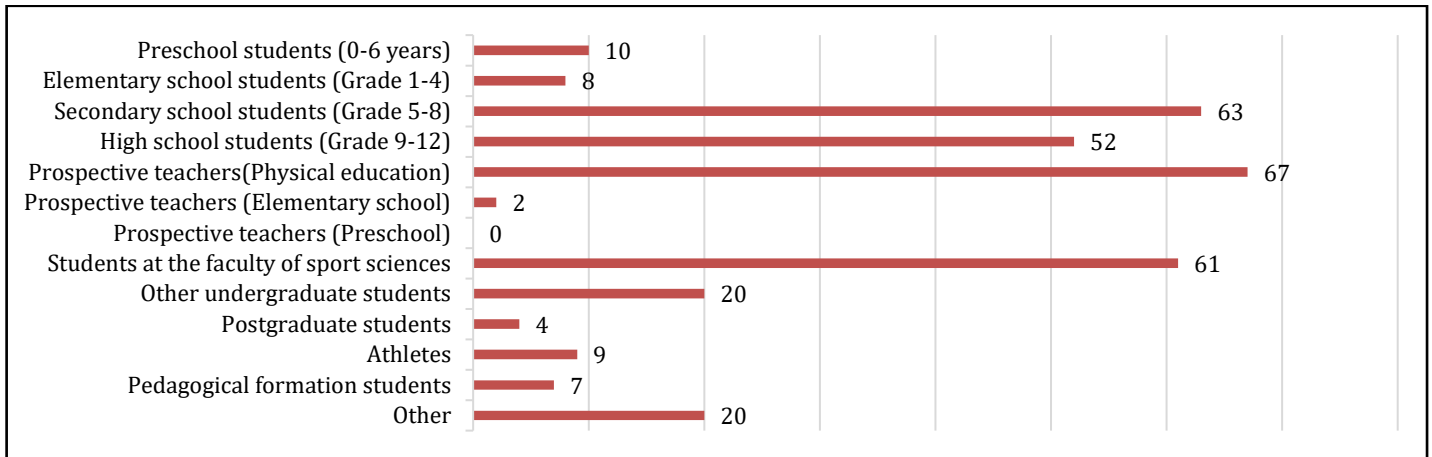


Figure 3. Characteristics of sample groups- Numeric distribution of student groups engaged

When the research methods used in the studies were examined, it was seen that quantitative research method is the most frequently used one (n=292, 74%). On the other hand, qualitative research method was used 73 (16%) times, and mixed design 32 (8%) times. When quantitative studies were evaluated based on experimentality criterion, it was seen that experimental model based research method was used 43 (15%) times (Figure 4).

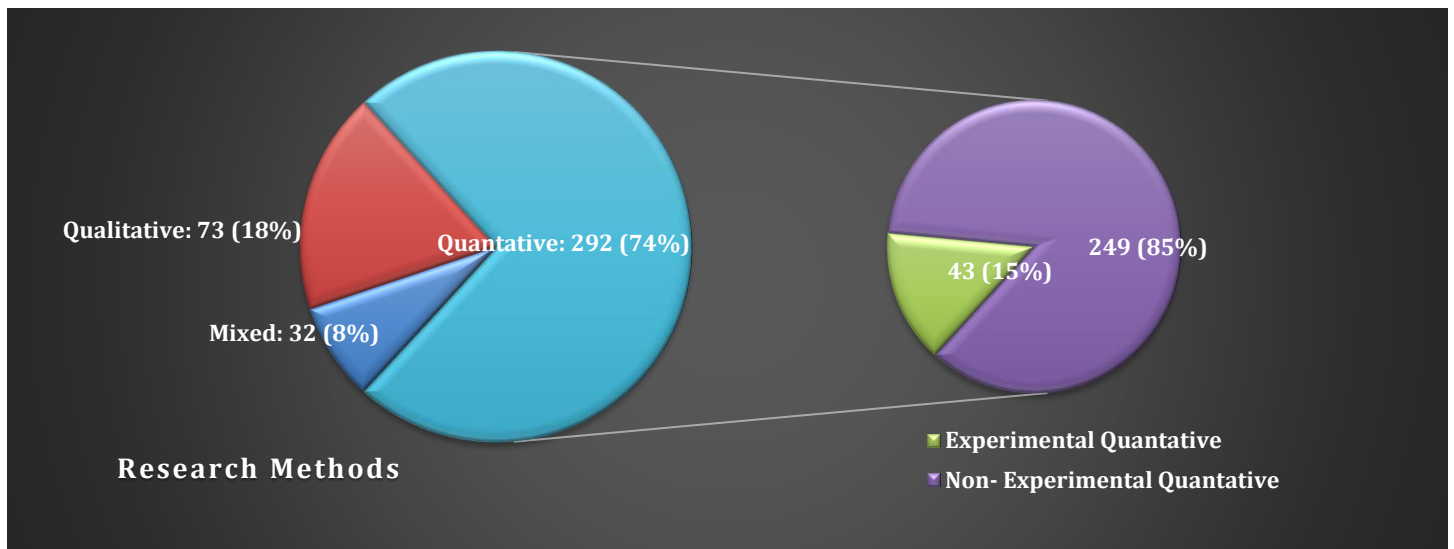


Figure 4. Distribution of the research methods and experimental studies

Table 2.

Detailed Outlook of Research Methods

Quantitative Method (n=292)		Qualitative Method (n=73)		Mixed Method (n=32)	
Descriptive /Survey	136	Case study	39	Expository	6
Correlational	49	Review	14	Exploratory	3
Causal-Comparative	42	Phenomenology	9	Variation	-
Quasi-experimental	33	Action research	4	Not Stated	23
Scale Development/Adaptation	16	Grounded theory	1		
Experimental	10	Theory based research	1		
Other	4	Historical research	1		
		Not Stated	4		

Descriptive survey methods (n=136, 46.57%) among quantitative research methods and case study (n=39, 53.42%) among qualitative research methods were frequently preferred. In studies conducted with mixed design, it was not possible to make a clear description as detailed information given about the model was generally limited (not stated; n=23, 71.88%) (Table 2). Considering data collection instruments used in studies, it was determined that scales were used intensively (n=258, 56.45%) while interview forms were preferred as data collection instruments 58 (12.69%) times, observation instruments (7.87%) and tests (%7.87) 36 times and document analysis/compilation 27 (5.90%) times (Figure 5).

