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USING VARK APPROACH FOR DESIGNING E-LEARNING ENVIRONMENTS

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The purpose of this study is to show some parts of development framework to identify students learning styles and combination it automatically. This system is based on VARK learning style model and VARK questionnaire to measure students' learning styles, it is hosting by internet to help students to use it. Learning styles are personal traits that affect how students relate with their learning environment, peers, and instructor. Four of the most popular are reading / writing, visual, auditory and kinetic, which used by students to gain information. Teachers can put together these learning styles into core curriculum activities so that students can succeed in their classes. This study has used a sample of participants that consisted of 50 of engineering students from a private university, Ankara, Turkey. In addition, this study contains, an experimental design with a pre-post test control group was utilized. The results show that distribution for t-test for two groups (Control group and Experimental group) was normality distribution and we conducted reliability analysis to validate the t-test instrument, for this instrument Cronbach alpha was 0.80, it was determined that the difference in mean scores between the experimental group and the control group was significantly in help of the experimental group and the achievement level in the experimental group, which applied the VARK teaching model, was higher compared to the control group.

Keywords: e-learning, adaptive learning, learning styles, vark learning style model
DETERMINATION OF SIX RESISTANCE GENES (LR-9, LR-24, LR-25, LR-29, LR-50 AND LR-67) AGAINST WHEAT LEAF (BROWN) RUST IN EIGHTEEN BREAD WHEAT VARIETIES USING MOLECULAR MARKERS

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Wheat leaf rust (brown) caused by Puccinia triticina is a fungal disease and it is very destructive on winter wheat in temperate zones. It affects wheat stems, leaves and seeds. The unhealthy and expensive chemical fungicides are widely used to fight against wheat leaf rust disease. The improvement of wheat cultivars including resistance genes is an alternative fight method instead of chemical fungicides. The resistance genes against wheat leaf rust are named as Lr genes. Lr resistance genes in wheat have been detected by the different DNA-based molecular markers. In this study, detection of some Lr genes (Lr-9, Lr-24, Lr-25, Lr-29, Lr-50 and Lr-67) was carried in eighteen winter bread wheat varieties (Bolal 2973, Demir, Kutluk, Kırcaş 66, Harmankaya 99, Müfit Bey, Naci Bey, Pehlivan, Tosun Bey, Alpu 01, Soyer, Yayla 305, 4-11, Sönmez 01, Bezostaja-1) using the SSR (microsatellite) molecular markers. The amplified fragments using PCR were separated on 1.3% agarose gel containing ethidium bromide (0.5 μg/ml). Gels were visualized under UV light and digitally photographed and analyzed. The obtained specific DNA bands for each Lr gene were scored as present or absent for detection of resistance genes in wheat varieties. We observed that some wheat varieties including Lr genes. These wheat varieties included these resistance genes as separately or together. The obtained data from analysis results will contribute the development of resistant wheat varieties against wheat leaf rust disease.

Keywords: wheat leaf rust, bread wheat, Lr resistance genes, molecular markers, pcr
INTERNATIONAL CONFERENCE ON RESEARCH IN EDUCATION AND SCIENCE (ICRES)
April 28 - May 1, 2018, Marmaris, Turkey

Abstract Book

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DETERMINATION OF SOME RESISTANCE GENES (YR-7, YR-9, YR-15, YR-24, YR-32 AND YR-36) AGAINST YELLOW (STRIPED) RUST IN EIGHTEEN BREAD WHEAT VARIETIES USING MOLECULAR MARKERS

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Yellow rust is a dangerous disease caused by Puccinia striiformis that is a fungal pathogen. P. striiformis reduces crop efficiency and causes serious economic losses in wheat cultivation. Nowadays, some chemical fungicides are extensively used to fight against yellow rust, but these chemicals are not healthy and economic. The wheat cultivars including resistance genes against yellow rust are an alternative fight method instead of fungicides. The resistance genes against yellow rust are called as Yr genes and a lot of Yr resistance genes in wheat has been detected by some DNA-based molecular markers. In this study, detection of some Yr genes (Yr-7, Yr-9, Yr-15, Yr-24, Yr-32 and Yr-36) was carried in registered eighteen wheat varieties (Bolal 2973, Demir, Kutluk, Kirac 66, Harmankaya 99, Mutfit Bey, Naci Bey, Pehlivan, Tosun Bey, Alpu 01, Soyer, Yayla 305, 4-11, Sönmez 01, Bezostaja-1) using the molecular (microsatellite) markers. The PCR-amplified fragments were separated on 1.3% agarose gel containing ethidium bromide (0.5 μg/ml). Agarose gels were visualized under UV light and digitally photographed for analyses. The obtained specific DNA bands using PCR method for each Yr gene were scored as present or absent for detection of resistance genes in wheat varieties. The analysis results showed that some wheat varieties included different Yr genes as separately or together. The obtained data from this study will contribute the development of resistant wheat varieties against yellow rust disease.

Keywords: bread wheat, yellow rust, yr resistance genes, molecular markers, pcr
ANALYTICAL QUANTITATIVE STUDY FOR FORECASTING METHODS OF THE NUMBERS OF STUDENTS IN PALESTINIAN SCHOOLS

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Qou

The forecasting process of the total number of students in Palestine contributes in studying the future educational needs by government and policy makers. The more accurate the forecasting, the more it contributes in saving time, effort, and money when providing educational services. It also contributes in providing other valuable information such as buildings, human and financial resources, and educational plans required. Since these services rely heavily on the accuracy of the forecasting, choosing an inappropriate method will result in unrealistic predictions that may lead to an increase or decrease in budgeted costs, and ultimately to a failed planning process. In this paper, six mathematical forecasting methods were discussed, then utilized to forecast the number of students for a specific number of years. In order to compare and evaluate the performance and accuracy of the methods, the Mean Absolute Deviation (MAD), Mean Absolute Percent Error (MAPE), and Root Mean Square Error (RSME) common measurements were used to find the most accurate and suitable method to the Palestinian reality. The study finds that the exponential method is the most accurate and suitable to the Palestinian reality, and it recommends that not to use the same method to forecast the student numbers for periods longer than a decade.

