

Title page

Title of the article:

The Spectrum of teaching Styles

Author/s full name, the institution affiliation:

Sara Ashworth, Spectrum Institute for Teaching and Learning, USA,

Jana Safarikova, retired, Faculty of Physical Education and Sport, Charles University,

Martin Tuma, Faculty of Physical Education and Sport, Department of Sport Games, Charles University

The name of address of the corresponding author including his/her email address:

Jana Šafaříková, Na Malé Šárce 798, 164 00 Praha 6, safarikjv@gmail.com

As the case may be: sashworth@spectrumofteachingstyles.org; tuma@ftvs.cuni.cz

Or:

Title of the article:

The Spectrum of Teaching Styles

Author/s full name, the institution affiliation, the name of address of the corresponding author including his/her email address:

Sara Ashworth, Spectrum Institute for Teaching and Learning, USA,
sashworth@spectrumofteachingstyles.org

Jana Safarikova, retired, Faculty of Physical Education and Sport, Charles University,
safarikjv@gmail.com

Martin Tuma, Faculty of Physical Education and Sport, Department of Sport Games, Charles University, tuma@ftvs.cuni.cz

THE SPECTRUM OF TEACHING STYLES

SUMMARY

A part of the program of International Conference AIESEP held in June 2016 in the State of Wyoming, organized by University in Laramie, will be the celebration of 50th anniversary of the existence of "Spectrum of Teaching Styles". By this occasion it is suitable to refer about the history of the Spectrum more. Muska Mosston and Sara Ashworth are the authors of the Spectrum.

The first section of this article tells the story of Muska Mosston and Sara Ashworth's journey with the Spectrum - from the first thought how to teach, to definition of the single styles, their classification with more precision as far as to the contemporary form of the Spectrum of teaching styles. Other section shortly acknowledges the support to the Spectrum not only from around the world, but also from Prague. In the third part of the article are presented some results of research of the teaching styles at Faculty of Physical Education and Sport, Charles University during last time.

Keywords: Spectrum Institute for Teaching and Learning, history, popularity of Spectrum, research

INTRODUCTION

The Spectrum Institute for Teaching and Learning, under the auspices of the Lankler Family Foundation, is a non-profit organization created in 2005 under title 501(c)(3) of the Internal Revenue Service code of the United States for nonprofit corporations. Sara Ashworth is the director of Spectrum Institute.

The mission of the Spectrum Institute is to provide a center for people from around the world to come and work together in the common commitment of improving quality teaching and schooling. The central organizing theme undergirding the Institute, the reason for the Institute's existence, is to improve education through the Spectrum of Teaching Styles. The Spectrum Institute serves as a clearinghouse for information and research about this unifying theory that delineates an array of effective teaching and learning styles. Besides offering teachers a repertoire of alternative teaching and learning options from Command to Discovery, the Spectrum theory offers: solid implementation practices; a mechanism for change in education; and a framework for valid and cumulative progress.

In addition to providing a center for Spectrum research and development, the Institute offers workshops and training services for teachers and scholars and an active website for the exchange of Spectrum information.

The **Spectrum of Teaching Styles** provides a universal model for studying and implementing the elusive art and science of teaching. Dr. Muska Mosston authored the Spectrum in the early 1960's. The idea grew from Mosston's frustration with the "fragmentation" he found in education in which different teaching approaches were being touted as the "best" by various authors.

The Spectrum is a comprehensive framework for understanding the teaching/learning process. It has continued to be researched, developed, and implemented in a wide range of classrooms and subject matters around the world. The Spectrum of Teaching Styles is based on an understanding of how teaching and learning are intertwined. It helps teachers recognize the structure inherent in all teaching-learning experiences, and it offers teachers a variety of teaching styles that support students' various learning needs and content expectations (further details: www.spectrumofteachingstyles.org). More about the Spectrum in the Czech literature for example in Dobry (1988) or from the last time Safarikova, (2014, 2015).