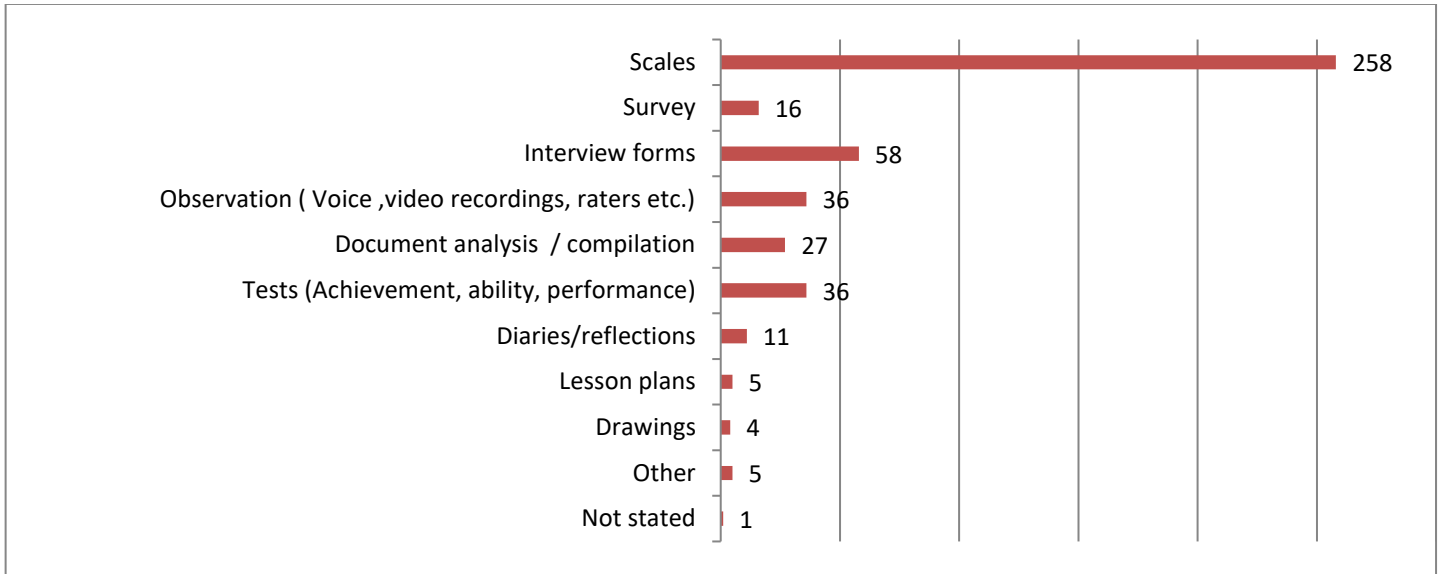


Figure 5. Numeric distribution of the data collection instruments

Studies were usually conducted by 2 ($n=147$, 37.02%) and 3 ($n=111$, 27.95%) authors. It was also observed that the instructors participating in these study groups mostly work at the same university ($n=233$, 58.69%) (Table 3).

Table 3.

Number of Researchers Participating in Studies and Distribution of Researchers by Universities

Number of authors participating	N	Distribution of universities the researchers work	N
1	36	Same university	233
2	147	2 different universities	122
3	111	3 different universities	29
4	65	4 different universities	8
5+	38	5 different universities	5

The numeric distribution of studies conducted in cooperation with in and out of field experts was examined by year. The concerning analysis was performed in order to determine the status of the existing scientific cooperation and joint activity. As a matter of fact, there is an increasing consensus regarding the fact that scientific research and projects conducted by different disciplines and scientists coming together become stronger in quality (Carr, Loucks and Blöschl, 2018). It is found that studies participated by experts from the field and from other disciplines hold up a slightly larger share than 10% (from the field; $n=45$ and outside the field; $n=48$) of 397 studies (Table 4).

Table 4.

Numeric Distribution of the Studies Participated by Researchers from Other Scientific Fields and Other Professionals in Field

Year	Other professionals participating in studies (teacher, coach administrator etc.)- Field in	Studies participated by researchers from other scientific fields - Out of field
2014	4	7
2016	9	8
2017	14	15
2018	18	18
TOTAL	45	48

In the final stage of the content analysis, 510 subject topics were specified of the 397 studies reviewed. Classification of these subject topics was performed considering the criterion of being repeated at least 3 times in total. As a result, 199 (other; 39.01%) subject topics were determined to be included by related studies at least once or twice. Beside, teaching methods ($n=41$, 8.03%) and attitude towards physical education ($n=32$, 6.27%) were found most used topics in studies (Table 5).

Table 5.

Distribution of Studies by Topic

Topic	Frequencies	Topic	Frequencies
Teaching methods/strategies/models	41	Teacher training	6
Attitudes towards physical education	32	Job satisfaction	5
Learning motor skills & development	13	Mental resistance	5
Academic motivation/achievement	13	Personal characteristics	5
Professional attitudes	12	Attention	5
Life satisfaction	12	Emotional Intelligence	4
Curriculum	11	Social skills	4
Physical activity levels	10	Social appearance anxiety	4
PE technology/mobile learning	10	Communication skills	4
Assessment and evaluation	9	State trait anxiety	4
Learning styles	9	Professional burnout	3
Games	9	Reading habits	3
Participation in physical education	9	Feedback	3
Anxiety	8	Problem solving	3
Extracurricular sport activities	7	Leadership	3
Physical activity and game classes	7	Decision making	3
Professional anxiety	7	Multiple intelligence	3
Creativity	7	Compassion	3
Sportsmanship	6	Athletic identity	3
Self-efficacy	6	Other	199
TOTAL			510

4. DISCUSSION, CONCLUSION and SUGGESTIONS

4.1. Criticisms on “Economy Class” Research Tendency

Considering the findings, PESP studies have been designed pursuing the economy principle so that they could be conducted with ease. This is also reflected in literature of content analysis studies carried out in educational sciences in Turkey. These studies report that quantitative method, descriptive model, easily accessible sample, scales/questionnaires, analysis with few variables are used very commonly (Göktaş et al., 2012; Akaydin and Çeçen, 2015; Kozikoğlu and Senemoğlu, 2015; Kurt and Erdoğan, 2015). Researchers relate this fact to less time, low energy and cost-oriented research tendencies (Baş, 2013; Selçuk, Palancı, Kandemir and DüNDAR 2014; Yalçın, Yavuz and Dibek, 2015). Moreover, Şimşek et. al. (2009) report that quality remains low in educational sciences studies in Turkey. PESP studies in Turkey focus on conducting easy research considering the shortest time, the least energy and the lowest cost but not creating the qualified research. This is an indicator that when choosing among scientific theories, researchers are not only concerned about studying scientifically, but their choices and positions in studies are also affected by their social, economical, political and cultural concerns (Kuhn, 1962). The Economic study tendency in Turkish PESP paradigm was evaluated systematically in the scope of each theme by a field specific perspective in current study.