Keywords: forecasting population, total student numbers, forecasting accuracy
TEACHING TECHNIQUES PREFERRED BY SCIENCE TEACHER CANDIDATES

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A technique, defined as an all of methods which are used in art, science, and field of the profession has an important place in planning and implementing teaching activities. Preservice teachers' preferences on teaching techniques inform about what kind of learning and teaching activities they plan on in the future. The purpose of this study is to determine what priority teaching techniques are preferred by science teacher candidates. For this purpose, the opinions of the fourth-grade students who were educated in the department of science teachers were used as data. The structured form, one of the qualitative data collection techniques, has been used to collect data. Students have expressed their thoughts on the techniques they think they will use in the future. The opinions collected from 23 students were analyzed thematically by the Nvivo program. As a result of the analysis, it was revealed that the first priority of the teacher candidates was teaching techniques with the group, and the result that they would prefer the expression technique more than these techniques emerged. They also stated that they would also use non-classroom teaching techniques. One of these techniques, the educational trip technique, has emerged as the preferred choice.

Keywords: teaching techniques, science education, teacher candidates
ONLINE DATA COLLECTION AND PRIVACY

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There are various methods to collect data for studies. Some researchers choose to collect their data through paper-pencil form while others choose to use computers. Researchers who try to collect data via computers tend to use online survey services like Google Forms, Survey monkey etc. Data collection tools are transferred to online form then researchers send the provided link to their study group and expect people to join the study. This research aims to examine the privacy policies of those online data collection services and compare them. According to this aim, privacy policies of 10 online data collection services have been examined. A control list has been developed and data collected independently by researchers then observations are compared. Descriptive statistics used for data analysis. The results will be evaluated in the light of the findings.

Keywords: online data collection, privacy, research
UREA CONTAINING COATED CU AND ZN: A POTENTIAL FERTILIZER FOR BETTER GROWTH AND N-UPTAKE IN RICE

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Micronutrient deficiency is prevalent worldwide hence an obstacle to attain the healthy crop growth and eventually the yield. Acidic soils of Malaysia are also in same incidence of micronutrient insufficiency because of subsidized (macronutrients) fertilizer practices. Routine fertilizer practices without accessing nutrient contents in the soil, may affect on the growth and quality of rice plant. In this regard a pot experiment was conducted on the selected soils of main rice growing areas of Malaysia (Kedah and Kelantan); to evaluate the effects of Cu and Zn coated urea on rice growth and N-uptake. Copper (3 & 5 kg ha\(^{-1}\)) Zn (7 & 10 kg ha\(^{-1}\)) as single and combined together, enfolded with coated and un-coated urea along with the recommended doses of NPK; 140, 70 and 70 kg ha\(^{-1}\) respectively were applied. Application of coated urea in combination of Cu and Zn had positive effect on all the growth parameters, chlorophyll contents and N-efficiency in acidic soils. Mean comparison between treatments showed, the significant effect of combined (Cu and Zn) coated urea as compared to individual surface application of Cu and Zn. The growth parameters increment was recorded by 30-40% over control. Furthermore, the N, Cu and Zn contents in the soils along with chlorophyll contents in rice plants were also increased significantly (p<0.05) in combined Cu and Zn coated urea applied soils over control. This increment in growth parameters is an evidence for better rice yield.

**Keywords:** coated urea, copper, zinc, paddy, acidic soils
DETERMINATION OF GENOTOXIC EFFECTS OF HEXYTHIAZOX ON WHEAT (TRITICUM AESTIVUM) ROOTS

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Hexythiazox ((4RS,5RS)-5-(4-Chlorphenyl)-N-cyclohexyl-4-methyl-2-oxo-1,3-thiazolidin-3-carboxamid) is a chemical substance extensively used in agriculture as acaricide (insecticide) and is known to be very effective on the red spider (Arachnida). Until to date, genotoxic effects of this pesticide on plants have not been investigated. In this study, we aimed to determine genotoxic effects of hexythiazox on wheat (Triticum aestivum) by using ISSR-PCR analysis. The different doses (10, 25, 50, 75 and 100 ppm) of hexythiazox were performed on germinated T. aestivum roots for 24, 48 and 72 hours. DNA samples were isolated from wheat roots using classic CTAB method. DNA fragments were amplified by PCR using 10 ISSR (inter simple sequence repeat) primers. The PCR products were separated on 1.2% agarose gel containing ethidium bromide (0.5 μg/ml). Agarose gels were visualized under UV light and photographed with the digital camera for analyses. The exposure to the hexythiazox caused changes in band profiles of test group when compared with the control group. These changes included appearance of new bands, loss of normal bands and variation in band intensity. The results indicated that ISSR analysis is a valuable tool for the evaluation of the genotoxic effects of various chemicals including pesticides.