THE HISTORY OF THE SPECTRUM

Muska Mosston was born in Israel to Russian immigrants. Muska was a man with myriad interests. He was a violinist, played the harmonica, a gymnast, a soccer player, a champion decathlon athlete, a mountain climber, etc. He graduated with the first class at the Wingate Institute in Israel. He earned degrees from City College of New York, a doctorate from Temple University, and an Honorary Doctorate from the University of Jyväskylä in Finland. Muska was not a one-dimensional thinker.

Stories still linger about his first physical education teaching position in a kibbutz in the desert of Israel. With no gymnasium and only sand dunes and eucalyptus trees for equipment, he created lessons that invited his students to explore their courage, risk-taking, confidence, and imagination while they were developing their strength, agility, flexibility, and balance skills through climbing, jumping, swinging. Each student traveled through a maze of obstacles high in the air through the tangled branches. He inspired his students to develop a sense of curiosity about learning and moving. After coming to USA, he taught physics, geometry, math, Hebrew and physical education.

From 1959 – 1970 Muska was employed at **Rutgers University**, till 1963 as a teacher in the Department of Physical Education, later as a professor he served this Department as Chairman. He was the first to change the name of this department to the Department of Kinesiology & Human Movement. In that time an interaction with a student jolted Muska to think differently about teaching. That interaction eventually led to the conception of the Spectrum of Teaching Styles in 1964. This period it is possible to call the beginning of genesis of the Spectrum ideas. His work helped him much his colleague Rudy Mueller.

Beginnings were not easy. Muska observed that his students flowed easily in their learning experiences from Command to Discovery. However, many of his colleagues and the Physical Education profession posed a greater challenge. The Spectrum theory did not initially receive standing ovations and applause. His beginning message about the Spectrum theory too often attacked physical educators for their dominant Command Style teaching approach. Instead of introducing teaching styles akin to Command Style-A, the Practice Style-B or Reciprocal Style-C, he chose a style opposite to that most familiar to the profession. He presented the virtues of the Discovery Styles. His tender charm applied to children but not always to his colleagues.

From that time are published two Mosston's books. First book *Developmental Movement* (1965) offers the field of physical education "an integrated concept of movement designed to achieve total physical development". Muska believed that all fields had their own intrinsic conceptual frameworks, which like blueprints, link ideas to form a structure. The second book, the first edition of *Teaching Physical Education* was published in 1966 and outlined the Spectrum theory.

For seven years (1963 – 1970) Muska conceived, produced, and directed a CBS TV series with children in New York City called "**Shape Up**". Each week he would meet a new group of young children in Manhattan and introduce them to a movement concept that they would explore in different teaching styles. Children excitedly recognized him in town, and parents and grandparents wrote letters thanking him for producing an early morning children's program that invited thinking.

Muska Mosston was a pioneer who discovered a new paradigm about teaching and learning. **Muska and Sara Ashworth's 25 years partnership as well as Sara's commitment to the Spectrum** began in 1969 with a keynote presentation by Muska at the Southeastern District Physical Education Convention in Memphis. The topic, addressed to the one thousand educators in attendance, was "Inclusion in Physical Education" and Muska presented the now classic "slanty" rope concept. His ideas were novel and they focused on a range of teaching styles. The keynote emphasized one teaching style designed to include all students, independent of their ability level by providing multiple opportunities to be engaged in the task. Such ideas about teaching had not been part of Sara's university studies. The humanity of his ideas captivated Sara, and the content of his presentation changed her life. After meeting at the conference, Sara attended every major presentation, college course, and workshop that Muska gave.

In 1970 Muska and Rudy left Rutgers to teach at **East Stroudsburg University (ESU) in Pennsylvania**. Muska's position was temporary so he would have time to create The Teaching Behavior Institute (TBI). Rudy and his wife began developing a new pedagogical program for the PETE majors based on the Spectrum. Muska, other than totally focusing on the development of the TBI, spent a great deal of time at ESU engaged with Spectrum teaching, working with students, faculty, giving sessions, and providing input for the new program.

