



Why ESSKA? On what it takes for orthopaedic surgeons and their scientific societies to adapt to societal changes in 2018

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Received: 19 November 2018 / Accepted: 24 January 2019 / Published online: 7 February 2019
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Presidential address, 18th ESSKA Congress, Glasgow, Armadillo Auditorium, May 10th 2018

Those of you who are fond of music may have recognised the introductory song *Adventure of a lifetime* by Coldplay. This title summarises my relationship with the European Society of Sports Traumatology, Knee Surgery and Arthroscopy (ESSKA) over the last 20 years, starting with my first ESSKA congress participation in Nice in 1998. It was exciting and frightening at the same time. I was frightened about giving my first international lecture, but, at the same time, I felt passionate about what ESSKA was about, its scientific content, and its spirit. I am proud to say that the society and congress presidents of that time, P. Chambat from Lyon, France, and P. Beaufils from Versailles, France, later became my mentors and are now close friends. In 2001, I was selected to participate in the ESSKA-AOSSM travelling fellowship and, just 1 year later, at the ESSKA Congress in Rome, I was elected to the ESSKA board as general secretary, a task which I would perform for 10 years. The ESSKA board rapidly decided that it needed to professionalise, which is why we hired the first professional staff member for ESSKA at my hospital in 2005.

My way to and my love of ESSKA may be symbolic of Europe for many reasons, but I would like to point out four of them and then reflect on how they can be transposed to ESSKA. My home country is Luxembourg. It is almost too small to be an independent country, but it managed to become a founder member of the European Union. Its

independence was due to its fortress, which was difficult to conquer in the previous centuries, and its geographical location between the French- and German-speaking world. The owners of this small piece of land changed regularly and so my ancestors became French, German, Dutch, Austrian, Spanish, and, finally, Luxembourgers in 1839. The country developed a powerful steel industry, later became an international financial centre, welcomed several European institutions, including the European Court of Justice, and developed the broadcasting satellite industry where it is a large player nowadays. This is the HISTORY. I grew up in the 1970s and 80s in a small industrial city called Differdange, with large-scale social and cultural diversity, on the south-western border of Luxembourg, close to France and Belgium. During my childhood, I had friends with origins from all over Europe. Their fathers either worked in the local steel factory or they were miners, digging out the precious red rocks from which the iron would be made. These were hard times, where safety at work was still an illusion, and fatalities and severe injuries were, therefore, not rare. It was these miners and steel workers who came from all over Europe and established the basis for our country's subsequent well-being, its multilingual and multicultural environment. This is the DIVERSITY. Luxembourg recently started to combine its satellite experience with its mining history by developing the space-mining sector. As Mark Twain said: "They did not know it was impossible, so they did it!". This is the CREATIVITY. The future will show whether this is positive or negative and I am not sure if it makes sense for a small nation to reach for the stars if it still lacks the basic infrastructure like a medical school. However, in this case and in my time in the 1980s, I tried to make the best of it. Therefore, since Luxembourg did not have a university, I was obliged to go abroad for my medical studies. I went to Belgium, where I became acquainted with another culture and exported literally the best which they had. This was neither beer nor chocolate, but my wife Katy. I was blessed that she followed me—first to Germany and later back to my

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boomers respected authority by virtue of title, for generation Y, questioning authority has become natural. They need a strong reason to do anything and no longer accept imitating something because “it has always been done that way”. In the coming years, the challenge for ESSKA will be to keep these generations together, to literally stay connected with generations Y and Z, and as such avoid a potential membership gap.

About diversity

If we look at Fig. 1, the cloud of keywords defining ESSKA, we find that diversity has been mentioned by some of our members, but on a very small scale, which does not reflect the reality of our society. If we look at the ESSKA leadership, e.g., the executive board, the committee chairs, the editors, and associate editors of our scientific journals and our staff, we have a total of 36 people coming from 20 different countries (Table 1).

