



**INTERNATIONAL ACADEMIC INSTITUTE**

**BOOK OF ABSTRACTS**

**International Virtual Academic Conference**

**Education and Social Sciences  
Business and Economics**

**9 December 2020**

## **IAI Book of Abstracts**

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ISBN 978-608-4881-16-2

## Enhancing the Writing Skills of B1 Level Primary School Students in the Foreign Language using WEB 2.0 Tools

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### Abstract

This research investigates the influence and usefulness of integrating Web 2.0 tools in teaching writing to B1 level students in English and the extent to which the use of Web 2.0 tools motivate students in their writing process. The paper focuses on the hypothesis that students of a B1 level are able to develop their writing skills successfully with the aid of Web 2.0 tools during the English language learning process. For the needs of this research two students who attended private tuition and were preparing for the KPG B1 / B2 May 2020 exams, participated in the research. They were both thirteen years old and belonged to the same language level. Qualitative and quantitative findings were analyzed providing valuable information and suggestions for Web 2.0 tool implementation in English learning classes. The outcome of this research shed light on the influence of technology, and more particularly on the application of Web 2.0 tools and differentiated instruction in the development of the writing skill of these two students.

*Keywords:* technology, action research, differentiated instruction, blended learning, Web 2.0 tools, semi-structured interviews

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## **Development of Franco-Latvian children's bilingualism in Latvia. Does the language of schooling matter?**

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### **Abstract**

Schooling plays a key role in the development of languages in children from bilingual families. This development depends on children's linguistic attitudes and practices, often in response to those present in their environment. Since school is a very influential socialisation body, children generally favour the acquisition or the learning of the language that dominates there. This tendency towards unbalanced bilingualism is all the stronger as the language of schooling is also dominant in the larger sociolinguistic environment. The aim of this paper is to understand the influence of schooling on Franco-Latvian children's choice of preferred language in the Latvian diglossic context. This contribution analyses the cases of four children, aged between 8 and 11, attending school in Latvian, Latvian-Russian or French in Riga, the capital of Latvia. The results of the discourse analysis, which was based on a set of two interviews per child, showed that these children do not favour the language of schooling and sometimes even reject it. Their language choices are not based on the schooling function of languages but rather on the basis of other functions that they attribute to languages inside and outside school – communicative, social, identity and affective functions as well as recreational or formative functions. These results led to a discussion on how focusing on one or more of these language functions in school could influence the development of Franco-Latvian children's bilingualism in the Latvian context.

*Keywords:* bilingual children, schooling, linguistic attitudes and practices, language social and psychological functions

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## **A comparative analysis of a specific type of lexical collocation (light verb + noun) in Croatian, Italian and English languages and its use in classroom teaching of lexis**

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### **Abstract**

The aim of this paper is to provide an overview of one of the most significant aspects of idiomatic use of language, collocations. A special emphasis has been put on a comparative review of the most common Light Verb Constructions consisting of light verbs (cro. *lagani glagoli*, ita. *verbi supporto*) and nouns in Croatian, English and Italian languages. The aforementioned construction is chosen since it is extremely common in the early stages of language acquisition. Moreover, the aim of the conducted contrastive analysis has been to determine overlaps in order to use the examples of positive transfer in teaching lexis (English/Italian – L2), as well as to prevent negative interference such as false analogies. Thus, following the discussion on the results of the contrastive analysis, the relevance of teaching collocations, i.e. presenting the most common collocations simultaneously with new vocabulary will be stressed. In accordance with the above-mentioned, we believe that collocational approach is the most useful and effective in teaching languages.

Key words: lexis, collocational approach, contrastive analysis, second language acquisition

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## Education as Reconstruction of Experience: A Commentary on John Dewey's *Experience and Education*

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### Abstract

In his short, programmatic 1938 work, *Experience and Education*, American philosopher John Dewey argued in favor of reforming educational systems in line with a consistent philosophy of experience. His endeavor was to avoid piecemeal fragmentation of educational aims and methods, and rather to provide a coherent framework in which to address all salient educational issues consistently: subject-matter, role of participants, and organization of the system.

Starting from some insights offered by Dewey in this work, my presentations aims to address the question of how should contemporary educators integrate the two principles, of continuity and interaction of experiences in their work. Unlike Dewey's world, ours is a whole lot more global, and the socialization of truth, as well as the changing stakes of the educational systems, currently struggling with justifying their utility in terms of market-value may make it possible that his criteria are highly demanding and require too many efforts for achieving quality education. In the end, I would like to open for debate the issue whether current education can be what Dewey imagined it would be, i.e. an enrichment of experience and a training in democracy at the same time.