As for the levels of education of sample groups, it could be thought that university level is the easiest group to access the sample and use of time and energy. The reason why children attending preschool and elementary education are not chosen as sample groups, on the other hand, can be the difficulty of control over variables and individuals. As a matter of fact, applying data collection instruments of scale-questionnaire type might bear challenges at these age groups. Besides using practice based methods like experiment, observations and applied tests may not be an “easy” alternative for researchers (Figure 1). The use of quantitative research methods at a high rate in studies may be due to the fact that researchers envisaged possible problems they could encounter while including such practices as newly qualitative and mixed methods. Therefore, it could be thought that researchers had acted economically and traditionally in using quantitative methods. Additionally, one of the strongest proof of preferring to be economical within the scope of traditional approaches is the frequent use of methods that are not based on the experimental model in the context of quantitative methods which include easier research design. Looking into the methods used in studies in more detail, it was found that rather simpler descriptive models are used more often than correlational and comparative causal models. This indicates that researchers tend to act economically even when choosing among non-experimental methods. The research defined as normal science leads scientists to focus on problems they can solve with the existing methodological techniques while this scientific approach is not concerned with bringing novelty to paradigm (Kuhn, 1962).

When the data collection instruments are examined by their types, it is seen that studies mostly use scale type data collection instruments. This may be because such instruments as document analyses, observations and interview forms, performance tests require a longer procedure in data collection and analysis processes. According to Kuhn (1962), normal science research almost never aims to create full-scale changes; the instruments, methods and theories they employ are agreed upon by the majority and progress cumulatively while other instruments, methods and theories are excluded by the scientific community. Studies

were generally conducted in research teams which consisted of 2 and 3 authors and had a microstructure. Additionally, researchers usually prefer study groups consisting of individuals from their own universities where they work, which are closed to external cooperation in national and international areas (Table 3, Table 4).

Approximately 40% (n=199) of the topics examined by studies are left without being included in current topics, or being repeated (Table 5). Based on this, topics chosen can not represent the concepts and problems with an in-depth treatment. It can also be seen that the prominent structure of subject topics is a fragmental one. Kuhn emphasizes that the science of specifying small phenomena type is not valuable within itself and states that the area of practice is limited where theories dominated by mathematics in locution can be directly compared with nature. Data collection conducted without any specific reason and aim through small phenomena would result in a worthless mass of data and chaos (Kuhn, 1962). PESP studies in Turkey have a fragmented quantitative intensity in terms of topic and is a strong evidence of the complex data mass. In this respect, scientific value of fragmental structure of topics comes out as a topic of discussion while more question marks are appearing as to whether the research in the field dominated by the positivist paradigm reflect the real relationships in nature or not. When scientific knowledge and its technical qualitative characteristics turn into a gradually growing accumulation without any questioning, it may become fragmental and it could get harder to examine the source of knowledge.

In the light of all, while evaluating biased selection of theories and methods, a focus on quantitative parameters of research models and neglecting varied theories, we may think about a black hole effect on the field paradigm derived from economy research tendency. To be more precise on black hole metaphor, we may address Kuhn's opinions' that data collection quantitatively without reason, aim and questions would create a worthless mass of data and chaos. Kuhn (1962) states that source of knowledge is hard to be examined clearly if accumulation occurs without questions. This tendency in Turkish PESP paradigm could be seen in single positivist approaches by economic concerns. In this regard, ironically, researchers are seen to be adopted positivist paradigm, however they do not include experimental method and other positivist methods out of descriptive studies that would be difficult to conduct a research with. It shows us that researchers may not be aware of the positivist paradigm and its principles in holistic perspective or they purposely chose single and easy methods under positivism. In both way, foundation of knowledge is lacked, foundation of knowledge is lost by a "black hole effect" as questions are neglected and existing knowledge is weak because of single and narrow perspective. Easy research sampling, usage of single data collection tools and studying on small phenomenons leave the field paradigm as being lacking holistic knowledge. Hence it can prevents to understand outer world with a wider and deeper sense. In this research culture, researchers may not probably notice the theoretical, epistemological and ontological basis of knowledge and their variations because of economic research tendency and paying attention to quantitative parameters. If the number of researches are increased with single models that neglect varied questions and aims regarding the nature of knowledge and research, may we finally expect quantitatively accumulated knowledge, worthless mass of data and chaos to occur in this type of paradigm based on Kuhn?

"But with continuing resistance –against change-, more and more of the attacks upon it will have involved some minor or not some minor articulation of the paradigm, no two of them quite alike, each partially successful, but none sufficiently so to be accepted as paradigm by the group. Through this proliferation of divergent articulations (more and more frequently they will come to be described as ad hoc adjustments), the rules of normal science become increasingly blurred. Though there is still a paradigm, few practitioners prove to be entirely agreed about what it is" (Kuhn, 1962, p. 98).

4.2. Shortcomings and Needs in PESP Studies

4.2.1. The need for studies at pre-school and elementary levels of education

Researchers have focused on "higher education level" and in parallel with the same tendency, very few studies have been conducted on "preschool and elementary levels. Within the context of movement and physical ability development, Balyi, Way and Higgs (2013) state that the periods they call active start (0-6 years), entertaining basic skills (6-9 years) and learning training (9-12 years) are the richest periods in motor learning. Similarly, Gallahue and Ozmun (2012) accept the developmental stages they call "basic movement skills" for 2-6 years and "sport movements" for 7-10 years as the basis of motor skills. In this respect, these developmental stages covering the preschool and elementary levels are defined as the "critical development period" in sport. Spending this critical development period efficiently is extremely important for individuals to set the basis of leading a life-long physical activity and developing physical and motor ability as well as having positive attitudes towards sport. In addition, when appropriate learning experiences are provided, it is possible to fulfill a multi-dimensional development process with an individual's cognitive skills, motor skills as well as social and emotional experiences accompanying these skills in early ages (Balyi, Way and Higgs 2013). These critical developmental stages are dramatically ignored by PESP studies conducted in Turkey according to findings. Another evaluation made concerning the sample groups is that studies are limited to school circles. However, a great majority of sport activities in Turkey take place within the body of sport clubs. In this regard, researchers should conduct their research out of schools including clubs, coaches, athletes and parents.