Keywords: hexythiazox, insecticide, genotoxicity, wheat, issr-PCR
AN OVERVIEW OF THE INQUIRY PRACTICES OF AN EXPERIENCED TEACHER: A CASE STUDY

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In Turkey, the number of in-service teachers in primary and middle schools has reached a huge number (617,228 people) by the academic year of 2016-2017. Most of these teachers are acquired contemporary teaching and learning techniques via intensive and short-term in-service trainings. One of the highlights of these trainings is inquiry-based in-service science education. In particular, science teachers are constantly following these trainings. However, the evaluations of these teachers’ classroom performance commonly were not followed. The purpose of this case study is to identify how a teacher from this group adapt scientific inquiry into his practices, and also to understand what kind of training needs he/she has. The data set out here were collected with the videos during a class visit and an interview with the teacher. A class visit was planned for a teacher who declares that he/she is applying inquiry-based practices. After getting an appointment to visit, the teacher designed an activity about light and mirror concepts that reflects his/her understanding of inquiry. The activity videos and the latest inquiry practices of the teacher mentioned within interview were analyzed and interpreted qualitatively by using the coding scheme of Diagnostic Tool for Teacher-Pupil Interactions. The preliminary results showed that the teacher apply the activities with one or two indicators of inquiry learned from in-service trainings, beyond applying them as a scientific process in a holistic manner. The analysis of the interviews showed that the teachers understanding of inquiry can be shaped limited, inadequate or sometimes with misunderstandings via intensive trainings with a few sample activities or explanations. Therefore, this case shows us a ground to approach in-service trainings in a different way. The reflective in-service classroom practices rather than intensive programs could be more effective for teachers’ development.

**Note:** This study was carried out within the doctoral dissertation of the first researcher funded by Mugla Sitki Kocman University, Scientific Research Projects Commission - BAP 17/146. The researcher is also supported by TUBITAK 2211 - Graduate Scholarships for Turkish Citizens.

**Keywords:** inquiry based, science education, in-service teacher, training, case study
DEVELOPMENT OF INQUIRY SKILLS IN CHILDREN: INQUIRY INVESTIGATING TEAM (IIT)

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The need for adaption to new innovations, researching, inquiring, and criticizing versatile individuals is increasing day by day with the progress of science and technology. Individuals involved in the field of science who have these characteristics, are one of the main targets of the curriculum. The Inquiry Investigating Teams (IIT) program, which has been developed in this context, aims to develop a positive attitude towards science, by making students themselves feel like scientists. At the same time, the reduction of any negative impact that may arise from partial applications by shortening the duration of the learning environment ensures that students go through the learning experience with all variations of query-based applications. In this context, the aim of the study is to introduce the inquiry investigating teams (IIT) program, which is developed with a research and inquiry-based learning strategy. Besides that, it also encourages the emergence of students' opinions about the ongoing IIT program. In the study, the action research pattern was used in qualitative research methods. The reason is that the researcher would be close to data, could recognize the process closely, and bring together the research and implementation of the pattern. The sample of the research consists of 12 students who are educated in a private secondary school in Western Anatolia who are in 5th grade (3 girls, 1 boys) and 7th Grade (4 girls, 4 boys). The private school where the applications were carried out had a student profile at a similar socio-economic level. In the study, interviews were conducted with students as data acquisition tool and the researcher's observation notes were used. As a result of preliminary data, the processing of science subjects in the framework of the project has caused students to integrate their science subjects in their day-to-day life. The students not only benefit through their own exploration, curiosity and questioning but also, they comprehend the nature of scientific inquiry.

**Keywords:** inquiry investigating teams, inquiry based learning, science education
POSSIBLE PROBLEMS IN THE INTRODUCTION IN UKRAINE OF MEDICAL REFORM AND THE PRACTICE OF A FAMILY MEDICINE DOCTOR

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Currently, Ukraine is developing and phased implementation of medical reform, which involves the organization of work at the primary level of providing qualified medical help by a family medicine doctor. This reform can be accompanied by the development of possible medical and social and financial problems. The transfer of funding to the primary medical level and the possibility of allocating funds allocated to a specific number of residents assigned to a family medicine doctor can lead to the following problems: 1. The examination of patients only by a family medicine doctor in order to save the allocated financial resources and not performing complex laboratory and modern apparatus-instrumental additional researchers can lead to the establishment of an incorrect diagnosis, which will lead to the choice of the wrong treatment tactic and to the patient's serious condition, and in some cases and to death. 2. Treatment of patients only by a family medicine physician in order to save allocated financial resources and failing to consult with related specialists at the second and third levels of medical care, delay in hospitalization of patients to the hospital, may lead to the establishment of an incorrect diagnosis and the choice of the wrong treatment tactics, to a serious condition the patient, and to his death. It is necessary to develop serious control conditions that will avoid the development of these problems when introducing medical reform in Ukraine.

Keywords: medical reform, problems, family doctor
FIRST RESULTS SURGICAL TREATMENT OF PATIENTS WITH CHRONIC ANAL FISSURE THROUGH ELECTRIC WELDING OF BIOLOGICAL TISSUE

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Existing methods of ectomy of chronic anal fissure is now accompanied by a fairly large number of postoperative complications such as pain syndrome, breach urine, bleeding, local edema, which leads to additional suffering patient, increases the cost of treatment. The aim is to study the results of treatment of chronic anal fissure through the use of electrocautery generator LigaSure (Covidien) for fissure and vessels that supply blood to them. After dilatation anal sphincters spend revision anal canal. Clip tighten chronic anal fissure from 0,5 to 2,0 cm from anal verge to 3,0 cm on deep recti on top and put on his stretched base, including vascular leg, bent electrode apparatus LigaSure. Spend electric welding grounds unit at intensity 2 or 3 LEDs, after which chronic anal fissure of the clip is removed without firmware vascular legs. Histological research after operation. Applying this method on treatment of 21 patients with a diagnosis of “Chronic anal fissure”. Performance ectomy of chronic anal fissure using LigaSure, spread through small areas of damage and no sutures in the anal region, leads to a reduction of pain, no bleeding and swelling of tissue, accelerate wound healing, reduction of terms of treatment and temporary disability. This method is had trauma (zone 300-600 microns of tissue damage, early wound healing) and easy to use that can significantly improve the results of surgery and reduce the number of postoperative complications after ectomy of chronic anal fissure.