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## Distance Teaching During the COVID-19 Pandemic

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### Abstract

The COVID-19 pandemic that struck the world in the spring of 2020 caused most countries, including Croatia, to switch from classroom to online and distance learning in a very short time. This research was conducted on a sample of 267 primary school teachers and 67 students of Teacher Education. The aim was to determine the impact of students' participation and activities in distance learning on their attitudes towards distance learning. To this aim, a questionnaire for teachers and a questionnaire for students were designed. The research results show that teachers find it statistically significantly more difficult to perceive the transition to the distance learning model compared to students. Both groups spent an equal amount of time on weekly class preparation. The results show students perceive a good internet connection in distance learning more important than teachers. Students have more positive attitudes towards teaching on television compared to teachers because when assessing such teaching model teachers tend to notice mistakes related to the content and teaching methods. Thus, the quality of this model is rated lower by teachers. As an advantage of distance learning, students emphasize temporal and spatial flexibility, yet they lack social contact with professors and colleagues. Too many exercises and homework assignments are cited as a lack of distance learning. Teachers point out that they lacked personal contact with students and colleagues, and they also state the problem of family members writing homework instead of students themselves. The experience of distance learning should become an integral part of the course on teaching methods in order for students to acquire additional teaching competencies.

*Keywords:* distance teaching/learning, teaching on television, didactics of science and society, teachers, COVID-19

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## Underrepresentation of Skin Tone in Surgical Education

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### Abstract

#### **Introduction**

The emergence of the Black Lives Matter movement has prompted healthcare professionals (HCP) and organisations to re-examine their practice for bias. Evidence suggests that curricula taught at medical schools, including the unequal representation of ethnic minorities in medical teaching materials, could potentiate conscious and unconscious bias in future patient care.

#### **Aims**

To assess if skin tones depicted in diagrams and images in commonly used surgical textbooks are representative of the UK population.

#### **Methods**

Five popular surgical textbooks used across the UK medical curriculum were reviewed for patient images, patient diagrams and HCP images/diagrams, and then classified using the Massey-Martin 10-point scale of skin tone. The results were then compared to ethnicity data from the office of national statistics (ONS) and NHS 2019 workforce statistics.

#### **Results**

A total of 1392 images were analysed; 1064 patient images, 257 patient diagrams and 71 HCP images/diagrams. 1071 images (79.6%) depicted persons with the three lightest skin tones (Massey-Martin 1-3), similar to ONS data showing 86% persons in the 'white' ethnic groups. 943 of the 1064 (88.6%) patient images were also represented in this way. However, there was clear over representation in lighter skin tones with respect to patient diagrams, with 251 of the 257 (97.6%) showing Massey-Martin tones 1-3. Similarly, just 20 (0.01%) of all images depicted persons with the three darkest skin tones (Massey-Martin 8-10), despite a 3% 'black' population. 54 of 71 (76.1%) HCP images/diagrams depicted patients with Massey-Martin tones 1-3 despite 34.5% of senior and 34.9% of junior doctors identifying as Asian/ Black.

#### **Conclusions**

Diversity of skin tone is limited in surgical textbooks, particularly in terms of diagrams. This may introduce bias and diagnostic limitations in surgical care. Efforts are required by authors and editors of medical teaching materials to address this.

*Keywords: health, surgery, ethnicity, diversity, equality*

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## FACTORS AFFECTING SCHOOL PERFORMANCE

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### Abstract

This study focused on the assessment of factors that affect the performance of elementary schools in Municipality of Bongao, Tawi-Tawi for the Year 2013-2014. On the basis of the data: School factors, teacher factors and student factors often times affect school. The data revealed that there is significant difference on the perceptions of principals and teachers on the school factors that affected school performance as shown by the mean difference of .34 with t value of 2.402 at p-value .020. There is no significant difference in the levels of the factors that affect the performance of the as perceived by principals and teachers. There is no significant difference between the perceptions of the principals and the teachers on the teachers' and students' factors that affect school. Lastly, there is no significant difference between the perceptions of the principals and the teachers on the teacher and student factors that affect school performance. This study concluded that the school performance were generally often times affected by the school factors, teachers' factors and students' factors. It is further concluded that, there is a need for the school administrators to strengthen school and community relations, develop and enhance teachers' competence in their profession and strengthen students' home and community environment in order to fully develop and revitalize their motivation to learn.

*Keywords:* school performance; primary school assessment; factor analysis.

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## Regulating television viewing amongst teenagers can curb schools' unrest

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### Abstract

Unrests in schools have been used by students over the years as a means to air discontentment with schools' administrations in expressing their grievances. Long exposure to television models that use violence to express anger towards subjects inculcates in the children viewers tendency to emulate. Most governments have stipulated media laws that clearly outline how children should be protected from harmful content. However, implementation of the same is hardly achieved as studies have shown that violent content is aired in masses even in local mainstream stations and worsened by rapid digital arena that gives viewers vast stations to choose from. Unfortunately, most parents are not aware of what their children watch either because they are busy in their careers or hope teenagers are big enough to choose their programs.

The study was informed by social responsibility theory which stipulates that is the role of the law and parents to safeguard from harmful violent content to ensure that they don't grow in aping television models. This study employed descriptive survey design and was carried out in Kiambu County, Kenya involving public secondary schools' students. Stratified sampling was used to get the sample of 398 students to include single sex gender schools and mixed gender schools then random sampling respondents in the selected schools for the quantitative data collection through questionnaires. School administrators in the 7 sampled schools were engaged as respondents for qualitative data through interview guides. Results showed that the television regulating agents had no effect in the unrests in schools implying that parental role and media laws regulation were lacking in moderating the harm caused by violent content thus schools unrest heightening at the expense of poor school grades and destruction of school premises and loss of students lives. Therefore this is an alert to the Ministry of Education to address the grave issue.