Cooperation between Muska and Sara led in to **the development of the Style Analysis Tools**. In 1970 Sara accepted a job at County College of Morris, in Dover, New Jersey, where Muska would regularly observe her classes and offer feedback about the implementation of the Spectrum styles. These classroom observation sessions, which continued for more than a year, were not always easy for Sara as Muska pointed out discrepancies between how she thought she was teaching a particular teaching style and how she was actually teaching that style. With continuous practice and feedback from Muska, thinking about the specific decision-making patterns of both teacher and learner in the various styles becomes automatic. The Spectrum requires a different level of deliberate thinking about intentions, planning, implementation, and assessment. With the Spectrum as a pedagogical foundation, reflection

takes on a completely different process. This increased knowledge, freedom to design, and flexibility elevated professional understanding about how to teach.

In 1972 **Muska and Sara were asked to direct The Center on Teaching (COT)**, funded by a Title IV C grant from New Jersey Department of Education. The Commissioner of Education at that time focused on quality classroom teaching. In fact, every Friday he visited different schools and observing different classrooms. He heard about the Spectrum and requested a presentation for himself and his administrative staff. After the Spectrum presentation, he directed the Department of Research and Development to initiate a grant to establish the Center on Teaching. The mission of the Center on Teaching was to improve the quality of teaching and learning in New Jersey schools. This period it is possible to call a *Breakthrough for The Spectrum*.

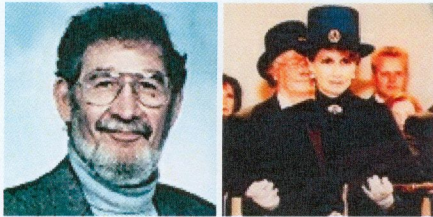
The Center on Teaching provided opportunities for Muska and Sara to expand the Spectrum beyond the field of physical education. Because the COT was available to all schools and teachers in New Jersey, Muska and Sara were able to apply the Spectrum to the different content fields represented in the public schools, to all ages and grades, to varying performance levels, economic levels, and to various labeled groups such as gifted or at-risk. Administrators studying the Spectrum found that they communicated more objectively and constructively with their teachers. During the Center on Teaching years, Muska and Sara conducted over 250 workshops both nationally and internationally. Spectrum was empatiend about national and international recognition.

Muska and Sara in 1984 for a three-month visit to the Scottish Center for Physical Education in Edinburgh, Scotland. During this stay they were invited to attend an international conference in Great Britain. There Muska and Sara met many new colleagues using the Spectrum who invited Muska and Sara to present at their universities. The three-month visit became an **11- month European Lecture Tour**. They conducted 87 workshops on various topics related to the Spectrum in 11 different countries. One of them was also Czechoslovakia.

In 1987, Sara accepted a university job **teaching the Spectrum at Florida Atlantic University (FAU)** to undergraduates in the Elementary Education Department. Within the first four years, Sara received every teaching award offered at the university (a total of seven awards), including the prestigious student-conducted Distinguished Teacher of the Year Award (1991). During the FAU tenure, Muska and Sara continued to receive invitations and give presentations, including: Jyvaskyla, Finland; Israel; Quebec, Canada; Rome, Italy; San Juan, Puerto Rico; Crete, Greece, New Jersey, Indiana, Massachusetts, Maryland and Florida.

In addition to traveling around the world presenting the Spectrum in period 1987 - 1994, Muska expanded his **relationship, collaboration with SporTime**, a successful physical education equipment company. Muska was introduced to Barry Traub, who was SporTime's VP and traveled the world looking for innovative games and equipment that supported Muska's Spectrum philosophy. Muska and Barry shared a common philosophical view about the active development of children, and Muska created several pieces of equipment that SporTime continues to manufacture.

