Research Trend Among Students in Faculty of Sport Science

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ABSTRACT

Research trend among students can be used as one of fundamental directions for the development of scientific disciplines within a faculty. This information is important to be fully understood by faculty members to help them establish policy and develop research roadmap for a certain period of time. This article aims to describe research trend carried out by students writing their thesis. This was a literature study conducted on 150 paper of students in Faculty of Sport Science Universitas Negeri Surabaya that enrolled in thesis course within the last year. It analysed the topic, research design, the association between research topic and graduate profile, and between research and the development of information and communication technology. The results found that the most notably research topic used by majority of students was movement skills. Students' research were still dominated by topic related to graduate profiles. However, there were few researches discussed about the advantages of information and communication technology. Under these conditions, the policy of faculty of sports science needs to focus on research that develops information and communication technology for the purposes of sports education, sports coaching and the development of sports science.

Keywords: Graduate Profile, Information and Communication Technology, Research Roadmap, Faculty of Sport Science

1. INTRODUCTION

The Sport for all campaign has been carried out in various parts of the world for a long time. In Brazil, a Sport for all campaign has been carried out to spread the ideals, values of sports, and legitimize the mindset of sports through print media, radio and television since the 1970s [1]. In the United Kingdom, the strengthening of the Sport for all campaign has entered the political sphere, resulting in policies to regulate sports opportunities for the population [2]. However, the results of the campaign began to be doubted when the results of research in Europe showed that people's participation in physical activity was not evenly distributed, even 4 out of 10 people in Europe were declared not doing activities related to sports or physical activity [3]. One of the objectives of the campaign is for the wider community to have a habit of being active in sports without being restricted by gender, socio-economy, and age.

The sport for all campaign in Indonesia was started in 1983 by the International Olympic Committee (IOC) which applied the concept that sports can be done by all citizens [4]. So that in the 1990s the theme of "socializing sports and exercising society" was very popular which aims to create social change on purpose, in individuals in various walks of life who do not or lack the habit of exercising [5].

This shows that the sport for all campaign in Indonesia is in line with what is being carried out internationally. However, scientifically Indonesia is still lagging behind the international world. Sports awareness is a science that has been recognized internationally since the mid-20th century, while in Indonesia, sport was recognized as a science starting in 1998 through the declaration of sports science. The declaration of sports science at the same time ended the debate on the independence of sports science in Indonesia. The declaration was attended by Indonesian sports scientists, especially sports scientists from Surabaya State University, which at that time hosted the declaration. After the recognition of sports as a science, the next challenge is for sports scientists to maintain the existence of sports science through extensification and intensification of sports science [6].

Universitas Negeri Surabaya, through the Faculty of Sports Science, is obliged to maintain the existence and develop sports science. Especially at this time, the field of sports has been recognized as an indicator of the competitiveness of human resources in the National Med-Term Development Plan 2020-2025 which needs to be developed through sports science. The development road map in the field of sports includes six things, namely the culture of sports in the community, the arrangement of the sports coaching system, the arrangement of sports institutions, increasing the availability of international standard sports personnel, improving the infrastructure and facilities for sports with international standards; and developing the role of the private sector in sports assistance and financing [7]. For this reason, tracing student research in the form of a thesis is believed to have an impact on the existence of sports science, which in turn can be used as a basis for developing scientific disciplines in contributing to the current national development roadmap. In addition, this information is important to know to assist faculty in formulating policy directions in the form of a research roadmap for a certain time in the future so that the policies made can contribute to helping the government realize the 2020-2025 National Mid-Term Development Plan, especially in the field of sports.

2. METHODS

The method in this research is to adopt a systematic review which aims to reveal important information from literature documents qualitatively and quantitatively [8]. The data source is in the form of student thesis manuscripts as many as 150 students at the Faculty of Sports Science, State University of Surabaya. The aspects analyzed are the topic, the type of research, the research relationship with the profile of graduates, and the research relationship with the development of information and communication technology. Data analysis activities used two stages, namely qualitative and quantitative data. Qualitative analysis is done by reading a paper to determine four aspects of the assessment. Quantitative analysis is carried out by creating codes from the results of qualitative analysis which are then presented in the form of a percentage.

3. RESULT AND DISCUSSION

3.1. RESULTS

The results of the research will be explained based on the departments in the Faculty of Sports Science, namely the department of sport science, the department of sport coaching education, and the department of sport education. Research in each department is classified based on topic, type of research, research topic related competencies, and research related to ICT.