*Keywords:* Media regulation, Parental mediation, Co-viewing, Harmful media content, Social responsibility

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## Macprudential Policies and Income Inequality

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### Abstract

We study the effects of the adoption of macroprudential policies (MAPs) on income inequality in developing and former transition economies over the period 2002-2014. Our estimations corroborate a strong positive relationship between the use of the majority of MAPs and the various measures of income inequality. Moreover, policy implications come to the forefront as the use of MAPs in developing and emerging economies, with few exceptions, is regressive, raising a potential public policy trade-off between financial stability and redistribution. Finally, higher levels of globalization and openness and more advanced and deeper financial systems combined with specific MAPs could mitigate the losses in redistribution or even generate significant gains in terms of inequality. From a normative point of view, our results justify the further implementation of liberalization reforms from developing and former-transition economies so as to achieve financial stabilization and avoid any systemic risks in tandem with redistribution gains.

*Keywords:* developing countries, former transition economies, macroprudential policies, income inequality, financial development, globalization

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## Capital Accumulation – Intangible and Tangible Assets in Global Value Chains

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### Abstract

At the microeconomic level, the accumulation of intangible assets is a substantial factor in companies' productivity. In terms of the macro level, intangible assets have a positive effect on economic growth, participation in global value chains (GVC) and competitiveness. The principal purpose of this article is to analyze the far-reaching effect resulting from the accumulation of intangible assets and their outcome on the creation of value-added contained in gross export. Building tangible and intangible infrastructure is the interests of economies to absorb as many new technologies as possible in the highest possible quality. There is a direct causal link that the accumulation of knowledge-based capital has a positive effect on the creation of domestic value-added contained in the country 's gross export. The article will use panel data techniques to analyze the dynamics of capital accumulation and its impact on the creation of domestic value-added contained in gross export and participation in GVC. The database is created based on newly published data EUKLEMS (2019). Our results confirm the importance of the accumulation of intangible capital for the creation of domestic value-added in export. We show that the accumulation of intangible assets is an important driver of countries' participation in global value chains and value-added trade through a positive effect on exported domestic value-added.

*Keywords:* Knowledge- based capital, intangible assets, global value chains, domestic value added

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## Improvement of re-allocation tool for budget planning and execution for COVID-19 health care system financing in Latvia

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### Abstract

The Latvian health care financing system continues its path to the sustainable financing and improvements of budgetary decision making within budget planning and execution continues to be vital. This study aims to review of the application of the re-allocation of financing resources for the health care in Latvia during the health care reform in Latvia and forecast future changes, taking into account the implication of the coronavirus COVID-19. This study examines the impact and significance of budget policy and resource re-allocation decisions that are designed during the first half of 2020 to ensure measures for COVID-19 pandemic. The research used a combination of the case study research, comparative documentary analysis and economic analysis methods and National Health Service data sources to establish evidence of impact. For investigating the impact on budget policies, the research drew on quantitative data assembled and synthesised by health care provider groups with a view to discerning trends in health care financing. Data on payments and financing changes in comparison with previous half-year data provides evidence of implementation, while legal acts for re-allocation of budget fund allows identifying its procedural or institutional gaps. During the 2020 year, COVID-19 ministries were given some budget planning and execution flexibility to respond with additional measures to prevent and manage public threats and consequences related to the spread of COVID-19. Ministries were obliged to finance measures initially from own resources (savings from unused funding) and then from governmental funds for unforeseen events. In addition to the extended funding and the new approach to fund management, it would be possible to improve the overall performance of medical treatment institutions, as well as to ensure patient redeployment, reservation of the capacities within hospitalisation plan and the implementation of related restrictions. Since general taxes should remain the primary source of revenue for financing the health care system, additional powers for the Ministry of Health to reallocate resources are necessary. The findings demonstrate that the budgetary challenges from COVID-19 are a medium-term challenge, not a 2020 challenge and exist at each stage of the budget cycle. COVID-19 highlights pre-existing challenges in the health sector, specifically on equity, performance, resilience, sustainability and the management of risks. Budget strategy improvements for estimating the resources needed in the health sector to achieve high-level priorities including assessments linked to needs and outcomes over the medium term, establishing parameters on resilience and sustainability and reviewing existing expenditures based on the adaptation of performance frameworks to reflect changes to the operating environment and adapting spending reviews is recommended.

*Keywords:* Health care financing, Budget policy, COVID-19 pandemic impact, budgetary decision making

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## **Agricultural sector in V4 countries – Input-output approach**

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### **Abstract**

The agricultural sector in the Visegrad Four countries has its own specifics and its position has changed significantly compared to the previous socialist system. Moreover, the transformation of processes of agricultural and food production of Visegrad Four countries brought many changes in the area of the material and production base in the agri-food sector, the arrival of foreign investors, the creation of new organisational structures, a change in the production specification of farms through to a drastic decline in the number of workers in the agricultural sector. The paper is devoted to an analysis of the changes and effect of agricultural sector on employment creation in the Visegrad Four countries. Our analysis is based on input-output model using input-output tables from WIOD database. The results indicate a declining trend of workers in all analysed countries in the period. The results show significant declining multiplier effect on job creation although the position of agricultural sector in V4 countries (mainly in Poland).