These representatives of the global population have 17 different languages as their mother tongues. During my 2-year presidential period, I was happy to include the first two female committee chairs, Denise Eygendaal and Laura De Girolamo, who joined Ninni Sernert as female associate editor of KSSTA. Likewise, ESSKA currently has seven female staff members. This illustrates the generational changes occurring in and around our profession, but ESSKA will need to make a greater effort to close the gender gap in the future.

Diversity is an important asset to our society, and it will need to be cultivated and nurtured in the future. The challenge is to make the people of such diverse cultures and origins who share similar medical interests and sit in the same boat row in the same direction. This was pointed out by my good friend Marc Safran, Head of the Sports Medicine Department at Stanford University and current President of ISAKOS, when I was elected as president of ESSKA. He congratulated me on becoming the president of a society made up of many countries with different cultures that have had conflicts over the centuries. Therefore, the more bridges we build between our countries and the more links we create between ourselves, the more difficult it will be to dismantle

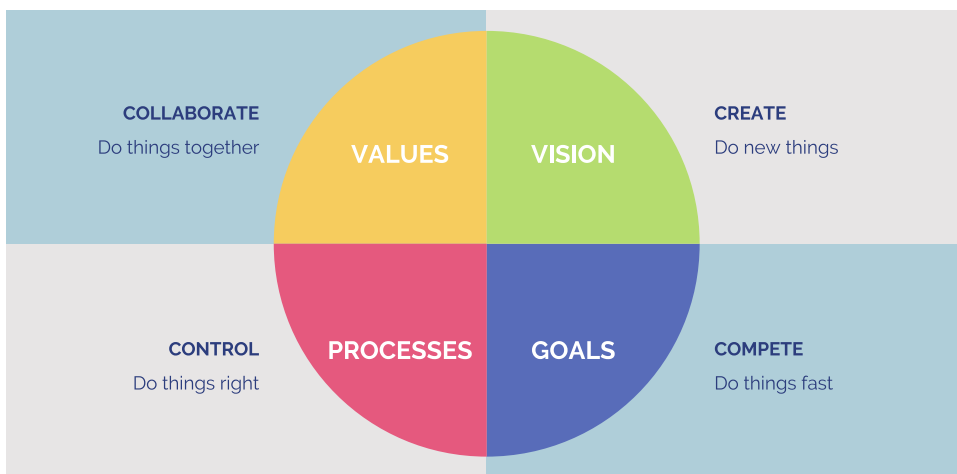
not only our political unions but also our professional organisations by simplistic thinking, by populism and extremism. That’s what we have been trying to do with ESSKA on a daily basis for several years now. During this exercise, I went through a remarkable book written in 1997, a gift from our past president, Lars Engebretsen [2]. The authors showed that the era of great men or women who have forged and strongly influenced our societies and organisations in the past is slowly coming to an end and that we are slowly entering into the era of great groups. Instead of having societies which are dominated by single, often egocentric individuals, modern organisations or associations will need to develop team intelligence if they want to be successful. Team intelligence is defined by the interaction of small amounts of information provided by different individuals, resulting in knowledge greater than the sum of the whole [21]. Similar ideas and concepts are continuing to emerge in the business world [14]. These initiatives are becoming increasingly structured and will sooner or later be adapted to our medical professional environment and to our world of medical associations.

In these processes, diversity is critical to guarantee the success of an organisation. Beneath the cultural and linguistic diversity mentioned before, it is critical to analyse and understand the different characters of the individual members of a group. This concept was described by Quinn and Rohrbaugh in the early 1980s [18], and it is currently being promoted under the term “competing values framework (CVF)” by De Graaff et al. (Fig. 2) [8]. The CVF differentiates between four different types of character which are required to run an organisation successfully. The first is represented by the creators, those with the vision to develop a new idea and basically want to do new things. The second group is the competitors who share a common goal with the desire to realise it very quickly. They constitute the group of people who want to do things at high speed, and move along quickly and completely without or insufficiently considering the other factors which might influence the process of development. The third group is the controllers ; those who want to do things correctly and bring structure and processes to the common initiative. Finally, the last group is represented by the collaborators ; those who acknowledge that the different groups of people sharing similar values need to work together to reach a common goal. Depending on the moment in our lives and careers and on the situation which we are facing, many of us may have experienced several of these character types within our own personality. Nevertheless, most of us probably have one of these character types which is dominant. The flip side of the coin is that the positive values which define each of these characters, and each individual can easily be dismantled and turned into a negative aspect. The creators can be seen by the other peers as chaotic thinkers who develop an unrealistic vision