4.2.2. Methodological deficiencies

PESP studies in Turkey have been structured around single positivist approaches with a focus on descriptive quantitative models. In addition, it is an important finding that qualitative methods are used very rarely which mainly have an education and social sciences perspective. Social sciences studies designed with a positivist approach may drift away from the natural flow of life and could be limited in terms of time and place (Cohen, Manion and Morrison, 2011). In this respect, Kierkegaard (1974) states that artificial-objective evaluation made without examining the interaction of individuals with nature and their own environments does not reflect reality. According to Hampden-Turner (as cited in Cohen, Manion and Morrison, 2011), when social sciences neglect subjective knowledge, it is only possible to examine certain repeatable behavior patterns and estimations measured outside. Hampden-Turner highlights that this approach remains superficial and fails to be sufficient in understanding the whole of human behavior. Also, as positivism which attributes reality to control, certain numbers and mathematical operations leaves the individual outside of science, other forms of knowledge like meaning, criticism, hermeneutic, moral, aesthetic appear to be ignored. Focusing on scientific technique rather than natural behaviors, this understanding is insufficient in comprehending the outer world in a holistic framework (Habermas, 1972). Unlike natural sciences, social sciences built upon the subject-subject interaction have opened the use of positivism in its structure into criticism as it is open to interpreting (Giddens, 1976). With reference to all, we may refer to the “black hole effect in science” again. These researchers criticize a lack of knowledge because of usage of positivism in social sciences. In addition to these researchers, we do not only indicate a lack or loss of knowledge because of differences between nature of positivism and social sciences but also a lack and loss of knowledge derived from economic research tendency with a descriptive and weak positivist approach in Turkish PESP field. As field researchers in Turkey do not even use varied methods, knowledge and tools under the same (positivist) paradigm and it may also cause a lack in the nature of knowledge and qualitative content of field studies.

In the light of these facts, one of the main deficiencies in the field is the rare use of methods which are based upon different theoretical grounds such as critical, post-positivist, and existential. Moreover, it is another topic that two applied fields, education and sport, remain limited with scales/questionnaires to understand phenomena. To make scientific activities functional, it is necessary that researchers go into the field carrying out observations, practices, applied studies in learning and sport environments. In this regard, today’s PESP studies in Turkey conducted with a non-practical quantitative model and descriptive/survey method portray the moment only like a photograph, but do not draw colorful, deep and developing pictures. With reference to all, it is a necessity to carry out quantitative studies based on practice as well as qualitative studies and to include other research methods into scientific processes. Besides, mixed research models are rarely used in Turkish PESP studies which has become popular in recent years. Mixed method has several functions, both quantitative and qualitative, like looking at research questions from different aspects, placing the results onto a more reliable ground and elaborating on them and building the causality relationship within the scope of findings (Cohen, Manion and Morrison, 2011).

4.2.3. Needs of developing national and international cooperation

Considering findings, researcher cooperation is substantially limited. Research teams consist of members working at the same university and in the same field within a closed structure. In parallel with this, it is also noticeable that joint studies with foreign authors are extremely limited in number. Similar to PESP, it was found by Al et al. (2013) that other scientific disciplines in Turkey also remain at local level in studies conducted cooperatively. The fact that key contradictions and differences play a big role in the maturation of scientific fields (Kuhn, 1962) makes the presence of scientific teams from different perspectives and social circles important. As a matter of fact, it is only possible through the emergence of researchers and theories against the common paradigm for any scientific community or individual to be able to make a synthesis that can attract successive generations to the innovation paradigm (Kuhn, 1962).

4.3. Need for paradigm change: Evaluation of Turkish PESP studies from Thomas Kuhn perspective

Normal science is a period when the scientific society has single directional tendencies in terms of such parameters as the method, theory, instruments and sample group included and the same models are used by the majority (Kuhn, 1962). Beside, Kuhn warns that the cumulative knowledge to emerge in the process following the normal science period will create a fragmented and uncertain model which will be limited in solving new scientific problems and the resulting accumulation will make it difficult to examine knowledge and to find its source (Kuhn, 1962). In this respect, it has been considered that PESP studies in Turkey have typical characteristics of the normal science period. However, it is unfavorable to approach the findings by generalizing. Researchers’ focus on positivist approaches and certain researching tendencies may not result from their adoption of the concerning theories and tendencies directly, while the tendency to conduct economic research seems to dominate studies. Therefore, it could be asserted that PESP studies in Turkey have characteristics of normal science as well as some characteristics of pre-science forms. Pre-science period is when researchers try out several attempts -either scientific or non-scientific- unaware of the theory they adopt and the paradigm has a weak and uncertain structure (Kuhn, 1962). These expressions of Kuhn remind us “black hole effect” in the Turkish PESP paradigm which causes a weak and lacking nature of knowledge.

“If positivist restrictions on the range of a theory’s legitimate applicability are taken literally, the mechanism that tells the scientific community what problems may lead to fundamental change must cease function. And when that

occurs, the community will inevitably return to something much like its paradigm state in pre-science period, a condition in which all members practice science but in which their gross product scarcely resembles at all.” (Kuhn, 1962, p.111).

In literature, uncertainties and differences of opinion experienced in the initial developmental processes of international PESP paradigm are similar to Kuhn's pre-science characteristics; and international PESP studies progressing on a Germany and North America-based course went into normal science tendency with the increase in positivist and behaviorist research particularly in North America (Bain, 1990), which later proceeded into a quantitative accumulation (Lawson, 1990). In this regard, despite the increase in the number of studies, the need for functional knowledge in terms of scientific outcomes went up (Lawson, 1990). This state is included within Kuhn's (1962) model depression and is associated with the fact that existing models remain insufficient in solving problems. The response to this model depression may be considered to be given by the inclusion of different theories into paradigms that are centered around eclectic theories today (Tinning, 2010). In this respect, the international paradigm seems to have increased its tendencies to test different models and that the steps have been taken towards paradigm shift. As a matter of fact, Kuhn (1962) highlights the emergence of different models together with subjects that notice the depression in a field as a prerequisite for transition from normal research into extraordinary research (Kuhn, 1962). On the contrary, the current state in Turkey indicates that a positivist approach and certain single models are frequently used in studies neglecting different approaches. Hence, the PESP paradigm in Turkey seems to show characteristics of the normal science period. The international PESP paradigm, on the other hand, is seen to have entered into the developmental process of paradigm shift around eclectic approaches. The fact that the PESP field, which was established in the 1960s found an opportunity to develop quantitatively as of 2000s in Turkey can be one of the reasons why Turkish paradigm fell behind in Kuhn's periods. In addition, cultural, economic and political conditions together with the tendencies of the scientific community may be another reason for the position Turkish PESP studies in Kuhn's period.