3.1.1. Research on department of sport science

The Department of sport science strives to educate their students to become sports scientists who contribute to the development of sports science. Many topics are found in student research in the department of sport science. The research topics consisted of 21 topics, namely: biomechanics, badminton, covid 19, sports philosophy, sport physiology, sport nutrition, physical conditioning, sports management, training methodology, adaptive sports, recreational sports, traditional sports, early sport, prevention and treatment of sport injuries, motor development, sports psychology & physiology, sport psychology, soccer, sport sociology, match statistics, test and measurement.

There are four research topics that are predominantly examined by students, namely physical conditioning (20%), sports physiology (18%), traditional sports (8%), and sport nutrition (8%) (See table 1). These topics are studied with different types of research.

Table 1. Research on topic department of sport science

| No.	Topic	Percentage
1	Biomechanics	6%
2	Badminton	2%
3	Covid 19	2%
4	Sports philosophy	2%
5	Sport physiology	6%
6	Sport nutrition	8%
7	Physical conditioning	20%
8	Sports management	2%
9	Training methodology	2%
10	Adaptive sports	2%
11	Recreational sports	2%
12	Traditional sports	8%
13	Early sport	2%
14	Prevention and treatment of sport injuries	2%
15	Motor development	2%
16	Sports psychology & physiology	2%
17	Sport psychology	18%
18	Soccer	4%
19	Sport sociology	4%
20	Match statistics	2%
21	Test and measurement	2%
	Total	100%
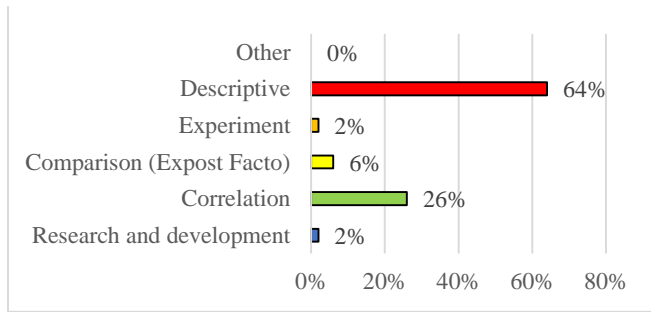
Figure 1 Type of Research on department of sport science

There are five types of research used by students in completing theses, namely descriptive, experimental, comparison/ post facto, correlation, research and development. Descriptive research is the research most often carried out by students (64%), second is correlation (26%), third is comparison / post facto (6%), fourth is experimental (2%), research and development (2%) (See Fig. 1).

The research topics that are researched by students are then linked to their competence to carry out the profession when they graduate. Based on the topics studied, it turned out that 62% of them contributed to the competence of students in the major of science, while 38% entered their minor sciences (see Fig. 2).
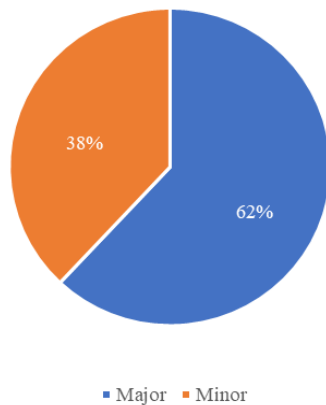

Figure 2 Research topic related competencies on department of sport education

The next indicator in analyzing student research is research related to the development of information, communication, and technology. The results of the analysis show that as many as 78% of students only utilize/ apply existing ICT, 2% of students develop ICT in their research, while as many as 20% of students' research is not related to ICT (See Fig. 3).
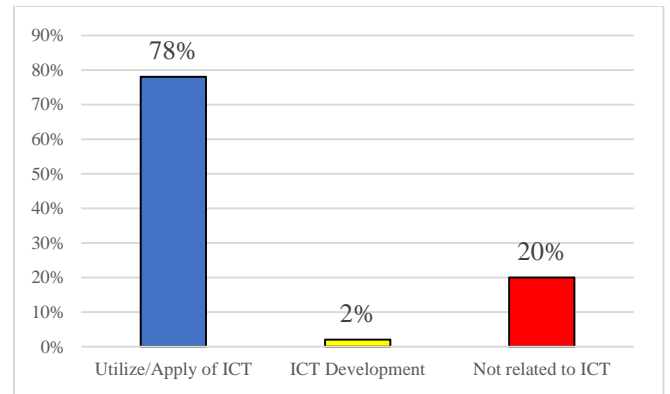

Figure 3 Student research related ICT on department of sport education

3.1.2. Research on department of sport coaching education

The Department of Sport Coaching Education seeks to educate their students to become professional sports coaches. The research topics should relate to the department's goal of creating professional trainers. In fact, there are also various research topics. A total of 11 topics were found in student research, namely: volley ball, evaluation of sport coaching, evaluation of physical activity, evaluation of exercises, sport physiology, sports coaching, physical conditioning, sports management, learning media, *pencak silat*, sport psychology.