*Keywords:* agricultural sector, employment multiplier, input-output analysis, Visegrad Four countries.

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## **Evaluation of financial performance of small family business for the purpose of efficient financial decision-making of owners**

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### **Abstract**

Owners and managers are "naturally" interested in the financial health of the company. In addition to them, it is of interest to other interest groups such as potential investors, creditors and others in the field of making quality financial decisions. The information platform for financial decision-making is the information contained in the financial statements of the company. Measuring the financial performance of small family businesses based on accounting information is important to make quality decisions by the owner, which is the focus of this paper. This research was conducted to give a detailed view of the analysis of financial statements of small family businesses and the practical aspects of its application. The business results of a small family business are analyzed using selected financial indicators. The paper uses the method of content analysis and one of the methods of financial analysis known as "ratio analysis".

*Keywords:* small family businesses, financial statements, performance, evaluation, analysis, financial decisions, owner

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## **Trends in gender and regional disparities in the Romanian pension system - Analysis of the relation of working time to retirement time across the NUTS 2 regions**

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### **Abstract**

Demographic change is leading to cost increases in Romania's pension systems. One of the political response strategies is to increase the statutory retirement age in the pension system. This measure is intended to reduce cost burdens and adapt the retirement age to increased average life expectancy. This political measure confronts Romania with regional and gender-specific challenges. Accordingly, this paper takes a regional perspective, which analyses the effects of the increase of statutory retirement ages at NUTS 2 levels, differentiated by gender. The evaluation criterion was the relation of working time to retirement time in relation to an average adult lifespan. This criterion was used to examine whether and to what extent regional and gender disparities exist at NUTS 2 levels and whether these disparities should be considered in policy measures.

The central result is that the further increase in statutory age limits is unfounded because of pronounced disparities between women and men. Women spend a much longer time in retirement than men, measured by the average adult life. This finding illustrates the gap in life expectancy between the sexes in Romania. The current statutory retirement age intensifies this effect in the pension system. First of all, the average life expectancy, especially for men, would have to be increased if the retirement age is to be raised further. Furthermore, small regional differences for women as well as men regarding the participation in pension life could be identified. These would have to be eliminated if unintentional distributional effects were to be avoided. In this context, it is recommended that further political measures be implemented to address gender and regional disparities.

*Keywords:* policy analysis, regional economics, gender research, pension reform, statutory retirement age.

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## Krylov methods: Applications in Petroleum Engineering

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### Abstract

A big part of linear numerical algebra, studies essential problems presented by large and sparse linear systems. The large size of the systems leads to difficult implementation and its sparsity makes a variety of numerical and direct methods, slow and inefficient. Krylov subspace methods have shown to be a group of methods that are very effective in numerical solution approximation for this type of systems, based on their orthogonality and minimization properties. Krylov methods are often applied after discretization of PDEs continuous model, which lead to solving large and sparse linear systems.

This paper work describes the derivation of the mathematical model using PDEs to represent Fluid Flow in petroleum reservoirs usually containing water, gas and oil. This equation is a parabolic linear partial differential equation of second order known as Diffusivity Equation. So, we also will study the nature of the analytical and numerical solutions based on their initial and boundary conditions for slightly compressible fluids flow. The discretization method used is FEM (Finite Element Method) and implementation are made in Matlab software since it has a very suitable toolbox for it. Numerical methods used are based on the Arnoldi iteration of the Krylov subspace like GMRES.

*Keywords:* Petroleum engineering, Krylov methods, GMRES, FEM, PDEs, Arnoldi iteration.

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## SPACE DEBRIS AND SECURITY IN SPACE

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### **Abstract**

Modern technology relies on our ability to deploy and operate various spacecraft in orbit. Due to the flaws of early space technology, accidents, sometimes negligence, but also due to our increasing activity, the vicinity of our planet became more and more polluted with artificially made space junk. The problem reached such magnitude that according to some projections, a future accident may cause a setback lasting for years or even make space travel impossible. Strongly connected to this field, we must also examine the natural space debris field which surrounds Earth, ranging from micrometeorites just a few millimeters in diameter to larger objects which cross our planet's path. Naturally, these objects can endanger equipment in space. Nations, research organizations and private corporations try to find solutions and possible counter-measures to tackle these challenges. However, due to the dual-use nature of space technology, tools and methods able to remove or destroy objects near our planet could also damage sensitive military systems, like the GPS. Therefore any such developments and events are examined meticulously by different institutions and sometimes classified as possible anti-satellite weapons (ASAT). The increased investment in space situational awareness (SSA) capabilities shows the growing importance of protecting space assets from natural threats, accidents, or possible adversaries.

*Keywords:* space debris, anti-satellite weapons, GPS, SSA.