Keywords: surgical treatment, anal fissure, electric welding
THE PRELIMINARY RESULTS FOR ATMOSPHERIC PARAMETERS OF THE CANDIDATE AP STARS HD 92728 AND HD 90763

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Chemical peculiar Ap stars show overabundances of some metals, such as strontium, chromium, europium, praseodymium, and neodymium. The rotations of these stars are much slower than those of normal A type stars. Another characteristic of Ap stars is that they have stronger magnetic fields compared to classical A type stars. We have selected the A type stars HD 92728 and HD 90763 to derive their atmospheric parameters. Both stars’ high-resolution spectra were obtained using the Coude Echelle Spectrograph mounted on the 1.5 m Russian-Turkish Telescope at the TÜBİTAK National Observatory, on the 22th of February, 2017. The wavelength range of the spectra is from 3900 to 7900 Å. We followed the standard reduction procedures for both stars and normalised the order covering the Hydrogen beta profile. We used ATLAS9 model atmospheres. The strontium line seen in the spectra of HD 90763 and the neodymium line of HD 92728 were compared to the same lines of a normal A type star. Since both of these metal lines seem much stronger, we suggest that HD 92728 and HD 90763 are chemically peculiar Ap star candidates.

Keywords: ap stars, hd 92728, hd 90763
STUDY OF SOME BIOCHEMICAL PARAMETERS AND FATTY ACIDS COMPOSITION IN BLOOD SERUM OF WOMEN WITH POLYCYSTIC OVARY SYNDROME

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This study was designed to compare the level of some biochemical parameters and lipid fractions and percentage of fatty acids in serum of women with Polycystic ovary syndrome (PCOS). The study includes (25) patients (females) who were diagnosed by ultrasonography. The sample collection is from Al-Bitol teaching hospital in Mosul city. The age is between (25-40) year and compared with (25) normal woman with same age were collected as control and measurement of a number of biochemical parameters in serum, as well as analysis and measurement of percentage of fatty acids in the fatty component of serum (cholesterol ester, phospholipids and triglyceride) by applying thin layer chromatography (TLC) and then re-esterfication fatty acids and measurement percentage of fatty acids applying capillary gas chromatography (CGC). The result of this study shows that there is a significant difference in the level of studied biochemical parameter and fatty acids percentage in patients compared with the control group.

Keywords: polycystic ovary syndrome, fatty acid, capillary gas chromatography
EXPLORATION OF ELECTROMAGNETIC WAVES VIA SEQUENTIAL CHALLENGING QUESTIONS

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Electromagnetic waves have been mathematically described by James Clerk Maxwell for the first time after many years of scientists’ struggle to understand the world and the universe. Considering widespread use of technological devices emitting electromagnetic waves, their possible environmental and health effects, their role in rapidly advancing energy sector; electromagnetic waves have been a matter of curiosity amongst people. The reason of this curiosity is that electromagnetic waves do not fall directly into human observation range. The purpose of this study was using sequential inquiry-based science activities with challenging questions to make unobservable electromagnetic waves sensible and visible. In this context, 10 sequential demonstration activities were implemented to 46 teacher candidates continuing their education in third grade of science teacher education department. They were asked to note their predictions, observations and inferences down on the worksheets. Participants were surprised when a radio placed into a trashcan stopped playing music or a phone covered with aluminum foil did not receive calls since their observations contradicted with their common experiences. Bachelard defined this phenomenon as “scientific discontinuity”. Even after weeks, participants tried to come up with explanations regarding their observations since their sense of curiosity was aroused and they had an irresistible desire for exploration. Classroom discussions were video recorded for detailed analysis. As intended; with the sequential activities, exploration of electromagnetic waves occurred at the end. In addition, with the light of inquiry, participants started thinking scientifically considering science as a part of their lives and a solution of problems. According to the results, it was determined that participants generally confused electromagnetic waves with sound waves, signal, power of attraction, frequency concepts. Recognition of some variables, comparisons between radio and microwaves by participants were observed. Interpretation of the data showed that participants generally had misconceptions and lack of knowledge regarding electromagnetic waves.

Keywords: electromagnetic waves, radio waves, microwaves, physics education, electromagnetic wave theory
DEVELOPMENT OF HIGH SCHOOL STUDENTS’ ATTITUDE TOWARD NATURAL APPROACH IN FOREIGN LANGUAGE LEARNING SCALE: VALIDITY AND RELIABILITY ANALYSIS

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Learning a foreign language is regarded as a tool for communicating with individuals from all over the world. For that purpose, many people learn English as a foreign language. These people prefer learning English in a way they spend less time and effort. Due to that necessity, many surveys have been conducted to reveal which approach is more effective. Natural Approach is proven to be effective by many researches. The purpose of this study is to develop a valid and reliable scale for identifying attitudes toward Natural Approach. The study group of the research has formed 231 high school students from İzmir, a coastal district of Turkey. The Kaiser-Meyer-Olkin score for the 40-item draft scale was 0.814 and the Barlett test was 00. The 18 item and 3 factor structures obtained as a result of exploratory factor analysis was confirmed by confirmatory factor analysis. Factors are called interest, emotion and action. The scale explains 47.601 % of the total variance. The Cronbach alpha internal consistency coefficient for all the scales was 0.826. The item-total and item-residual correlation coefficients are significant; the upper and the lower 27% group analyzes were found to be distinguishing the items and the factors. The correlation coefficients among the factors were found to be significant. As a result of the test-retest, the correlation coefficient was found to be significant for all the scales.