Table 1 List of countries representing the ESSKA leadership in 2016–2018 (executive board, committee chairs, editors, and associate editors and staff)

Spain	Switzerland	Italy	Turkey	Russia
Sweden	Greece	Portugal	United Kingdom	Canada
Belgium	Germany	France	USA	The Netherlands
Japan	Luxembourg	Norway	Poland	India

Fig. 2 Different characters of individual members of a group, as promoted in the competing value framework by De Graaff et al. [8]

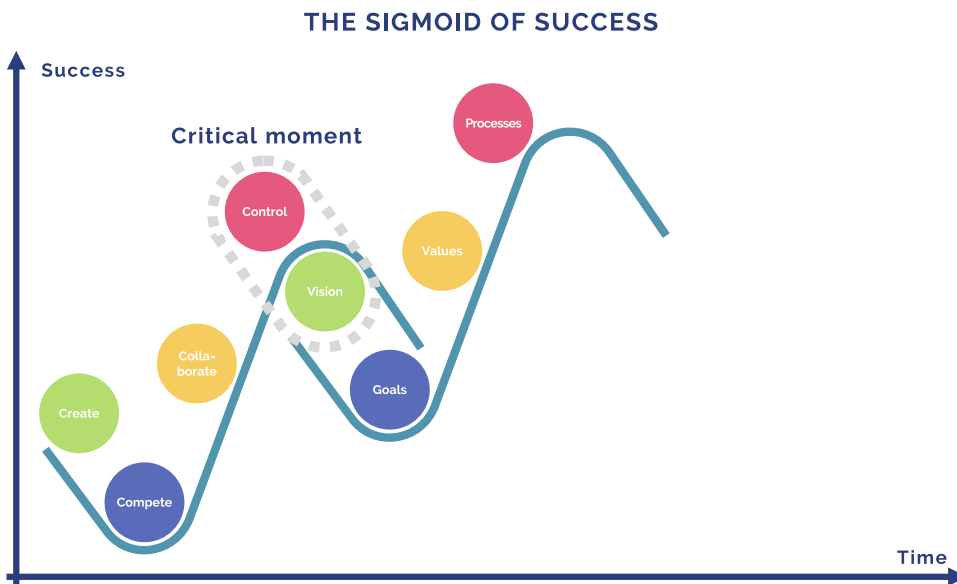


with poor methodology and eventually a lack of discipline and science. The competitors may be regarded as being too aggressive, over-emphasising competition, acting with only a short-term focus and preferring autocratic decision-making processes. Negative character traits of the third group, the controllers, are that they can be too rigid, only leaning on scientific thinking, professionalism, and expertise, and thereby risking slowing down a potentially successful process. Finally, the collaborators may be regarded as dreamers who have an excessive group approach and may develop an irrational enthusiasm which can totally isolate them from external pressure and ‘real-world thinking’.

Analysing and understanding the CVF at a specific moment in the life of a society are important. It is, however, equally important to be aware of the evolution of a society over time and the processes that may guide this and eventually be responsible for the success or failure of a society. As mentioned in the CVF, it has been acknowledged that the

developmental process of an organisation requires different character types to act predominantly at a given moment in the life of the organisation (Fig. 3). At the beginning, the creators are essential to develop its initial concept and vision, but these individuals may not be pushy and aggressive enough to ensure that this new idea is accepted by their peers. This is where the competitors come into play. The combination of these two character types is essential for an idea to emerge and for the adopters of this idea to follow the pioneers. Nevertheless, the disadvantages of their character may not serve the members of a broader community, which is where the collaborators are necessary to bring people together, work on common denominators, and create the enthusiasm which is needed for the recognition of peers, the creation of evidence and the new idea to be adopted in the long term. This is generally the moment at which an organisation increasingly faces success and rapid development, especially if structure and evidence are brought to