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# The Politicization of Attitudes Towards Preventive Behavior and Vaccine Acceptance during the First Wave of the COVID-19 Pandemic in a Post-Socialist European Country: the Case of Slovenia

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## Abstract

Research shows that preventive behavior and COVID-19 vaccine acceptance during the pandemic can be strongly influenced by political ideology. Studies suggest that left-wing individuals are more likely to follow public health recommendations and are more likely to intend to get vaccinated against COVID-19 than right-wing individuals. However, most earlier studies were conducted in North America and Western Europe. The aim of our study was to analyze the politicization of attitudes towards preventive behavior (including social distancing) and COVID-19 vaccine acceptance during the first wave of the pandemic in Slovenia, a post-socialist, Central-European country. Through an online survey in March and April 2020 (N = 826; Mage=33.2 years), a non-probability, cross-sectional sample was collected. When controlling for three groups of predictors (demographic, socioeconomic, and health status) in Model 1 of our regression analysis, we found significant ideological differences (left orientation vs. others) in attitudes towards preventive behavior and in COVID-19 vaccine acceptance. Political ideology had a stronger impact on vaccine acceptance than on attitudes, with left-oriented respondents expressing significantly higher levels of vaccine acceptance and protective attitudes. Perceived threat was included in Model 2 and it fully mediated ideological differences in attitudes towards preventive behavior, but only partially mediated COVID-19 vaccine acceptance. When general vaccine acceptance was included in Model 3, which explained 29.8% of variance in attitudes and 83% of variance in COVID-19 vaccine acceptance, the ideological differences in COVID-19 vaccine acceptance were additionally reduced. Implications of the results are discussed.

*Keywords:* preventive COVID-19 behavior, social distancing, COVID-19 vaccine acceptance, political ideology, politicization.

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## **Creativity in solving library problems and finding user-oriented solutions - analysis of examples from the world**

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### **Abstract**

Currently, the customer is more and more often a central figure in business, medicine and public administration. What is important is what the client wants or needs, not what the companies want to give (impose). This forces organizations and companies to adjust their offer and their mode of operation to the customer. The service provider must convince the customer that he will get real benefits when he uses his services or products. Therefore, methods and approaches are needed that will allow service providers to look at the world through the eyes of the client in order to best match their offer to him. Design thinking is such a method. It is a process that relates to the cognitive, strategic and practical processes by which design concepts (propositions for new products, services, etc.) are developed by designers and / or design teams. Design Thinking derives from the Human-Centered Design trend. The purpose of this method is to solve problems, create new, innovative products, services or processes by determining the real needs of a single user. The key word in this approach to probes is "creativity". The presentation will discuss the application of the method of creative problem solving and designing new solutions on the examples of libraries from different countries.

*Keywords:* library, creative problem solving, design thinking, case study, Human-Centered Design

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## **The contemporary role of libraries as hubs of innovation, creativity and knowledge in the service of local communities. The example of the Future Library Network**

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### **Abstract**

Libraries are acknowledged for their traditional role in collecting and archiving documented heritage, preserving cultural and historical memory and promoting knowledge. However, international experience has shown that conventional practices are no longer sufficient; the library of the 21st century should take in a new role as cultural institution. This new type of libraries though, should not be viewed as an alternative to the "traditional" ones, but a complement that will add to the concept of "Library" new dimensions and possibilities. The paper examines the contemporary role of libraries as hubs of innovation, creativity and knowledge in the service of local communities. Contemporary libraries redefine the mission of the "traditional" library, enhance its activities and services with the ability to integrate into the community and undertake an active role within the educational, cultural and social status. Not only do they meet the needs for knowledge of its users and provide them with useful information in their daily lives, but also create for them an interactive cultural and educational environment.

It draws mainly, on the transformation of libraries from neutral and often indifferent public spaces to unconventional cultural spaces, which encourages innovation and creativity, while supports human communication and exchange of ideas and social cohesion promotion.

The paper presents as case study the Future Library (Greece), a non-profit organization which contributed to the development of a sustainable network of public & municipal libraries across the country and reinforced the significance of libraries as "*knowledge, creativity and interaction-promoting institutions*", positively affecting the life of local communities.

**Key words:** Library, contemporary role, cultural space, innovation, creativity, knowledge, community

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## The States in Digital Era: Internet Governance and Improving E-Democracy

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### Abstract

This paper will make theoretical overview of internet governance and its implementation as a global politics goal for the states.

As known, internet governance is the complementary development and application by governments, the private sector, civil society and the technical community, in their respective roles, of shared principles, norms, rules, decision-making procedures, and activities that shape the evolution and use of the Internet.

In the paper is given focus of digitalization as a common global political priority for the states, as well as theoretical descriptive overview of the shared recommendations from the United Nations and Council of Europe related to implementation on internet governance.

The paper will emphasize as well on building on line democracy, as well as on improving and straightening e-democracy, protecting human rights and rule of law in digital era.

At the end of the paper, we conclude that the power of Information and Communication Technologies have a great potential to accelerate human progress, to ensure that public policy for the Internet is people-centred in order to build democracy online, to protect Internet users, and to ensure respect and protection for human rights online. We will also conclude that in future is also important for the states to ensure that public policy for the Internet is people-centred in order to build democracy online, to protect Internet users, and to ensure respect and protection for human rights online.

**Keywords:** digital government, on line democracy, global interconnectedness, human progress, freedom of expression

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## **A Synoptic View on Organizational Change Theories applied on Current Developments in the Automotive Industry**

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### **Abstract**

This paper links aspects of the change theory with the adaption of the business models of companies in the automotive industry to their economic environment which is characterized by fundamental change requirements due to upcoming megatrends. A comprehensive model of organizational change is developed merging different basic theories of change into a synoptic approach to explain organizational change over time. The interdependencies between the basic theories will be used to link the different theoretical approaches. The practical impact of the different theoretical aspects which explain organizational change is then shown looking at some of the current world leaders in the automotive industry.