Keywords: natural approach, attitude, language learning and teaching
INVESTIGATING ATTITUDES OF STUDENTS TOWARD NATURAL APPROACH IN LANGUAGE LEARNING

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Natural Approach in foreign language teaching has been receiving attention as a result of research suggesting benefits of comprehensible input. According to Natural Approach, foreign language learner resembles to a newborn baby in terms of acquiring language. As baby descends earth, its mind is completely empty. As the time passes, its mind gets full of input obtained from what he listens or sees. In Turkey, Constructivist Approach is approved in foreign language teaching by the ministry of education. Researches suggest that Constructivist Approach is not effective enough to reach long-term goals of foreign language learning. To measure Natural Approach’s effectiveness, it is necessary to measure students’ attitudes toward Natural Approach. In Turkey, such a study does not exist. In this study, the goal is to measure the attitudes of high school students toward Natural Approach in foreign language teaching. This attitude scale is developed for high school students. In this research, general survey method is used. As a sample, 231 high school students are determined. 46 students from ninth grade, 59 from tenth grade, 76 from eleventh grade and 50 from twelfth grade joined the research. In the research, a Likert scale ” Attitude toward Natural Approach” which consists of 18 items is used. The findings obtained are analyzed in terms of grade, seniority of teacher and income.

Keywords: attitude, natural approach, language teaching
AN ACTION RESEARCH EXPERIMENT OF INTEGRATING CHILDREN WITH ATTENTION DEFICIENT HYPERACTIVE DISORDER (ADHD) IN MAIN STREAM CLASSES: A CASE STUDY

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The aim of this study was to try to integrate a student with "ADHD" into a normal class following a qualitative action research approach. The study main key question is: What strategies do teachers find effective to support students with ADHD to integrate within mainstream education? The study importance stems from the hope that it will provide an opportunity for teachers who teach heterogeneous classes to benefit from its outcomes. The study followed a qualitative action research approach, that was carried out on a student diagnosed as suffering from ADHD. The intervention included some educational, emotional and behavioral aspects. The findings indicated some improvements of the child's behavior. The student became in a better position to control some of his negative behavior, such as movement and lack of random beating, or aggressive behavior when responding. In light of these results, the researchers recommend to select one or two behaviors of the student to research, in cooperation with the parents, and the rest related body in the school. It is also recommended that those who deal with a student with ADHD should keep calm when the student with ADHD is in a losing control position. Teachers should avoid talking about the student's negative behavior in front of him or his classmates. Finally, the teacher must arrange a weekly meeting with the parents to discuss the student's development.

_Keywords:_ special education, adhd, inclusive education, action research, case study
THE EFFECT OF BLENDED LEARNING ON EFL STUDENTS’ USAGE OF GRAMMAR IN CONTEXT

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The current study was conducted with the aim of investigating the impact of blended learning on English as a Foreign Language students’ usage of grammar in context. Experimental design was conducted on two sections of tenth graders in a Palestinian public school near Ramallah. Thus, the current study attempted to answer the following main questions: 1- What are the effects of blended learning on EFL students’ usage of grammar in context? 2- What are students’ perceptions of the benefits and limitations of the blended material? In order to answer these questions, pre-posttests and interview were used as instruments for the data collection. Quantitative data was calculated using SPSS as well as thematic analysis was used to analyze the qualitative data. The results of this study revealed that blended learning has positive effect on students’ achievement in grammar instruction. The achievement of the experimental group outperformed the control group. In addition, participants showed positive attitudes toward the blended material, they pointed out that it helped them to retain what they learn. Also, it gives them feedback and improves their pronunciation, all of this in an interesting and fun way.

Keywords: blended learning, usage of grammar in context, efl students
USING DRAMA ACTIVITIES AND REFLECTION IN TEACHING

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Alzahra' Secondary Girls School is the first female school established in Jenin city. It includes two branches: Literary and Commercial streams. The school is located in the city center and at the entrance of Jenin Camp, making it accessible to everyone. The fact that it is accessible to everyone has made it very difficult for the students since they all come from different backgrounds and have very little knowledge of each other’s backgrounds. Recently, there has been major disagreement among female students that led to direct appeal made by parents. Most of the problems were caused by rumors. By research, we found that the first secondary commercial class "1" is the source of rumors. The educational supervisor and the Head Teacher were unable to control the problem so we decided to explore the subject of rumor through drama. The central event that we relied on was the announcement of the disappearance of a girl whose family could not find yet. I, as the teacher and researcher, showed them a black and white picture from a newspaper and I wanted to know the impact and risk of rumor on people and on our society. I wanted to examine the following central questions: What makes someone start rumors about others? What does a person gain from spreading rumors? How does a human being feel when they hear about the rumor being spread about them and how does it hurt them? Is it right for us to destroy the other? In the beginning, I presented images with visual tricks and asked the students to look at them and describe what is happening in the picture. They described the picture superficially because they saw it from a distance. After looking at the picture from more than one side, one of the students shouted that she saw an old woman rather than a girl! Here, the students tried to get closer to the pictures and they observed the picture more closely. This activity was followed by many other drama activities. This research expanded my horizons and awareness as a teacher at a high school where the book was the only constitution for learning, and indoctrination was the foundation and made me believe in drama because it is one of the strongest methods that makes us explore our students’ thoughts and makes us closer to them. This experience deepened my students' confidence in me and had the most significant effect on improving the behavior of the entire class, which was reflected this year by modifying the negative behavior of my female students.