Scientific studies trying to follow a development path by asking unknowingly new questions lay the foundations of quantitative data mass (Kuhn, 1962). In parallel with this, researchers' pursuance of economy in choosing models and tendency towards different research topics in a fragmental structure unaware of current problems lead to quantitative accumulation, which turns into the chaos generating data mass emphasized by Kuhn (1962):

“What we call normal science is really based on accumulation; however, there is no innovation in this and such problems are chosen which can be solved with existing conceptual and methodological techniques. These questions taken excessive interest without considering their relationship with the technical knowledge in hand may impede scientific development” (Kuhn, 1962, p. 108).

Kuhn (1962) expresses that the first sign of the “scientific revolution” would emerge with researchers who feel distress about normal science or paradigm uncertainty. He states that in such a state of crisis, there would be resistance against change, but as of the moment the crisis breaks out change and development is inevitable for the paradigm (Kuhn,1962). Possible paradigm conflicts during the crisis period may be able to improve Turkish PESP paradigm.

“Increase in the practices of the opponent paradigm, the desire to find a solution at all costs, obvious expression of discontentment, trying to find solutions in philosophy or discussing the fundamental principles... All of these are indicators of transition from normal research into the revolutionary. The prerequisite for revolution in scientific development is to perceive the signs indicating that the system has lost its functionality to an extent that brings about a crisis. For paradigm revolution, things have to go wrong in the normal science first” (Kuhn, 1962, p. 104).

It is a fact that it is impossible to escape from change in PESP studies conducted in Turkey. As a matter of fact, the prerequisite for change in a field is the paradigm becoming uncertain and rules becoming easier. Our consideration that change is inevitable in Turkish PESP studies becomes stronger with Kuhn's following expressions:

“Just like in manufacturing, renovation of production tools can be luxurious in science as well, it is done under conditions which necessitate it only. The greatest importance of crises is that they are the most infallible signals of the conditions that will require innovation in the tools.” (Kuhn, 1962, p. 93). “The emergence of a new theory detaches scientific practices from a certain tradition and starts a tradition which observes different relationships among concepts and is conducted with different rules; so it has to occur when it is felt that the existing tradition is terribly deviating” (Kuhn,1962, p. 100).

Despite generating paradigm uncertainty in essence, the existing “economy class studies” are the most advantageous path to “adaptation to the professional environment”. Thus, as long as scientists with traditional research tendencies can find a place in professional circles, it would be highly difficult to do high quality scientific studies which do not produce socio-economic gain for scholars, or support “professional environment adaptation” in current paradigm. This state related with traditional approaches and social effects corresponds with Marx's expression that *“Men make their own history, but they do not make it as they please, but under circumstances existing already. The tradition of all dead generations weighs like a nightmare on the brains of the living”* (Marx, 1852, p.30). In addition to this, Kuhn states that researcher's positions concerning the research approach are affected by their preferences, social, cultural, traditional and political concerns (Kuhn, 1962). Hence, considering that

scientific studies in Turkey have low publishing quality and common ethical violations (Al, 2008; Toplu, 2012; İnci, 2015), it can be considered that researchers' tendencies are shaped by the social structure in academic circles in Turkey.

Researchers' tendency to work with principle of economy could also be due to the fact that promotion and reappointment criterias depend on quantitative "scoring" system in Turkey (Ongun (2006) as cited in Toplu, 2012). Council of Higher Education (2019b), which assesses the quality of academic activities in Turkey, has taken a series of measures to improve the quality of existing scientific activities in 2019. Excluding the articles published in predatory journals from academic evaluation and scrutinizing unqualified congresses are some of these measures. Nevertheless, it is clear that bringing up scientific geniuses and creative minds would be possible by instilling the conscious and will deep into minds rather than external factors such as laws and measures. In his work titled *Curious Minds: How a Child Becomes a Scientist*, John Brockman (2007) mentions the biographies of many leading scientists; and describes common characteristic of these scientists as growing up in a social environment interested in science and their intrinsic motivation of curiosity guiding their scientific activities.

4.4. Economy Class Journey into the Black Hole: "Final Say"

PESP studies in Turkey, the present study showed that studies have focused on quantitative approaches and fixed tendencies. Looking at the root of this tendency, it was considered that studies develop around "being economical" and "easy". In addition to this, it was seen that different approaches and research parameters which can contribute to the development of a paradigm are neglected by researchers. The present study, which also includes some evaluations and criticism about the deficiencies of studies, is concluded by reviewing Turkish PESP paradigm from Kuhn's perspective.

In the light of current study's results, it is suggested for researchers and practitioners of PESP field in Turkey to increase usage of qualitative and mixed methods with diverse theoretical and paradigmatic basis in order to create a wider and unbiased paradigm rather than biased paradigm with single and economic methods. Researchers should focus on making sense of knowledge and strong theoretical basis of researches rather than economy concern. In order to represent problems in wider perspective regarding to PESP field, new researches should be conducted with experimental methods, earlier age groups and educational levels, open to different scientific cooperations, varied data collection tools and sample groups in field. Although, results in the present study are limited with congress proceedings, Kuhn (1962) states that recently published research proceedings would be effective in evaluating scientific field's paradigm. International Sport Sciences Congress has qualitative and quantitative diversity in terms of comprehensive number of participant scholars from different regions of Turkey makes the results of the present study stronger to represent field paradigm. Beside, it is suggested to conduct content analysis on articles, thesis and projects concerning to PESP field to provide wider analysis on paradigm. Current study results and criticisms are limited with Thomas Kuhn's theory and researcher's critical and philosophical approaches. Future studies may use different methodological, theoretical and philosophical perspectives in order to evaluate field paradigm, "Economy Research Tendency" and "Black Hole Effect". In this regard, investigations should be broaden by interviews with fields' researchers, observations and discourses on research culture, varied theoretical and philosophical grounds of social sciences.