Muska Mosston suddenly died July 22, 1994. His passing shocked the Spectrum community. He was too energetic, vivacious and dynamic to be taken so soon. His cognitive capacities were amazing. Sara Ashworth continues in his work, precises the Spectrum, publishes till this time. Also therefore the Faculty of Sport and Health Sciences at the University of Jyvaskyla, Finland, confirmed an Honorary Doctorate on Sara for her work in the Psychology of Teaching and Learning.



The 5th edition of *Teaching Physical Education* (2002) was dedicated to Muska Mosston.

In 2007 were organized **two actions honored to Spectrum:**

- a) The 1st Spectrum Conference for 22 veterans Spectrum colleagues and new generation Spectrum colleagues from across the USA and Canada in Buckeystown, Maryland.
- b) The 1st International Spectrum Workshop in Halkidiki, Greece organized by Nikolaos Diglidis (University of Thessaly) in conjunction with the 12th European Congress of Sport Psychology (FEPSAC). The workshop focus was A Reunion and a Revisit of the Spectrum theory. The intent of this workshop was to gain an international perspective about the use of the Spectrum and to support international collaborative relationships.

The First Online Edition of Teaching Physical Education exists from 2008. This online book (the 6th edition) is now available as a free download from the Spectrum Institute. This text is a corrected version of the 5th edition. In 2008 also launched the *first Spectrum Website*. The Spectrum website advanced the opportunities for the Institute to serve as a clearinghouse for information and research about various teaching and learning styles. The information on the Spectrum site makes possible the immediate sharing of information and the opportunity to establish collaborative relationships with like-minded colleagues interested in the improvement of pedagogy.

Thema the Spectrum of teaching styles were on the program of others conferences:

- a) the 26th ACHPER International Conference in Brisbane, Queensland, Australia in 2009. Approximately 500 very active and involved participants attended the conference;
- b) the International Conference on Mosston's Spectrum of Teaching Styles in Taiwan at National Taiwan Normal University, Taipei. All sessions in this three-day conference focused on various aspects of the Spectrum of Teaching Styles. This visit to Taiwan was extended to

include three weeks for visiting various schools and universities. Many universities in Taiwan are using the Spectrum. It is possible to say that *the Spectrum transcends cultural boundaries*.

At this time the Spectrum Institute offers three types of training opportunities available:

- Conferences in Conjunction with Professional Conventions (Periodically the Institute sponsors seminars or workshops prior to or following national or international conventions. An upcoming Spectrum conference is planned for the 50th anniversary celebration of the Spectrum.)
- Special/Private Seminars (The Institute has the capacity to accommodate an individual or small groups of colleagues who are interested in studying and researching pedagogy from a Spectrum point of view.)
- Online Opportunities (Colleagues and graduate students, who are conducting research on different aspects of the Spectrum, are welcome to contact the Institute to discuss their work or dissertation topic. Establishing an online collaboration is possible if the focus of study is relevant to the Spectrum of Teaching Styles.)

Except it Spectrum Institute prepares the program for the International Conference AIESEP held in 2016 in Wyoming, USA.

SUPPORT TO SPECTRUM FROM AROUND THE WORLD, FROM PRAGUE

The Spectrum Institute and its the Spectrum Colleagues Page created acknowledges the contributions of the hundreds of professors, teachers, students, and scholars, who have continued to use and expand the theory of the Spectrum. Without these colleagues involvement the Spectrum would be a static theory on the library shelf. These people have given to the Spectrum framework.

Besides the motherland USA it is suitable to present the countries where the Spectrum of teaching styles are known, studied, researched and used in schools by the teaching and the learning – for example: Australia, Brasil, Bulgaria, Canada, Cyprus, China, Finland, France, Greece, Jordan, Netherland, Scotland, South Africa, South Korea, Taiwan, Turkey, United Kingdom. A large number of publications, bibliografic references etc. witness about it.

It is pleasant that Spectrum of teaching style was also known in Czechoslovakia (from 1993 in Czech Republic) long time. The teachers professor Dobry, docent Svaton, docent Safarikova and Marvanová from the Faculty of Physical Education, Charles University in Prague, were the first who were the possibility to acquaintance not only with the Spectrum of the teaching styles in book, but also personally with the authors of the Spectrum – Muska Mosston and Sara Ashworth.