Keywords: education, drama
DIFFERENT MATHEMATICAL MODELS DEVELOPED BY PRIMARY STUDENTS: KIDS VOLLEYBALL TOURNAMENT PROBLEM

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Mathematical modeling studies continue to get increasing attention from primary school to university in every level in our country. The primary school level, which will complete middle and high school programs, has the vital prospect that it will form the basis of the program. This research is a qualitative study conducted by the 4th-grade students of the foundation primary school established in a university which is located in a large provincial center in the Black Sea region with the 2016-2017 academic year. A group of 20 students who did not have modeling experience were given appropriate training for three weeks in the perspective of mathematical modeling in the study. In this training, the whole class worked in groups of four with a different modeling activity for each week, developed models and presented their models. The purpose of this study is to determine the diversity and pattern of the models that the groups developed as a result of working with the Kids Volleyball Tournament Problem. For this, the assessment tool developed by Carmona was used. During the study, all groups were included in the video and audio recording and analyzed qualitatively with the working papers used by the students. The first findings of the study showed that students had difficult to do mathematical calculations and demonstrations while they were successful in verbal presentation. Moreover, it has been determined that the students tried to improve their models by comparing the data in the problem with each other.

**Keywords:** mathematical modeling, primary students, the kids volleyball tournament problem
HOW SHOULD THE LEARNING ENVIRONMENT BE IN THE APPLICATION OF MODELING ACTIVITIES IN PRIMARY SCHOOL?

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Mathematical modeling has taken its place in the current primary mathematics curriculum as one of the six basic mathematics skills. Therefore, there is a need to introduce the relatively new mathematical modeling approaches in primary school mathematics in Turkey. Especially in the process of dissemination of the modeling approach in primary school, it is of great importance to increase the knowledge and experience of primary school teachers about how to use such activities in classrooms. Because of today, only a few of the universities' primary education programs have modeling teaching courses in their required course list. For this reason, a longitudinal research has been carried out with the primary school students in the center of a large province in the Black Sea region using Modeling Activities. As part of this research, it is aimed to present some suggestions for the application of the modeling activities in the classroom environment, the regulation of the classes, the formation of the groups and the evaluation of the process. Modeling Activities used in studies are one of the most important tools that allow students to acquire and develop mathematical modeling skills at primary level. Under the light of the results obtained, this paper is to introduce Modeling Activities, emphasize the difference from other problems; determine the role of the teacher and the learner throughout the process; class organization, duration and form of application; present suggestions on how students should be assessed and also inform primary school teachers about potential difficulties in the whole process.

**Keywords:** modeling activities, primary school, learning environment
DETECTION OF SKIN DISEASES BY USING IMAGE PROCESSING

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Because very bad weather in Iraq like elevated temperature, Smokes, dust, also increase depopulation to bad environment and increase the number of displaced, diseases have increased significantly including dermatological diseases and the most common types is eczema as a result of bad nutrition, bacteria, soils, bad food, and others factors. Because of all these environmental factors, physiological, chemical factors and others factors, became very necessary to detect skin diseases specially eczema and treated it to avoid aggravation the disease with the help of biomedical engineers, with less cost, and to prevent disease from spreading when at that it will be difficult and take long time to be treated. So the aim of research is take an image to the infection area then inter this image to MATLAB and process this image in many ways to obtain an image that can help the doctors in his work to recognize the eczema and the rate of infection and make it easy to improve and safe people life.

Keywords: Eczema, MATLAB, Image processing, Skin disease
THE EFFECT OF TEACHING A DEVELOPED GEOMETRY UNIT BASED ON MULTIPLE REPRESENTATIONS ON GRADE NINE STUDENTS' ACHIEVEMENT AND INTERPRETATIONS OF THEIR ANSWERS

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The aim of this study was to explore the impact of teaching Grade Nine geometry transformations unit based on a multiple representations model on learners’ achievement and explore its effect in developing learners’ ability to interpret and justify their actions of geometry transformations. To achieve this goal, a quantitative approach was utilized with a quasi-experimental design, in parallel to an analytical descriptive qualitative approach. The geometry transformations unit was designed based on multiple representations, which included relevant concepts, examples and activities. The results revealed a positive effect of employing multiple representations in teaching geometry transformations on learners’ achievement. It also improved the higher thinking skills of the learners compared to those who learned in the traditional way. The study also demonstrated that employing multiple representations in teaching deepened the cognitive structures of learners, giving them the ability to interpret their actions deeply, and developing their higher thinking skills. Based on these findings, the study ended up with a set of recommendations for decision makers in the Palestinian Ministry of Education. Other recommendations for future studies were also offered.

Keywords: geometry teaching, multiple representations, achievement, math teaching
CYBERBULLYING IN WHATSAPP CLASSROOM-GROUPS AMONG CHILDREN AND ADOLESCENTS: EXPOSURE AND VICTIMIZATION

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Social networks consist of an essential part of school-aged children's social lives. WhatsApp application, which is perceived as a social network, enjoys enormous popularity among children and adolescents. Yet, alongside the growing popularity of WhatsApp, increases the phenomenon of cyberbullying, defined as intended and repeated aggressive activity aimed to harm another person through internet and technological communication means. As far as known of, cyberbullying in WhatsApp classroom groups has not been studied yet. The present study is a pilot research aimed to estimate the extent and characteristics of cyberbullying expressions that children and adolescent experience in WhasApp groups in their classes, either as victims or as witnesses. 1111 participants who study in 4th to 12th grades in Israel answered a survey-formatted questionnaire. Findings indicated that the vast majority of participants are members of at least one classmates` WhatsApp group, to which it is important for them to belong. Alongside, most participants experience cyberbullying in their class WhatsApp groups, either as victims or as witnesses, and over half of them experience more than one cyberbullying expression simultaneously. The most common expressions of cyberbullying are insults, swearwords, forced removal from a WhatsApp group and posting offensive photos. Exposure to cyberbullying in class WhatsApp groups is more common than personal victimization. In addition, findings indicated of differences in cyberbullying expressions between schools` age-levels (elementary school, middle school, and high school). Implications regarding schools` roles, including developing educational policy and preventive curriculum, are discussed.