Fig. 3 Developmental process of an organisation as developed by [7], in association with the competing values framework by De Graaff et al. [8]. Organisations must anticipate the critical moment of their evolution in time and be ready to jump the curve



the initial processes by the so-called controlling type of individuals. However, this phase may also take place when an organisation runs the greatest risk of future failure. If its environment changes, perhaps, because the initial idea or vision has been adopted by the majority, its reason for existing may be threatened and the organisation may face a critical moment. At this point, it may need to re-orient and re-define itself or at least develop a more advanced way of playing, not create a new game [21]. To achieve this, and to pave the way for a successful future, it will need to develop a new vision, define its goals, and implement them through the adapted values and improved processes. This process is called the sigmoid of success and it was described in the mid-1990 s [9].

In orthopaedic surgery, the adoption of innovation undergoes a similar process from the implementation of a new idea or technique towards general long-term acceptance [20]. In a recent thesis on the adoption of the treatment for femoroacetabular impingement, Ayeni adapted this process to the newly developed techniques for hip arthroscopy [1]. This shows that, in the stage of technique inception, a large minority of innovators share the vision of a new technique which will then be developed and further explored by a larger group of early adopters. These are the competitors mentioned in the CVF. At a later stage, an early majority, which can be assimilated by the collaborators, assesses the procedure and creates early evidence. It is only in the late stages of development that ‘the controllers’ generate hard evidence relating to the pathology and the procedure by publishing RCTs, by including it in treatment guidelines, further defining indications, and working on long-term outcomes and registry data.

Following the principles elaborated above, ESSKA has been gathering its leadership for a group effort since 2010 in a biennial strategic meeting. This was initiated by our past president, Niek Van Dijk, and was the basis of ESSKA’s professionalisation process over the past decade. In 2016, ESSKA did this in Megève, in the French Alps, where it gathered its creators, competitors, controllers, and collaborators to define the society’s development policy. Following the recommendations of Bennis and Biedermann, as well as Runsten, we followed the conditions to create great groups, which aim to stimulate creativity, create a warm environment and atmosphere, give individuals responsibility and a sense of autonomy, keep them focused on a collective goal and assemble their individual views to a global view, integrate their cognitive, social, and emotional capabilities, and make them experience failure as a learning experience [2, 21]. Looking at ESSKA’s achievements in recent years, many of them are the result of good collaboration between several great groups (e.g., the congress team, the sections, the scientific committees, and the various editorial teams). Adding the final effective co-ordination by the executive

leadership and the staff to the work done by this team of teams [16] proved that diversity may fuel discovery and build excellence. In that sense, the importance of diversity in ESSKA is inversely proportional to the number of citations in the membership survey!

About creativity

In my presidential editorial [22], I wrote that I wanted to help ESSKA evolve from an organisation to an institution and that we wanted to achieve this through hard, disciplined teamwork but also friendship and fun. Therefore, let us analyse the ‘fun factor’ in our profession. Although we do a challenging job and have a large number of responsibilities, orthopaedic surgery is probably a passion for the majority of us. It motivates us and gives us the drive that is needed always to give our patients the very best. The reason for this can be the fact that we are lucky to have many positive experiences during our surgical procedures. This positive feeling while performing a challenging task has been analysed scientifically by a Hungarian professor of psychology who works and lives in the US, Prof. Mihaly Csikszentmihalyi. He has developed the notion of flow, a concept that he calls the optimal experience or the moment of ecstasy that a skilled person experiences while performing an extremely challenging task. Also called the path to true happiness, it describes a mental state in which a person performing an activity is fully immersed in a feeling of energised focus, full involvement, and enjoyment in the process of the activity. It is characterised by the complete absorption in what one does and the resulting loss in one’s sense of space and time [4] (Fig. 4). The concept was first evaluated in rock climbers and ballet dancers, and later confirmed for surgeons. Mahvi summarised it as a great feeling a surgeon may experience after a particularly complex procedure, realising that hours passed in what seemed to be a moment [15]. However, to be able to experience this notion of flow, one prerequisite is that it can only happen to someone extremely well trained, since critical factors to deliver exceptional performances are acquired skills, knowledge, and physiological adaptations in response to intense practise. In his remarkable book, *The road to excellence*, Ericsson states that these qualities are not innate and that it takes 10,000 h of deliberate practise over 10 years to get there [5]. Therefore, the challenge for us, the current generation of surgeons, is to see how we are to manage to bring the next generation of surgeons to this level of excellence, given the increasing economic and organisational pressure which we are facing. This results in less time for surgical education than in the past, reduced working hours for residents and the possible generational change of priorities and lifestyle mentioned before. Likewise, our current surgical education is still based on the principles