It has been concluded by the present study that Turkish PESP studies have been overwhelmed by the intensity of quantitative parameters created by the concern of "being economical", which causes the paradigm to display a weak structure. Looking at it with an ironic perspective, the quantitatively intensive mass of information against the weak content created by researchers can be resembled to a black hole which appears as a result of the weak inner pressure of a star being defeated by intensive quantitative gravitation. In other words, Turkish PESP studies are creating a hollowness in the reality ground like a star collapsing inwards because of quantitative intensity, and the generated paradigm remains under the effect of a black hole even "light" cannot escape through: the fact that studies shaking the foundations of quality and functional knowledge weaken the "enlightening" aspect of science is the most striking result of this black hole effect. This can be also called as generally "Black Hole Effect in science" and particularly for the Turkish PESP paradigm as "Economy Class Journey into the Black Hole".

Research and Publication Ethics Statement

This study was conducted on documents analysis and not including human datas. All datas have been obtained and reported in accordance with ethical concerns, principles and rules. Criticisms in this article were aimed at scientific paradigm and research tendencies in the scope of philosophy and science. We, authors, claim that datas, evaluations and criticisms do not aim and do not dump on any person, establishment or political issue in this article.

Contribution Rates of Authors to the Article

All authors contributed to the study equally and shared works in all processes. Berkcan Boz: Data Collection, Data Analysis, Conceptualization, Methodology, Writing- original draft, Writing-reviewing and editing. Olcay Kiremitci: Data Collection, Data Analysis, Conceptualization, Methodology, Writing- original draft, Writing-reviewing and editing, correspondence.

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Statement of Interest

There is no conflict of interest between the authors of this article.

5. REFERENCES

- Açıkada, C. (1997). Türkiye’de spor eğitimi veren kurumların yapılanması ve hakemli çalışmaların gelişimi [Reorganization of the sport education institutions and refereed publications in Turkey]. *Hacettepe Journal of Sport Sciences*, 8 (1), 17-42.
- Akaydın, Ş., & Çeçen, M.A. (2015). A content analysis on articles related to reading skills. *Education and Science*, 40 (178), 183-198. doi: 10.15390/EB.2015.4139
- Al, U. (2008). Bilimsel yayınların değerlendirilmesi: h-endeksi ve Türkiye’nin performansı [Evaluation of scientific publications: h-index and Performance of Turkey]. *Bilgi Dünyası* [Information World] 9 (1), 41-66.
- Al, U., Soydal, I., Taşkın, Z., & Düzyola, G. (2013). Collaboration of Turkish Scholars: Local or Global ?. *Collnet Journal of Scientometrics and Information Management*, 6(1), 145-159. doi: 10.1080/09737766.2012.10700930
- Bain, L. (1990). *Research in sport pedagogy: Past, present and future*. Paper presented at Association Internationale des Ecoles Superieures d’Education Physique (AIESEP) World Congress, Loughborough, July 1990. <https://core.ac.uk/download/pdf/61907941.pdf>
- Balyi, I., Way, R., & Higgs, C. (2013). *Uzun vadeli sporcu gelişimi [Long-Term Athlete Development]*, trans. E. Pekünlü & İ. Özsu. Ankara: Spor Yayınevi ve Kitabevi.
- Baş, T. (2013). *Anket: nasıl Hazırlanılır, nasıl Uygulanır, nasıl Değerlendirilir?* [Questionnaire: How to prepare, apply and evaluate] (7th ed.). Ankara: Seçkin Yayıncılık.
- Bhaskar, R. (1993). *Dialectic: The pulse of freedom*. London: Verso.
- Bhaskar, R. (2008). *A realist theory of science*. London: Routledge.
- Borms, J. (2009). *Directory of sport science: A journey through time: the changing face of ICSSPE* (5th ed.). Champaign, IL: Human Kinetics.
- Brettschneider, W.D. (1991). *The many faces of sport as a challenge for sport pedagogy and physical education*. Paper presented at Association Internationale des Ecoles Superieures d’Education Physique (AIESEP) World Congress, Atlanta, January, 1991. <https://core.ac.uk/download/pdf/61907933.pdf>
- Brockman, J. (2007). *Meraklı zihinler: Bir çocuk nasıl bilim insanı olur? [Curious minds: How a child becomes a scientist.]*. Ankara: Tübitak Popüler Bilim Kitapları.
- Carr, G., Loucks, D.P., & Blöschl, G. (2018). Gaining insight into interdisciplinary research and education programmes: A framework for evaluation. *Research Policy*, 47(1), 35-48. doi: 10.1016/j.respol.2017.09.010
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.). New York: Routledge.
- Council of Higher Education (2018). Yükseköğretim Bilgi Yönetim Sistemi: İstatistik Üniversitelerimiz [Higher Education Information System: Statistics of Turkish Universities]. Accessed December 4, 2019. <https://istatistik.yok.gov.tr/>
- Council of Higher Education. (2019a). Ulusal Tez Merkezi [National Thesis Center]. Accessed December 4, 2019. <https://tez.yok.gov.tr/UlusalTezMerkezi/>
- Council of Higher Education (2019b). Yağmacı dergi yayınları akademik yükseltmelerde kullanılmayacak [Predator journals won’t use in academic advancements anymore]. Yükseköğretim Kurulu Haberler [News from Council of Higher Education]”. Accessed December 12, 2019. <https://www.yok.gov.tr/Sayfalar/Haberler/yagmaci-dergi-yayinlarina-onlem.aspx>
- Creswell, J. W. (2012). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: SAGE.
- Crum, B. (1986). Concerning the quality of the development of knowledge in sport pedagogy. *Journal of Teaching in Physical Education*, 5(4), 211-220. doi: 10.1123/jtpe.5.4.211