Keywords: WhatsApp, WhatsApp groups, social networks, virtual communication, cyberbullying, children, adolescents
AN ALTERNATIVE WAY TO ANALYZE BIG AND COMPLEX DATA SETS: GRAPHICAL TECHNIQUES

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In the past, one of the main problems for the researchers was collecting data. Today, thanks to developments in science and technology it is possible to measure different variables of many experimental units. In other words, nowadays the data is flowing from everywhere. Although having many measurements of different variables is a great advantage to obtain more detailed and reliable information about the effect of interested factor(s), this case may cause to run into different challenges especially at the stage of statistical analysis. Since there will be many measures of experimental units in terms of interested factor(s), the researchers will have to work with a massive and complex data sets. For such cases, due to the differences of the type of the measured variables, number of factors and number of experimental units or sample size, usage of the classical tests such as ANOVA, Correlation and Regression Analyses, Chi-Square Analysis will not be appropriate for analyzing data sets. For such cases, some graphical techniques namely Analysis of Mean (ANOM), Multidimensional Scaling (MDS), Correspondence Analysis (CA), Classification and Regression Tree (CART), Optimal Scaling (OS), Artificial Neural Networks (ANN), Chernoff Face may be efficiently used in analyzing big and complex data sets. In this study, it has been focused on when and how to use graphical techniques instead of classical tests in analyzing big and complex data sets. For this aim, three different data sets related to economy have been analyzed by using ANOM, CART, and MDS techniques.

Keywords: big and complex data set, anom, cart, mds
CHALLENGES AND PROPOSALS FOR SOLUTION IN QUESTIONNAIRE STUDIES

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Questionnaire studies are widely designed in Social, Educational, Medicine, Agricultural and some other related sciences. Although they are commonly used in practice, it is noticed that the researchers have different challenges especially at the stage of determining require sample size, number of questions which will be asked and appropriate statistical test or method will be used for analyzing data sets. Overcoming the challenges with a correct way is extremely important in terms of getting reliable and stable estimations. In this study, it has been focused on what the researchers should do in order to minimize deviation from reality (difference between population values and sample values) and how they can handle those kinds of challenges. For this purpose, a comprehensive Monte Carlo Simulation Study has been carried out. Results of simulation study indicated that there were a few important factors (i.e. number of questions being asked, association levels among the questions, margin error level, number of options etc.), generally ignored by the researchers, had significant impact on the reliability and the stability of the estimates.

Keywords: hypothesis test, type 1 error, type 2 error, type 3 error, type 4 error, decision making process
SYNTHESIS OF NEWLY PYRIMIDINE DERIVATIVES

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Pyrimidine derivatives are attracting great interest by many research groups due to their multiple biological and medical properties such as cardiotropic, antineoplastic, antihypertensive, antiviral, antibacterial and anticancer agents. Their applications in drug research have encouraged organic chemists to improve new synthetic methods that can be used for their preparation and transformations. Various alkaloids that contain the dihydropyrimidine nucleus display interesting biological activities. Some functionalized pyrimidine compounds have been used as Ca-channel blockers and anti-hypertensive agents [1-3]. So far, several methods have been reported in the literature for dihydropyrimidine compounds and majority of them were based on Biginelli reaction [4]. At present continuing with our studies on the synthesis of pyrimidine derivatives using conventional heating and microwave irradiation. The purpose of that works is to extend the Biginelli reactions in order to synthesize some 4,7-dihydrotetrazolo[1,5-a] pyrimidine derivatives via Biginelli reaction. The reported method is suggested that a simple and efficient route for the preparation of 4,7-dihydrotetrazolo[1,5-a] pyrimidine derivatives.

Keywords: arylaldehyde, β-diketone
CORROSION INHIBITION OF PYRIMIDINE DERIVATIVES FROM COMPUTATIONAL CHEMICAL ANALYSIS

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The deterioration of materials due to corrosion causes economic loss. A wide variety of research is conducted to prevent this harmful process. One of the excellent methods to protect materials against corrosion is use of organic compounds containing heteroatoms. The physicochemical properties of the inhibitor are important features that determine adsorption on the metal surface. The inhibition efficiency is closely related to the adsorption abilities and electronic structure. The most effective inhibitors behaving as electron donors to unoccupied d orbital of metal surface to form coordinate covalent bonds, and as acceptor of free electrons from the metal surface by using their anti-bonding orbitals. The quantum chemical calculations have been widely used to the reactivity of organic compounds for corrosion inhibition. The progress in methodology has reached a point where predicted properties of reasonable accuracy can be obtained from density functional theory (DFT) calculations. The geometry and molecular orbitals of the organic compounds is involved in the properties of inhibitors activity. The inhibition properties of compounds have been correlated with frontier orbital energy of highest occupied molecular orbital energy (\(E_{\text{HOMO}}\)), lowest unoccupied molecular orbital energy (\(E_{\text{LUMO}}\)), and energy gap (\(E_{\text{LUMO-HOMO}}\)) [1-3]. The 4,7-dihydrotetrazolo[1,5-a]pyrimidine derivatives have been investigated as corrosion inhibitors for iron using density functional theory. The quantum chemical parameters such as highest occupied molecular orbital energy, lowest unoccupied molecular orbital energy, energy gap, dipole moment, electron affinity, ionization potential, absolute electronegativity, global hardness, softness, fraction of electrons transferred, electrophilicity index and back-donation have been calculated at the B3LYP/6-31G(d,p) basis set.