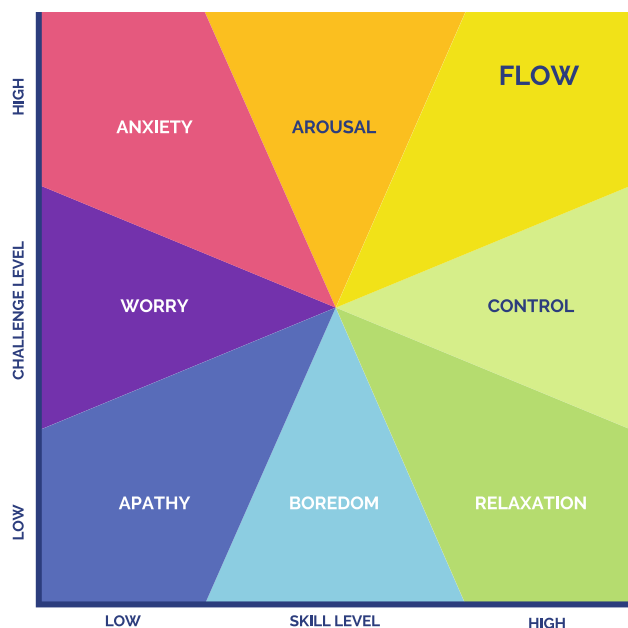


Fig. 4 Flow model by Csikszentmihaly [4] representing the mental state of a person in relation to the individual level of skills and the external challenge. With a demanding challenge, a highly skilled surgeon can experience the notion of flow

developed by Halsted at the end of the nineteenth century and we have no well-defined educational pathways at super-specialised level. This shows that there is a need for new educational pathways in orthopaedic surgery and we need to be creative to dare to elaborate new means of education.

Competence-based teaching principles, like those presented in the *New England Journal of Medicine* more than 10 years ago [19], were discussed intensively by ESSKA's leadership during my presidential term and the current efforts are being made by our educational committee under the leadership of Martin Lind to develop a clinical core curriculum, based on both theoretical knowledge and practical knowledge. Likewise, ESSKA's course task force led by David Dejour has put a great deal of energy into the development of a surgical skill course curriculum. Through the network of our 38 affiliated societies in Europe, these principles may be extended to many European countries in the future.

Many keywords in the membership need assessment cloud, which were related to ESSKA's scientific and educational activities (Fig. 1). Words like science, research, knowledge, innovation, academic, publications, and congress indicated that one of ESSKA's aims is to assist its members in generating and disseminating new surgical and scientific knowledge. An analysis of the ESSKA congresses from 2008 to 2016, undertaken by O. Ayeni and his team [10, 11], revealed that the ESSKA congresses leave a global footprint in our profession, since the submissions of free paper abstracts came from 45 countries and 5 continents.

Over the years, the levels of evidence in these free paper presentations improved, with a significant decrease in the number of level-four studies and an increase in level-one studies. Newer specialities like ankle or hip arthroscopy had lower levels of evidence in comparison with those joints where procedures had a longer history, confirming that evidence usually follows innovation. The publication rate for free papers was 28% 1 year after the congress, 43% at 2 years, and 55% at 5 years. These results showed that ESSKA was promoting good science and that it performed well in comparison with the congresses of other international organisations. However, our community should have the ambition to evolve from "Good to Great" [3], to even improve these numbers and continue stimulating surgical science.