*Keywords: organizational change, change management, automotive industry*

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# The Determinants of Firm Investments in Research and Development

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## Abstract

In this article we investigate the political and industrial determinants of firm investment in Research and Development. We use data from the European Innovation Scoreboard of the European Commission for 36 countries in the period 2000-2019. We found that firm investments in Research and Development are positively associated with “*Linkages*”, “*Innovation Index*”, “*International Co-publications*”, “*Medium and high-tech product exports*”, “*Non-R&D innovation expenditure*”, “*Turnover share large enterprises*”, “*Human Resources*”, “*Intellectual Assets*”. Firm investments in Research and Development are negatively associated to “*Foreign doctorate students*”, “*Knowledge-intensive services exports*”, “*Private co-funding of public R&D expenditures*”, “*Basic-school entrepreneurial education and training (SD)*”, “*New doctorate graduates*”, “*Trademark applications*”, “*Tertiary education*” “*Design applications*”, “*Lifelong Learning*”, “*Foreign-controlled enterprises – share of value added (SD)*”, “*Total Entrepreneurial Activity (TEA) (SD)*”.

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# Workplace Flexibility as Humanistic Ideal and Neoliberal Ideology

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## Abstract

This contribution advances theorizing on workplace flexibility from a critical perspective in work and organizational psychology and human resource (HR) management. Functional, temporal, spatial, numerical, and financial dimensions of organizational flexibility are linked to adjustments in HR inputs. On the individual level, these translate into changes in work tasks, working schedules, location, paid work hours, and income; typically, determined by employers (management) based on capacity-oriented considerations. Employee-oriented flexibility introduces a counter-concept, where variabilities in HR practices are (individually or collectively) controlled by employees. An overlapping distinction describes the creation of flexibility through top-down, broad-based, formalized policies and programs (working time systems, work organization) versus bottom-up or hybrid individualized and informal approaches (proactive changes, personalized agreements). Investigated within this framework is the construct of idiosyncratic deals (i-deals), a hybrid type, bottom-up initiated, top-down authorized flexibility, defined as individually negotiated, mutually beneficial agreements on non-standard working conditions. Incorporating recent analyses of neoliberal ideology, i-deals can reflect institutional logics of individualism, competition, and instrumentality—versus humanistic values of individuation, solidarity, and emancipation. Constructed ideal-type vs. anti-type i-deals exemplify: self-actualization vs. self-reliance (needs vs. interests); common good vs. tournament situations (triple-win vs. winner-take-all); social transformation vs. economic efficiency (development vs. performance). Contrary implementation strategies include: humanization vs. rationalization goals; egalitarian vs. elitist distribution; relational vs. transactional resources; need-based vs. contribution-based authorization; procedural vs. distributive justice; supplementing vs. substituting collective HR practices. Humanistic conceptions of i-deals introduce employee-oriented flexibility, but the neoliberal paradigm reproduces anti-types as vehicles of economic rationalization and divisive labor-political power tactics. Attention require subjectified forms of employee self-exploitation and marketing orientation. Recommendations include broadening theory and refining instruments to contrast antagonistic modes of workplace flexibility.

*Keywords:* Organizational flexibility, neoliberal ideology, human resources, humanistic management, idiosyncratic deals

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## The importance of the port of Rijeka within the Pan-European corridor V

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### Abstract

In this paper, the role of seaports in the transport system was explained, as the hubs which connect various transport modes (road rail, sea) for both cargo and passengers. The Pan-European Corridor V was analyzed, as a part of the Pan European Transport Network, consisting of seaports, roads and railroads, established in order to facilitate the European and Pan European traffic. The statistical data for port of Rijeka, the largest Croatian cargo seaport was compiled, emphasizing the importance within the Croatian seaport system, and within the Pan-European Corridor V. The Port of Rijeka was compared with the Ports of Venice, Trieste and Koper, which also lie at the Pan-European Corridor V. Finally, the analysis of the Corridor V branches B (Port of Rijeka) and C (Port of Ploče) was conducted.

*Keywords:* Maritime transport, Pan-European Transport Network, Corridor V, seaports, Port of Rijeka

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## Electronic Transportation Management System Development in the Port of Rijeka

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### Abstract

When transportation systems are inadequately managed, increased costs or missed opportunities may arise. Developed seaports should aim to implement the platforms that allow smooth electronic data exchange, such as electronic Transportation Management Systems. One of the disadvantages of the existing electronic Transportation Management Systems in the Port of Rijeka is the inability of remote user access. This can be partially remedied in several ways (VPN connections, etc.), but the idea was to allow users to both work from remote locations and to use mobile devices. As a part of the research, an improved Transportation Management System in the port of Rijeka was suggested, with the ability to work from remote locations and with the support for mobile devices, using cloud delivery. Such electronic Transportation Management System should enable users to optimize their business processes by connecting various seaport stakeholders, providing tangible sustainability benefits (mainly ecological and economic). Efficient communication between all the participants in the cargo chain will reduce the negative effects of cargo traffic on the environment, such as idle time and traffic jams. The optimization of transport routes and the simplification of the entire transport process will have a long-term impact on the operations in the Port of Rijeka. Besides the positive effects on companies, it will also benefit the employees and the local community.