Table 2. Research on topic department of sport coaching education

No.	Topic	Percentage
1	Volley ball	2%
2	Evaluation of sport coaching	2%
3	Evaluation of physical activity	2%
4	Evaluation of exercises	2%
5	Sport physiology	8%
6	Sports coaching	38%
7	Physical conditioning	34%
8	Sports management	6%
9	Learning media	2%
10	*Pencak silat*	2%
11	Sport psychology	2%
	Total	100%

There are three research topics that are predominantly studied by students, namely sports coaching (38%), physical conditioning (34%), sports physiology (8%) (See table 2). These topics are studied with different types of research.
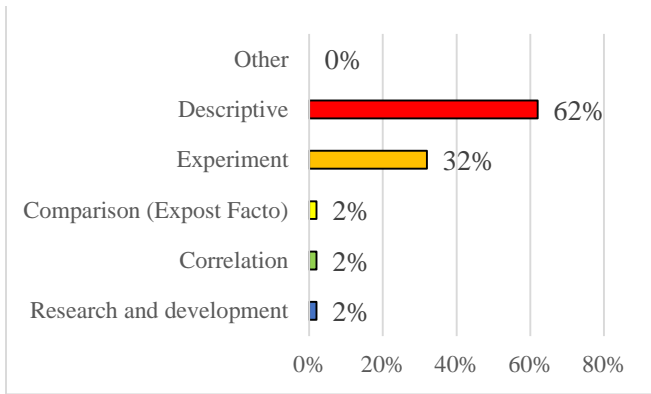
Figure 4 Type of Research on department of sport coaching education

There are five types of research used by students in completing theses, namely descriptive, experimental, comparison / post facto, correlation, research and development. Descriptive research is the research that is mostly done by students (62%), the second is experimental (32%), the third is comparison / post facto (2%), research and development (2%) (See Fig. 4).
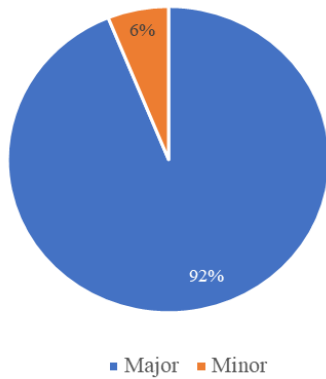

Figure 5 Research topic related competencies on department of sport coaching education

The research topics that are researched by students are then linked to their competence to carry out the profession when they graduate. Based on the topics studied, it turned out that 92% of them contributed to the competence of students in the major of science while 8% entered their minor sciences (See Fig. 5).
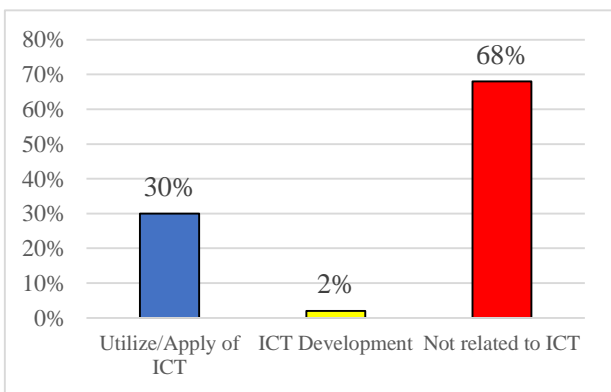

Figure 6 Student research related ICT on department of sport coaching education

The next indicator in analyzing student research is research related to the development of information, communication, and technology. The results of the analysis show that as many as 30% of students only utilize/ apply existing ICT, 2% of students develop ICT in their research, while as many as 68% of students' research is not related to ICT (see Fig. 6).

3.1.3. Research on department of sport education

Research topics on department of sport education i.e. physical activity, physical fitness, physical education quality, management, material of learning, learning media, learning method, learning model, sport coaching, school health education, traditional games, sports psychology, learning strategy. The three dominant research topics examined by students were physical fitness (16%), learning models (16%), and school health education (16%) (See table 3).

Table 3. Research on topic department of sport education

No.	Topic	Percentage
1	Physical activity	2%
2	Physical fitness	16%
3	Physical education quality	4%
4	Management	2%
5	Material of learning	4%
6	Learning media	10%
7	Learning method	6%
8	Learning model	16%
9	Sport coaching	2%
10	School health education	16%
11	Traditional games	10%
12	Sports psychology	10%
13	Learning strategy	2%
	Total	100%

The types of research conducted by students consecutively from the most frequent were experimental (50%), correlation (22%), descriptive (14%), comparison (ex post facto) (12%). This type of research and development research is not used by sports education students (See Fig. 7).
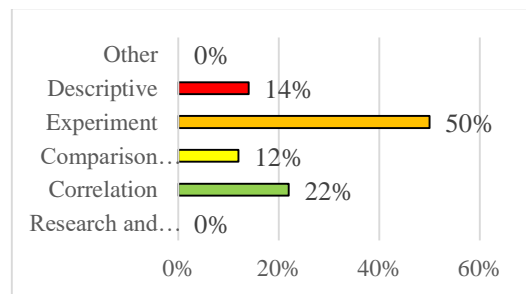