The reason why this is important for our profession was pointed out by M. Evers, Professor of Surgery at the University of Kentucky, in his presidential address to the American College of Surgeons [6]. He reported on a surprising recent discussion which he had with the (non-surgeon) dean of a prestigious academic US institution. The dean felt that surgical science was an oxymoron (a contradiction in itself) and that the surgeon's role was to operate to ensure a (financially) healthy bottom line for the institution. Mr. Evers' comment was that this attitude reminded him of mediaeval times, when surgeons were regarded as mere technicians. This example shows how our competing medical specialities may take into account both surgical science and the surgical workforce, and illustrates that we need to work at better promoting surgical excellence, made up of both technical skills and scientific knowledge.

The last 2 decades have seen significant changes in a number of healthcare systems in Europe, encouraging the emergence of high-volume surgical centres, offering outstanding clinical productivity and economic efficiency, but with a little time for surgical education and science. Likewise, because of their financial attractiveness, the minimal invasiveness of their procedures, and rapid post-surgical recovery, some subspecialities like orthopaedic sports medicine, but also increasingly primary arthroplasty, are disappearing from many academic centres in Europe. Although the economic sustainability of our healthcare systems cannot be ignored, this kind of evolution runs the risk of seeing surgical centres evolving into industry-like institutions with a little academic interest. For academic institutions, this means a reduction in their natural role of unbiased education and, for scientific societies like ESSKA, it means the potential risk of the "de-academisation" of their scientific community. This stresses the need to anticipate this evolution by helping to stimulate the education of orthopaedic surgeon-scientists. In a remarkable article on the conditions for surgeons to become surgeon-scientists, Kodadek et al. [13] analysed the individual and institutional environment

Table 2 Overview of ESSKA’s widespread activities in 2018, including its meetings and congress, courses, fellowship programmes, publications, and initiatives

ESSKA research booklets	Clinical research toolkit [17]	Basic research toolkit [7]	How to present a scientific study? [12]	
ESSKA publications	KSSTA—clinical science journal	JEO—basic science journal	Book publishing programme	Online education platform
ESSKA networking programme	Fellowship programmes	Teaching centre programme	ESSKA teacher programme	ESSKA-affiliated society programme
ESSKA European standards initiatives	Meniscus consensus project	Paediatric ACL monitoring initiative	European soft-tissue allograft initiative	
ESSKA meetings, congress and courses	ESSKA biennial congress	ESSKA section meetings (from 2019: speciality days)	ESSKA surgical skills courses	Courses with ESSKA patronage

of potential candidates in successful academic careers. Beneath the quality of an individual’s formal degree, they identified experience, resilience, persistence, and passion as four essential qualities. Likewise, the candidate’s academic institution provides the necessary material and intellectual environment. However, with the above-mentioned changes in our healthcare systems and academic environments, it is worth wondering whether these two pillars are sufficient for the incubation of scientific academic talent in orthopaedic surgery in Europe in 2018. In that sense, a third pillar representing the global environment may help to nurture academic talents in surgical science, offering them access to an unbiased, highly specialised education, to a network of mentors and peers, pathways for publication and ideally also project funding. This pillar could be represented by scientific societies like ESSKA and this is where ESSKA has become active by launching several programmes some of which are recent, while others have been run successfully over 3 decades. These programmes could be compared with toolboxes, helping either to provide potential access to the academic world or to empower an individual candidate’s career. They are represented in Table 2.