All started in 1971 when prof. Dobry, after visiting with Merand during the conference FARS in San Rafael, brought home a book of Muska Mosston Teaching Physical Education (1966). Later on, Dobry met with Mosston in person (including the meeting with Merand a

Marsenach, at that time well known and reputable pedagogues in Europe) at the conference of AIESEP in Magglingen, Swiss, 1978.

Mosston was surprised that his Spectrum is known in Czechoslovakia. At that conference Dobrý presented the information not only about the results of influence of some teaching styles on behavior of pupils in schools and on faculty students' learning results, but also the fact that the problems of teaching styles are a pari of teaching at FTVS UK in the subject branch, special didactics PE. Mosston showed a good sense of humor, when reacting to this information by saying " What? Teaching styles in Prague? Where is Prague?" A witty reply by Dobry made their relationship closer.

Twice in Prague, in 1985, there was a meeting between FTVS UK staff and Muska and Sara. During their visit was possible personally to exchange with them new information, knowledges and experiences. By their second stay in Prague, visiting a gymnastic presentation „Spartakiada“ on Strahov one afternoon, it is necessary to mention Mosston's presentation of the teaching style called style A. When some thousands of participants in big excercising group were uniformly performing to music, he cried: "Wonderful ! Command style!"

Spectrum of six teaching styles was in the Czech Republic for the first time described in details in the textbook *Didaktika sportovních her* (Didactic of Sports Games) by Dobrý for FTVS UK students in the chapter *Vyučování jako řídicí činnost* (Teaching as a Directive Activity), 1977, p. 91 -115. There were also published some works based on studies of teaching styles, for example works of Hercig (1977), Teplý (1981), Pitrova (1984), or Hejdukova (1988).

Another examples of studying of teaching styles in teaching praxis of PE teachers are included contained in the reports, for example in: *DÚ RÚMŠ* (Partial target within the framework of the Resort task of Ministry od Education) IX-05-03, Svaton et al., 1990; grant *MŠMT ČR* (Grant of Ministry of Education, Youth and Physical Education, Svaton et al., FTVS UK, 1993. Next one was the presentation by Svaton in Olomouc 1981 at a conference dealing with personalities of PE teachers. The thema *Teaching Styles in Praxis of PE teachers* was also demonstrated and discussed at several meetings called *Telo Praha* (Body Prague). These seminars are organized for secondary and high school PE teachers from the whole republic.

Svaton and Safarikova in cooperation with the videocenter of FTVS UK are the authors of video named *Didaktické styly ve školní tělesné výchově* (Teaching Styles in School PE), 1993. The english version was sent to Ashworth to USA (1994) and as a reply Ashworth forwarded to Prague the new publication „Spectrum of Teaching styles. From Command to Discovery (1990) and still later the 5th edition of book *Teaching Physical Education* (2002). These books were more advanced and enriched, including nine styles, and was also dealing with cognitive base lines.

In the meantime the second edition of the textbook *Didaktika sportovních her* for FTVS UK students by Dobrý was published in 1998. The chapter about Spectrum, pages 93-113,

already incorporates new results and experiences of Mosston and Ashworth and the development of styles.

At present at the FTVS UK the topic of Teaching Styles is mandatory a part of the subject Didaktika školní tělesné výchovy (Didactic of Physical Education in School) and an obligatory part of subjects - special didactics at different sport departments (sport games, swimming, gymnastics, and others).