*Keywords:* Electronic Transportation Management Systems, Seaports, Port of Rijeka, Digitalization, Business Process Optimization

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## The role of Port Authority in seaport governance

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### Abstract

Both the governments and port authorities have a significant impact on the maritime transport sector in general, and seaports in particular. In this paper, the focus was on the port authorities and their role in seaport governance. While central governments are focused on macroeconomic goals (such as economic growth and full employment) through active port policies, port authorities usually focus on financial and operational activities within the seaports. Although the common form is a local port authority, port authorities may also be established at the national, regional and provincial level. One of the core responsibilities of a port authority is to develop and maintain a seaport that is safe, sustainable and competitive. The roles of port authorities have evolved over time: at the beginning, they were usually considered only as regulators and landlords. However, port authorities possess the ability to evolve into real digital hubs and neutral data managers, which ultimately leads to the optimization of logistics processes, and more efficient use of transport infrastructure. In this paper, the theoretical frameworks of seaports, seaport governance and port authorities were provided. The authors have analyzed the differences between various types of port authorities and seaport governance models, emphasizing the importance of port authorities in port governance.

*Keywords:* seaports, port authorities, seaport governance, governance models.

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## Intensive care unit nurse's workload and quantitative determination of patient care classes

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### Abstract

**Introduction.** Nurses' contribution is an important determinant of clinical recovery outcome. Health care quality improvement requires instruments for adequate evaluation of patients' clinical conditions and corresponding estimated health care. Therapeutic intervention scoring system provides evaluation of nurse's workload, estimation of patient related activity relative to the total working time, clinical condition severity etc. Evaluation of workload and required intervention amount attempts to forecast scope of necessary time and competence resources required for improvement of patient safety and care quality improvement, providing basis for adequate health care personnel allocation in hospitals.

**The aim** is estimation of intensive care unit nurse's workload and quantitative determination of patient care classes.

**Study methods:** quantitative (TISS-76 scale). Research participants - nurses of intensive care units (n=539). Results of the study showed that increasing proportion of therapeutic intervention measured by TISS score, implies direct correlation between clinical condition severity and amount of therapeutic interventions.

**Results.** Using the TISS-76 scale, certain classes of patient care were defined. The highest number of patients in care class III was 297 or 55%, for whom the average number of manipulations during the day was 25. The number of patients in care class II was 235 or 44%. The lowest number of patients in care class IV was 7 or 1%. The nursing/patient ratio during the study was on average 1: 2.8 - almost three times higher than the recommended norm for patients with care classes IV and III. There was a considerable variety of care activities and a variety of manipulations in the intensive care unit's nurses. The average maximum number of TISS points was 2 times higher than the average minimum number of TISS points.

**Keywords:** intensive care unit, nurse, critically ill patients, workload, therapeutic intervention classes, TISS.

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## **Behaviour and knowledge of dental flossing among sample populations in Thailand between persons receiving and not receiving dental clinic services.**

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### **Abstract**

Cleaning an oral cavity by only brushing cannot help removing all food debris and bacteria. Dental floss can help to remove plaque, tartar from the inaccessible brushing area. The research team conducted a survey using an online questionnaire in Google form reflecting behaviour and usage of dental flossing among 281 persons of sample populations in Thailand who are receiving and not receiving dental clinic services. The results can divide into two sections. Firstly, flossing behaviour, 96.44 percent of samples have risk behaviours due to making food scraps, which could be led to cavities problem. With 139 people still flossing, which is 62.38 percent of the people who used dental floss, we can divide the information into two groups which are 102 people who go to the dental clinic and 37 people who do not go to the dental clinic. The ratio of those two groups, accounting for 58.62 percent of people who received dental services in a year and 34.57 percent respectively. Secondly, understanding of dental flossing, it was found that 99 responders 'understood'; however, only 31 of them used it correctly, which can calculate as 31.31 percent. Including those who answered 'not really' and answered 'did not understand', only 14.28 percent were used correctly. As a result, it can be concluded that most of Thailand people do not know the correct ways of dental flossing. Furthermore, people who attend dental clinics not only have correct oral care hygiene habits but also have a higher rate of using dental floss.

*Keywords:* dental floss; knowledge; usage; behaviour; oral care hygiene habits; understanding

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## **A systematic review of low-cost simulation models in ENT surgery**

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### **Abstract**

#### Introduction:

Simulation training has become a key part of the surgical curriculum over recent years. As well as increased costs to surgical training, current trainees face reduced operating time as a result of the COVID-19 pandemic, creating a need for low-cost simulation models in ENT surgery.

#### Material and methods:

A systematic review of the literature was performed using multiple databases. Each model included was assessed for the ease and expense of its construction, as well as validity and educational value. Reviewers assessed articles with the use of a standardised proforma. Models produced using 3d printing or Virtual Reality technology were excluded.

#### Results and analysis:

A total of 18 low-cost simulation models were identified, relating to otology, head and neck surgery, laryngeal surgery, rhinology and tonsil and quinsy surgery. 94% (17/18) of the models identified could be constructed from materials costing <20 USD (\$). In only 4 of these models (22.2%) was an attempt to demonstrate the educational impact of the model made. Validation was rarely formally assessed, with only one model (5.6%) validated over the three domains of face, content and construct validity.