Conclusion

This analysis is an attempt to show the ingredients of a scientific society, in general, as well as some aspects of what it takes for orthopaedic surgeons and their scientific societies to adapt to societal and professional changes in 2018. More specifically, it illustrates the various activities of ESSKA, as well as its future challenges. If ESSKA wants to consider the generation and gender gaps; avoid the historical gap by failing to learn from its history; avoid a leadership gap by cultivating diversity, team intelligence and a family spirit; avoid the evolution gap and consider the sigmoid of success by stimulating creativity and being able to adapt to an ever-changing environment; avoid the education gap by following the road to excellence and the ability to reach the

flow process to its members, then continued success will be guaranteed to the society and the “ESSKAlator” will continue to run.

References

1. Ayeni OR (2017) Femoroacetabular impingement: the pursuit of evidence. Doctoral thesis, University of Gothenburg. Sahlgrenska Academy, Institute of Clinical Sciences
2. Bennis WG, Biedermann PW (1997) Organizing genius: the secrets of creative collaboration. Addison-Wesley, Reading
3. Collins J (2001) Good to great: why some companies make the leap and others don’t. HarperBusiness, New York City
4. Csikszentmihalyi M (1990) Flow: the psychology of optimal experience. Harper & Row, New York City
5. Ericsson KA (1996) The road to excellence: the acquisition of expert performance in the arts and sciences, sports, and games. Lawrence Erlbaum Associates, Mahwah
6. Evers BM (2015) The evolving role of the surgeon scientist. *J Am Coll Surg* 220:387–395
7. Girolamo LD, Ragni E, Viganò M (2018) Basic research toolkit. ESSKA, Luxembourg
8. Graaff JD, CAmeron K, Quinn R, Thakor A (2006) Competing values leadership. Edward Elgar, Cheltenham
9. Handy C (1995) The empty raincoat: making sense of the future. Random House Business Books, London
10. Kay J, Memon M, Rogozinsky J, de Sa D, Simunovic N, Seil R et al (2017) The rate of publication of free papers at the 2008 and 2010 European society of sports traumatology knee surgery and arthroscopy congresses. *J Exp Orthop* 4:15
11. Kay J, Memon M, Rogozinsky J, Simunovic N, Seil R, Karlsson J et al (2017) Level of evidence of free papers presented at the European Society of Sports Traumatology, Knee Surgery and Arthroscopy congress from 2008 to 2016. *Knee Surg Sports Traumatol Arthrosc* 25:602–607
12. Kocaoglu B, Ercin E, Marmotti A, Paschos N (2018) How to present a scientific study. ESSKA, Luxembourg
13. Kodadek LM, Kapadia MR, Changoor NR, Dunn KB, Are C, Greenberg JA et al (2016) Educating the surgeon-scientist: a qualitative study evaluating challenges and barriers toward becoming an academically successful surgeon. *Surgery* 160:1456–1465
14. Laloux F (2014) Reinventing organizations. Nelson Parker, Santa Barbara
15. Mahvi D (2010) Zen and the art of surgery: how to make Johnny a surgeon. *J Gastrointest Surg* 14:1477–1482

16. McChrystal GS, Collins T, Silverman D, Fussell C (2015) *Team of teams: new rules of engagement for a complex world*. Portfolio, London
17. Mouton C, Abat F, Gómez-Barrena E, Padilla-Equiluz NG, Stephen J (2018) *Clinical research toolkit*. ESSKA, Luxembourg
18. Quinn RE, Rohrbaugh J (1983) A spatial model of effectiveness criteria: towards a competing values approach to organizational analysis. *Manage Sci* 29:363–377
19. Reznick RK, MacRae H (2006) Teaching surgical skills—changes in the wind. *N Engl J Med* 355:2664–2669
20. Rogers E, Shoemaker F (1971) *Communication of innovation: a cross-cultural approach*. The Free, Mumbai
21. Runsten P (2017) *Team Intelligence: the foundations of intelligent organizations—a literature review*. In: SSE working paper series in business administration; 2, Stockholm School of Economics
22. Seil R (2016) The making of ESSKA: from an organization to an institution. *Knee Surg Sports Traumatol Arthrosc* 24:2081–2082
23. Turner P (2015) The surgical workforce: generational change and innovation. https://www.youtube.com/watch?v=s_Xy7xUk6CA. Accessed 2 Nov 2018

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