Prof. Dobry and Safarikova are already retired, Svaton died in 2002. Subsequently it was possible to state the certain fall of interest about the research in this thema. Nevertheless at the FTVS UK the topic of Teaching Styles is mandatory a part of the subject Didaktika školní tělesné výchovy (Didactic of Physical Education in School) and an obligatory part of subjects - special didactics at different sport departments (sport games, swimming, gymnastics, and others). The teachers again try to apply the teaching styles into czech academic teaching conditions, and they are able to present these styles to the students of FTVS UK as well as to other academic institutions and environment by the forms of seminars or publications for PE teachers, for example Safarikova (2014, 2015) in the magazine „Physical Education and Sport of Youth“ (Tělesná výchova a sport mládeže).

Thanks to Sara prof. Dobry, Safarikova, Marvanova and some teachers at the faculty still are up to dated with Spectrums activities. Backing it this for example is the mail send by Dobry and Safarikova in April 2014, from which it is possible to quote: „The Spectrum Institut is pleased to announce that our redeveloped webside is live: www.spectrumofteachingstyles.org. The new webside has updated theory and implementation information.“).

STUDYING AND RESEARCH OF THE TEACHING STYLES AT FTVS UK

Retirement of professor Dobrý and associate professor Šafaříková resulted in a significant decrease of activity in research and teaching of teaching styles at Faculty of Physical Education. However the teachers at department of swimming sports but mainly at department of sport games realized and are aware of importance of knowledge about teaching styles for special didactics of individual sports. Therefore they try to at least partially maintain the continuity with the previous activities both in teaching (the topic „teaching styles“ is the part of content of the subject „Theory and basic of didactics of sport games“) and in research. However, it must be admitted that the research activities have been reduced only on solving of partial problems within Bachelor and Master thesis in the last years. We will try to present briefly their results over the past five years in the following text.

A total of 10 qualification works – 2 Bachelor and 8 Master thesis – were created in the monitored period in which the authors somehow touched the teaching styles. However, only in one of them (VACHUTA 2010) the teaching styles are the main topic. Mentioned work concerns the use of teaching styles in football training. Comparison of use of spectrum of teaching styles by two trainers in five training unit is its content. The predominance of practice style and convergent style was found. On the contrary the self check style and the

learner-designed individual program style were not used at all. The author notes that the use of a larger part of the spectrum is related to the educational level (licence) of individual coaches. A positive aspect of work is the fact that it includes an instructional DVD, in which the author tried in collaboration with one of the monitored trainers present examples of each teaching style in different parts of the training units.

Other works deal with the behavior of the coach at practice or in the game, eventually with didactic interactions in a practice or game. The texts focused on the behavior of the coach in the game, the issue of teaching styles appear only in the theoretical bases, the only exception is found in the work of PEEROVÁ (2014), where the activity a particular coach in the game mentioned in connection with his approach to training units (the dominance of command style). We find more information about teaching styles in texts that deal with effects of trainers within the training process. More information about teaching styles we find in texts that deal with effects of activities of trainers within the training process.

HOVORKA (2012) found that observed training session were mainly conducted by using command style, only 2 times appeared the inclusion style and once self-check style. Data ascertained was not further used in presented text. Similarly MAURER (2014) observed a training units of pupils football team. He found the exclusive use of the command style. In the conclusions we find suggestions for coaches to formulate learning (training) goals in a different way, it within the meaning of guided discovery style. It's sad to say that the using of spectrum of teaching styles in physical education in the schools was not deeper researched during the observed period.

Described state appears to be unsatisfactory from the viewpoint of the Department of sport games and led to reflections on the renewal of intense research interest in the field of teaching styles. This should be realize at two levels. The first one aims to continue in solving particular issues within the thesis of students, with the fact that interest extends to the training process, not only in football, but also in other games. The second level assumes research activities directed inside of tuition of future physical education teachers. They pratice in the subject „Didactics of sports games“ performances in the order to submit chosen curriculum links by various methods and forms. A part of the assignment of tasks should be not only using of selected didactic style, but an analysis of practical realization and appropriate evaluation of achieved effects. One of the side benefits could be even larger number of potential obtaining candidates with interest about this topics.