Figure 7 Type of Research on department of sport education

The relationship between the topic and the competence of graduates of the department of sports education can be

explained that 30% of research relates to minor competencies, while as much as 68% of research relates to major competencies (see Fig. 8). It can be concluded that students tend to choose research topics that support their major competencies as prospective PE teachers.
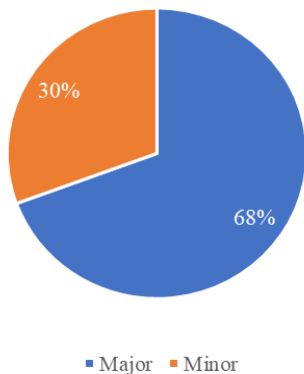

Figure 8 Research topic related competencies on department of sport education

Based on the type of research conducted by students, the relationship between research and ICT can be explained. There are no students who conduct research to develop ICT in the field of sports education. As many as 8% of the research only utilizes / uses ICT. As many as 92% of student research has nothing to do with ICT (see Fig. 9).
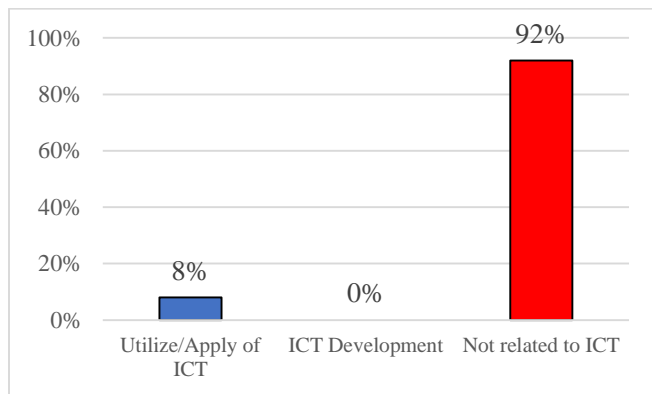

Figure 9 Student research related ICT on department of sport education

3.2. DISCUSSION

The research topic is an important thing to base the formation of a systematic research flow so that the results obtained are credible. A variety of research topics can then be used as a complete scientific building so that the scientific existence is maintained. The results showed that the popular topics under study by students were sports coaching, physical conditioning, physical conditioning, sport psychology, physical fitness, learning model, school health education, traditional sports, and sport nutrition, sport physiology. There is no research topic on sport tourism. Even though this topic is an important study in sports science [9]. For this reason, the faculty really has to transform the guidance model in student research to more closely examine topics in the realm of sports.

In addition, research in the field of character development through sports still does not appear to be carried out. Whereas globally, sport has been recognized as having noble values that can be applied in life [10]. Even specifically, sport can be used as a vehicle to build Indonesia through the integration of sports values with Pancasila values [11]. This means that this field needs to get special attention from the sports science faculty in conducting research. So that there are more and more findings about the impact of sports on character development.

The steps to adopt technology into sports are mostly carried out in the form of developing materials, designing equipment, and clothing which have a major impact on sports. The term Engineering of Sport has been a trend in conferences from 2002 to 2012 in encouraging the development of better, faster, and stronger equipment, in helping athletes develop performance. Sensor technology has an important role in the context of sports, to assess and develop new equipment to help athletes perform and reduce the risk of injury [12]. However, through this study it was found that only 1% of student research developed ICT, 39% only used / utilized ICT, and 60% was not related to ICT. So it shows that the development of sports science integrated with ICT is very low.

Based on these findings, an interesting discussion topic can be proposed in the form of possible causes for the low variance of topics and even the number of student research in technology. The possible cause of this is the small amount of research conducted by sports science faculty members. According to other research results, it was stated that research conducted by sports science faculty members in 2015 was only 7 studies, 26 in 2016, 58 in 2017, 29 in 2018, and 29 in 2019, based on these data, the faculty of sports science is the most conducts less research than the 7 faculties in the Universitas Negeri Surabaya [13].

4. CONCLUSION

Although student research is a small part of the development of sports science, its existence is the result of lecturer guidance, so their research trends can reflect the extent to which sports science moves. The results showed that the topic of movement skills was the topic most frequently researched by students. Student research is still dominated by research related to graduate profiles. However, very few studies have made use of developments in information and communication technology. Under these conditions, the sports science faculty policy needs to focus on research that develops information and communication technology for the needs of sports education, sports coaching, to the development of sports science.

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