#### Discussion:

More efforts are needed to standardise validation methods and demonstrate the educational value of the available low-cost simulation models in otorhinolaryngology. Only one model for sinus surgery was suitable to be recommended by the authors for use in training.

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## Assessing Consent Quality in Elective Arthroplasty

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### Abstract

#### **Introduction**

Improper consent is a major cause of litigation within health care authorities. Within the United Kingdom National Health Service, 4% of all surgical negligence claims are attributable to improper consenting, with an average pay out of approximately £40,000 per claim. Therefore, not only does it represent substandard clinical practice but it has major financial implications too.

#### **Method**

We performed a retrospective analysis of the 100 most recent elective arthroplasties (50 hips and 50 knees) at a district general hospital in the South of England between 17/01/2020 and 11/03/2020. We reviewed both clinic letters and consent forms. The BOA (British Orthopaedic Association) endorsed consent proforma was used as a comparison standard. This gives specific risks which should be discussed with a patient and are stratified by incidence in to “common” (incidence 2-5%), “less common” (incidence 1-2%), and “rare” (incidence < 1%).

#### **Results**

In 40% of hip arthroplasty clinic letters and 20% of knee arthroplasty clinic letters there was no mention of a risk discussion, and of the remainder less than half mentioned specific risks. On reviewing the consent forms, data was gathered related to each specific risk. To then allow for a meaningful overview consent forms were reviewed and graded dependent on the proportion of the risks mentioned: “good” (>80%), “fair” (50-80%), “poor” (<50%). 39% of consents were rated “good”, 56% “fair” and 5% “poor”.

#### **Conclusion**

This study has shown that the classic consent procedure for elective arthroplasty falls somewhat short when compared to the BOA’s endorsed standard, exposing the clinician and trust to medicolegal challenges. Possible strategies to improve this include consenting in clinic rather than the ward, standardised proformas and electronic consent.

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# The Future of Patient Information improvement using QR Codes

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## Abstract

### Introduction

Consent is a multi-stage process and patient information forms an essential component to the patient's experience. Patient Information leaflets (PILs) help inform patients, providing time for reflection between decision making. PILs are usually paper copies, however most patients lose them within the first 24 hours and never refer back to this information again.

Our solution: A QR code that links directly to an electronic copy of the trust leaflet, which is automatically downloaded in seconds and ready for viewing anytime on their device.

### Methods

QR codes were generated for each of the electronic leaflets available in the ENT department. Patients scanned the relevant leaflet QR code ready to be viewed at their convenience. 20 outpatients of a varied age range were surveyed on their experience.

### Results

95% of patients had never been online to view electronic copies of leaflets previously. All patients agreed an environmentally friendly method was an advantage. 90% of patients referred back to the electronic leaflet and advocated its use.

### Conclusion

QR codes provide a simple, quick, cost effective and environmentally friendly alternative of delivering patient information. This empowers patients to revisit and reflect on information provided, facilitating well-informed decision making and a higher level of patient-centred care.

*Keywords: Medicine, Patient Care, ENT, Improvement, Patient Safety*

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# Gradenigo's Syndrome with Periorbital Cellulitis: Our Management of a Rare Presentation

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## Abstract

### **Background**

We present an unusual case of right-sided Gradenigo's syndrome with concurrent left sided periorbital cellulitis in a 22-month patient originating from an upper respiratory tract infection. Gradenigo's syndrome is a triad of suppurative otitis media, diplopia due to ipsilateral abducens nerve palsy and ipsilateral retro-orbital pain due to trigeminal nerve involvement. We highlight the necessity of a thorough history and examination with prompt sub-specialty referral and a multi-disciplinary approach in the management of this condition.

### **Case History**

A 22 month old female patient presented to a tertiary referral hospital, with a 2 day history of fever, cough, coryzal symptoms, oedema of the right upper eyelid and a discharging left ear. Clinical examination identified a left sided ophthalmoplegia, an absent left lateral gaze combined with purulent left otorrhea. This raised suspicion for petrous apex involvement and a diagnosis of Gradenigo's syndrome. CT head with contrast reported fluid within the left maxillary sinus, petromastoid air cells, external auditory meatus and middle ear.

### **Management**

IV antibiotics were commenced with joint care under the paediatric, ENT and ophthalmology teams. Following 48 hours without clinical improvement a left cortical mastoidectomy and grommet insertion was undertaken. 24 hours following surgery, there was marked improvement in ophthalmoplegia and an improvement in abducens nerve palsy. The patient was subsequently discharged 5 days from admission and 3 days post operatively.

### **Learning Points**

- Gradenigo's syndrome and Periorbital cellulitis concurrently are uncommon complications of upper respiratory tract infections.
- Thorough history and clinical examination is vital in order to identify subtle signs that may be missed, followed by prompt specialist referral.
- Patients should have hourly neurological observations to monitor for intracranial pathology, progression of which should be managed with early surgical intervention.
- Management requires co-ordinated multi-speciality input with clear communication in order to provide safe patient outcomes.

*Keywords:* Medicine, Surgery, ENT, Paediatrics, Diagnosis, Management, Rare

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