CONCLUSION

Teacher praxis, but also by the way of the presentation of teachers' s essays and diploma works of students of FTVS UK confirm that teaching styles can make PE teachers' work more interesting, colorful and easier and can improve the atmosphere in interaction between the teacher and the student/pupil. That however means, that teachers learnt to know these styles and try them in classrooms, and they can also find out what styles are more appropriate in the particular learning situation, for concrete age groups, for different classrooms etc.

REFERENCES

- DOBRÝ, L. (1977). *Didaktika sportovních her*. Praha: SPN, p. 91 – 115.
- DOBRÝ, L. (1988). *Didaktika sportovních her*. Praha, SPN, 2. Vydání, p. 93 – 113.
- HEJDUKOVÁ, M. (1988). *Sledování dynamiky v činnosti učitele a žáků při vybraných metodicko-organizačních formách předkládaných různým didaktickým stylem*. Praha, FTVS UK. Diploma work.
- HERCIG, S. (1977). *Charakteristika proměnlivosti působení učitele v hodinách s různým pohybovým obsahem*. Praha, FTVS UK. Diploma work.
- HOVORKA, J. (2010). *Činnost trenéra v tréninkové jednotce dětí*. PrahaPraha, FTVS UK. . Bachelor work.
- MAURER, T. (2014). *Chování fotbalového trenéra mládeže*. Praha, FTVS UK. Diploma work.
- MOSSTON, M. (1965). *Developmental Movement*. Columbus, OH: Ch. E. Merrill Publishing CO.
- MOSSTON, M. (1966). *Teaching Physical Education*. Columbus, OH: CH. E. Merrill Co.
- MOSSTON, M. & ASHWORTH, S. (1990). *The Spectrum of Teaching Styles. From Command to Discovery*. New York, Longman. ISBN 0-8013-0350-8.
- MOSSTON, M. & ASHWORTH, S. (2002). *Teaching Physical Education*. 5th ed. Benjamin Cummings. ISBN 0- 205-34093-8.
- PEEROVÁ, Š. (2014). *Analýza didaktické interakce u vybraných družstev v házené*. Praha, FTVS UK. Diploma work.
- PITROVÁ, M. (1984). *Charakteristika převažujícího didaktického stylu učitelů základní školy*. Praha, FTVS UK. Diploma work.
- SVATOŇ, V. (1981). Výzkum vyučovacích činností v gymnastických hodinách. (Didaktické řídicí styly). In: *Osobnost učitele tělesné výchovy*. Olomouc, UP, p. 202-207.
- SVATOŇ, V. et al. (1990). DÚ RÚMŠ (Partial target within the framework of the Resort task of Ministry od Education) IX-05-03. FTVS UK.
- SVATOŇ, V. et al. (1993). Grant MŠMT ČR (Grant of Ministry of Education, Youth and Physical Education. FTVS UK.
- SVATOŇ, V. & ŠAFAŘÍKOVÁ, J. (1994). *Teaching Styles in Physical Education* . Videopřad. Grant MŠMT ČR. Praha, FTVS UK. Videocentrum.

SVATONĚ, V. & ŠAFAŘÍKOVÁ, J. (1993). *Didaktické styly ve školní tělesné výchově*. Videopořad. Grant MŠMT ČR, Praha, FTVS UK, Videocentrum.

ŠAFAŘÍKOVÁ, J. (2014, 2015). *Seznámení se Spektrém didaktických stylů*. Těl. Vých. Mládeže a Sportu. FTVS UK, n. 4, p. 2-4, n. 5, p. 2-6, n. 6, p. 2-7, n. 1, p. 2-5.

TEPLÝ, I. (1992) *Výzkum učební aktivity žáků v gymnastice ve vztahu ke změnám ve vyučovací činnosti učitele*. Praha, FTVS UK. Diploma work.

VACHUTA, L. (2013). *Využití didaktických stylů v tréninkovém procesu fotbalové mládeže*. Praha, FTVS UK. Diploma work

www.spectrumofteachingstyles.org

The First Online Edition of Teaching Physical Education

first Spectrum Website.