- Denzin N. K., & Lincoln, Y.S. (2005). *Handbook of qualitative research* (3rd ed). Thousand Oaks, CA: SAGE.
- Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods* (2nd ed.). New York: McGraw-Hill.
- Gallahue, D.L., Ozmun, J.C., & Goodway, J. (2012). *Understanding motor development: Infants, children, adolescents, adults* (7th ed.). New York: McGraw-Hill.
- Giddens, A. (1976). *New rules of sociological method: A positive critique interpretative sociologies*. London: Hutchinson.
- Göktaş, Y., Küçük, S., Aydemir, M., Telli, E., Arpacık, Ö., Yıldırım, G., & Reisoğlu, İ. (2012). Educational technology research trends in Turkey: A content analysis of the 2000-2009 decade. *Educational Sciences: Theory & Practice*, 12(1), 191-196.
- Grupe, O. (1969). *Grundlagen der Sportpädagogik [Foundations of Sport Pedagogy]*. München: J.A. Barth.
- Haag, H. (1989). Research in 'sport pedagogy': One field of theoretical study in the science of sport. *International Review of Education*, 35(1), 5-16. doi: 10.1007/BF00597680
- Habermas, J. (1972). *Knowledge and human interests*, trans. J. Shapiro. Boston: Beacon Press.
- IBM Corp. (2016). IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp.
- İnci, O. (2015). Bilimsel Yayın Etiği [Scientific Publication Ethics]. *Türk Kütüphaneciliği [Turkish Librarianship]*, 29(2), 282-295.
- Kierkegaard, S. (1974). *Concluding unscientific postscript to philosophical fragments*. Princeton: Princeton University Press.
- Kozikoğlu, İ., & Senemoğlu, N. (2015). The content analysis of dissertations completed in the field of curriculum and instruction (2009-2014)]. *Education and Science*, 40(182), 29-41. doi: 10.15390/EB.2015.4784
- Kuhn, T. (1962). *Bilimsel devrimlerin Yapısı [The structure of scientific revolutions]*, trans. N. Kuyaş. İstanbul: Alan Yayıncılık.
- Kurt, A., & Erdoğan, M. (2014). Content analysis and trends of curriculum evaluation research: 2004-2013. *Education and Science*, 40(178), 199-224. doi: 10.15390/EB.2015.4167
- Laker, A. (2003). *The future of physical education: Building a new pedagogy*. London: Routledge.
- Lawson, H. A. (1990). Sport pedagogy research: From information-gathering to useful knowledge. *Journal of Teaching in Physical Education*, 10(1), 1-20. doi: 10.1123/jtpe.10.1.1
- Marks, K. (1852). *Louis Bonaparte'ın On Sekiz Brumaire'i [Der 18te Brumaire des Louis Napoleon]*, trans. T. Bora, (4th ed.). İstanbul: İletişim Yayınları.
- Mechikoff, R. A. (2013). *A History and philosophy of sport and physical education: From ancient civilizations to the modern World* (6th ed.). New York: McGraw-Hill Education.
- Miles, M. B., & Huberman, A.M. (2014). *Qualitative data analysis: An expanded source book*. Thousand Oaks, CA: SAGE.
- Sayer, A. (1992). *Method in social science: A realist approach* (2nd ed.). London: Routledge.
- Schempp, P. (1993). *The nature of knowledge in sport pedagogy*. Paper presented at the CESU Conference World University Games Conference, Buffalo, New York. July, 1993. <https://core.ac.uk/download/pdf/61907941.pdf>
- Selçuk, Z., Palancı, M., Kandemir, M., & DüNDAR, H. (2014). Tendencies of the researches published in Education and Science journal: Content analysis. *Education and Science*, 39 (173), 430-453. doi: 10.15390/eb.v39i173.3278
- Siedentop, D. (1983). *Research on teaching in physical education*. In Teaching in physical education edited by T. Templin and J. Olson, (pp. 3-17). Champaign, IL: Human Kinetics.
- Şimşek, A., Özdamar, N., Uysal, Ö., Kobak, K., Berk, C., Kılıçer, T., & Çiğdem, H. (2009). Current trends in educational technology research in Turkey in the New Millennium. *Educational Sciences: Theory & Practice*, 9(2), 961-966.
- Sözbilir, M., Kutu, H., & Yaşar, M. D. (2012). *Science education research in Turkey: A content analysis of selected features of papers published*. In Science Education Research and Practice in Europe: Retrospective and Prospective. D. Jorde and J. Dillion (Eds.) (pp341-374). Rotterdam: Sense Publishers.

Tinning, R. (2008). Pedagogy, sport Pedagogy, and the field of kinesiology. *Quest*, 60(3), 405-424. doi: 10.1080/00336297.2008.10483589

Tinning, R. (2010). *Pedagogy and human movement: Theory, research and practice*. New York: Routledge.

Toplu, M. (2012). Bilim etiği: İnternetin bilim etiği üzerine etkileri [Science Ethics: The Effect of Internet on the Science Ethics]. *Türk Kütüphaneciliği [Turkish Librarianship]*, 26(4), 654-698.

Yalçın, S., Yavuz, H.Ç., & Dibek, M. (2015). Content analysis of papers published in educational journals with high impact factors. *Education and Science*, 40(182), 1-28. doi: 10.15390/EB.2015.4868

6. GENİŞ ÖZET

Bilimsel alan olarak kabulü 1960'lara dayanan beden eğitimi ve spor pedagojisi (BESP), Almanya ve Kuzey Amerika eksenli iki farklı yaklaşım etrafında gelişim gösterirken, alandaki paradigmanın oluşum süreçlerinde belirsizlikler yaşanmıştır. Alanın ilk gelişim aşamalarında, Kuzey Amerika'daki bilim insanlarının yoğunlukla pozitivist ve davranışçı kuramları, Avrupadaki bilim insanlarının ise eleştirel ve yorumlayıcı (hermeneutik) kuramları benimsediği gözlenmiştir. Bu kapsamda, BESP araştırmaları, Almanya'da ampirik açıdan ihmal edilirken, Amerika'da anlamsal, kuramsal ve eleştirel yaklaşımlar açısından sınırlılık göstermiştir. Günümüzde uluslararası BESP araştırmalarına ilişkin paradigma yapısı çeşitli değişimler yaşayarak çok boyutlu kuramların kullanımını içeren eklektik ve global bir yapıya bürünmüş ve daha şeffaf bir görünüme kavuşmuştur. Buna karşın, alandaki bilimsel faaliyetlerin henüz yaygınlaşmakta olduğu ülkelerdeki paradigma yapısı belirsizliğini korumaktadır. Bilimsel faaliyetlerin son yıllarda yaygınlaştığı Türkiye'de ise, BESP alanına özgü akademik çalışma sayısı hızla artarken; bu araştırmalardaki niteliksel özellikler ve alandaki paradigma yapısı henüz bilinmemektedir. Bu araştırma, Türkiye'de BESP alanında gerçekleştirilen çalışmaların betimsel ve eleştirel bir perspektifte incelenmesi amacıyla gerçekleştirilmiştir.

Mevcut çalışmada, nitel araştırma yaklaşımı temel alınarak betimsel içerik analizi yöntemi kullanılmıştır. Bu kapsamda, Spor Bilimleri Derneği tarafından düzenlenen Uluslararası Spor Bilimleri Kongrelerinde (2014, 2016, 2017, 2018) sunulan 397 adet BESP bildirisi içerik analizine tabi tutulmuştur. 13 tema kapsamında kodlama işlemi gerçekleştirilen veriler, frekans dağılımlarına göre çözümlenmiştir. Kodlama işlemlerinin güvenilirliğinin sınanması amacıyla uzmanlararası görüş ayrılığı/görüş birliği yöntemi (Miles ve Huberman, 2014) kullanılmış ve kodlama sürecine ait uzmanlararası güvenilirlik puanı .94 olarak hesaplanmıştır. Üzerinde görüş ayrılığı bulunan kodlamalar için üçüncü bir uzman eşliğinde ortak bir değerlendirme yapılarak veriler ortak bir kodlama sistemi ile tanımlanmıştır. Bu araştırma, BESP alanındaki çalışmaları nitel özellikleri ile betimlemesinin yanı sıra, alandaki araştırma eğilimleri ve paradigma yapısına yönelik felsefi yaklaşım ve eleştirileri de içermektedir. Araştırmanın kuramsal ve felsefi temelleri, objektif ve sübjektif bilgi arasında köprü görevi gören "Eleştirel Gerçekçilik" yaklaşımı ile Thomas Kuhn'un bilimsel paradigma yapısı ve değişimine ilişkin felsefi yaklaşımlarına dayanmaktadır.

Bulgular incelendiğinde, BESP araştırmalarında deneysel modele dayanmayan nicel yaklaşımlar ve nicel betimsel modeller etrafında yoğunlaştığı gözlenmiştir. Deneysel modele dayanan nicel araştırmaların ise araştırmacılar tarafından düşük oranda tercih edildiği tespit edilmiştir. Nitel araştırmaların genel bazda kullanım sıklığı düşük olmakla birlikte, nitel araştırmalar içerisinde en sık kullanılan araştırma türünün durum çalışması olduğu gözlenmiştir. Çalışmaların veri toplama süreçlerinde ise yoğunlukla ölçeklerin kullanıldığı, gözlem ve test gibi eğitim ve spor bilimlerine özgü veri toplama araçlarının oldukça az bir oranda tercih edildiği gözlenmiştir. BESP araştırmalarına dâhil olan örneklem gruplarının, öğrenciler bazında yoğunlukla yükseköğretim kademesindeki gruplardan, yetişkin ve uzmanlar bazında ise beden eğitimi ve spor öğretmenlerinden meydana geldiği gözlenmiştir. Buna karşın, küçük yaş gruplarını kapsayan eğitim kademelerindeki (okul öncesi, ilkökul) araştırma sayısının düşük seviyede kaldığı gözlenmiştir. Araştırma başına düşen yazar sayısı, yazarların görev yaptığı kurumlar, alan içi ve alan dışı uzmanların araştırma süreçlerine katılımı incelendiğinde Türkiye'de yürütülen BESP alan çalışmalarında ulusal ve uluslararası işbirliği düzeyi zayıf bir özellik göstermektedir. Araştırmalarda sıklıkla işlenen konuların başında "Öğretim Yöntem/Strateji ve Metodları", "Beden Eğitimi ve Spora Karşı Tutum" gelmektedir. Araştırma konu başlıklarının dağılımı incelendiğinde birçok farklı başlığın alan araştırmalarında hâkim olduğu ve yapısal olarak araştırma konu başlıklarının bütünsellikten uzak ve parçalı bir yapı sergilediği gözlenmiştir.

Türkiye'deki BESP araştırmalarının yoğunlukla niceliksel yaklaşımlar ve kalıplaşmış eğilimler etrafında şekillendiği düşünülebilir. Bu eğilimlerin temeli sistematik ve eleştirel bir bakış açısı ile değerlendirildiğinde, araştırmaların tasarım sürecinin zaman, maliyet ve enerji açısından "ekonomiklik" ve "kolay araştırma" boyutlarında gelişim gösterdiği değerlendirilmektedir. Bununla birlikte, araştırmaların içeriğini oluşturan nitelik parametrelerinin göz ardı edildiği, belirli eğilimler ve kalıplar etrafında şekillenen paradigmanın birikimsel bilim özellikleri gösterdiği düşünülmektedir. Thomas Kuhn'a göre normal bilim dönemi ile birikimsellik gösteren paradigma üzerinde nicelik açısından yoğunluk gösteren bir veri yığını bulunmaktadır. Ancak bu türden bir birikimsellik gösteren verinin kaynağının, özünün ve anlamının incelenmesi ve anlaşılması oldukça güçtür. Bu durumda belirsiz ve bunalıma sürüklenen bir paradigma dönemi ortaya çıkabilir. Ayrıca Thomas Kuhn araştırmacının kültürel, mesleki, sosyal ve politik kaygılarının paradigma eğilimlerini etkilediğini de belirtmektedir. Bu yönüyle BESP araştırmalarında ortaya çıkan ekonomiklik ve kolay araştırma eğilimi tablosunun yalnızca bilimsel kaygılarla değil; akademik toplum içerisinde gelişmiş çeşitli psiko-sosyal ve sosyo-ekonomik kaygılarla da ortaya çıkabileceği değerlendirilebilir. Mevcut araştırmada, Thomas Kuhn perspektifinde incelenen Türkiye BESP araştırmalarının niceliksel

parametrelere odaklı tasarım sürecinin bilimsel bilginin işlevi ve kalitesi açısından tehdit oluşturabileceği değerlendirilmiştir. İlgili değerlendirmelere “Ekonomi Sınıfında Kara Deliğe Yolculuk” benzetimi ile araştırmanın “Son Söz” bölümünde yer verilmiştir. Türkiye’deki BESP araştırmalarına özgü bir şekilde “Ekonomi Sınıfında Kara Deliğe Yolculuk” benzetimi yapılırken, “Bilimde Kara Delik” etkisi şeklinde özgün bir felsefi önermenin temellerinin bu araştırma ile atılması hedeflenmektedir.

Son Söz: Alandaki araştırmalar nicel (kütlesel) yoğunluğun etkisiyle içe doğru çöken bir yıldız gibi gerçeklik zemininde boşluk yaratırken, ortaya çıkan paradigma “ışığın” dahi kaçamayacağı bir kara deliğin etkisi altında kalmaktadır: bilimsel kalitenin ve işlevsel bilginin zeminini sarsan araştırmaların, bilimin “aydınlatıcı” yönünü zayıflatması bu karadelik etkisinin en çarpıcı sonucudur.