Keywords: pyrimidine, dft, corrosion, quantum chemical studies
INVESTIGATION OF PYRIMIDINE DERIVATIVES WITH SODIUM AZIDE

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Multi-component cyclocondensation reactions (MCRs) are efficient method in the sustainable and diversity-oriented synthesis of heterocyclic chemistry. In a MCRs are three or more starting materials react to form a product, where basically all or most of the atoms contribute to the newly formed product. The rapid generation of diverse sets of complex molecules can be achieved by employing diversity-oriented synthetic strategies in combination with so-called complexity-generating reactions. Multi-component reactions (MCRs), which combine in one pot at least three simple building blocks, provide a most powerful platform to access diversity as well as complexity in a limited number of reaction steps. Product is assembled according to a cascade of elementary chemical reactions in MCRs. Thus, there is a network of reaction equilibria, which all finally flow into an irreversible step yielding the product. The challenge is to conduct an MCR in such a way that the network of pre-equilibrated reactions channel into the main product and do not yield side products. Various MCRs methods have been reported in the literature. One of these is Biginelli reaction. The Biginelli reaction is very simple one-pot, acid catalyzed cyclocondensation reaction of benzaldehyde, urea and ethyl acetoacetate. The reaction was carried out in ethanol with a few drops of concentrated hydrochloric acid and finalized 3,4-dihydropyrimidine-2(1H)-one. In this work, we studied the reactions of thioxopyrimidine derivatives with sodium azide.

Keywords: thioxopyrimidine, sodium azide
Chemical Calculations of Pyrimidine and Derivatives

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The pyrimidine ring systems attracted synthetic organic chemists’ interest very much because of their biological and chemotherapeutic importance. The pyrimidine compounds and related fused heterocycles are interesting classes of heterocyclic compounds that exhibit a wide spectrum of biological activities such as anticancer, antiviral, antioxidant, antibacterial, anxiolytic, antidepressant, anti-inflammatory and analgesic activities. There are various syntheses methods in the literature for the pyrimidine derivatives. Most of them are on the Biginelli cyclocondensation reaction. This reaction takes place with substitutes aromatic aldehyde, urea and ethyl acetoacetate in ethanol. In this study, we used the Biginelli cyclocondensation reaction to obtain pyrimidine derivatives and we investigated their reactions. The structures all compounds were explained IR, 1Hnmr, 13Cnmr and elemental analyses. On the other hand, all synthesized pyrimidine derivatives have been optimized geometrically with DFT in Gaussian09W software package program at the B3LYP/6-31G (d, p) level in order to obtain information about the 3D geometries and electronic structures.

Keywords: chemical calculations, pyrimidines
SEARCH FOR POLITICAL IDENTITY BEFORE THE 1950 GENERAL ELECTIONS AND MASS TRANSFERS FROM CHP TO DP: THE CASE OF MALATYA

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After the Second World War, the most important reflection of the democracy winds blowing in the whole world and in Turkey was the meeting of the multi-party system in Turkey. The anti-democratic regulations, which existed in the then-current constitutional system, were also abolished, which accelerated this process. Political parties that would give the Turkish political system new identities were established and had the right to enter the TGNA in a short time. These parties were the Democrat Party, which also represented the Opposition until May 14, 1950 elections, National Development Party, Nationalistic Party, Leftist/Socialist/Marxist parties were the other actors of the democratization process. However, their lifetimes were short. CHP was worn out due to various reasons throughout its governance, and by 1950, it had lost the public support at a major scale. Although CHP took several democratic steps as of 1945, it could not re-gain the love and support of the people. Before the May 14, 1950 elections, which were called as the white revolution and which carried DP to the government, the electorate in cities and towns who were registered in CHP, resigned in masses and changed their positions. The new address of these who resigned was naturally DP. This change made it felt more during the subsequent elections. The study was conducted by reviewing the Prime Minister’s Office, Republican Archives documents and the news in local newspapers.

Keywords: CHP, Democracy, Multi Party Life, Malatya, DP
ACTIVITIES ON NATIONAL DAYS AND WEEKS ORGANIZED IN CORUM COMMUNITY CENTERS

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Community centers were established on February 19, 1932 as cultural institutions. These institutions, which were the most important complements of Public Training in the early years of the Republic, acted as public schools that were influential on the establishment of national conscious until 1951. One of the most important duties of community centers was the activities to celebrate the national days and weeks. National days strengthened the national unity among the citizens and activated the cooperation and solidarity feelings. These national days, which were celebrated in the community centers of different cities and counties, were also celebrated in Çorum Community Center. The national days and weeks celebrated in Çorum Community Center were as follows: April 23, National Sovereignty and Children’s Day, May 19, Youth and Sports Day, August 30, Victory Day, September 26, Language Day, October 29, Republic Day, November 10, Commemorating Atatürk and Atatürk’s Week, and Week of Savings and National Products. The purpose of the study was to determine the cultural activities in Çorum in the early years of the Republic. The findings that were obtained in the study were analyzed.

Keywords: public house, corum, national holidays, remembrance days
KILIS COMMUNITY CENTERS AND ITS ACTIVITIES ACCORDING TO INVESTIGATION REPORTS

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Between the years 1923 and 1946, The Republican Party, is the party that raised the staff who guided the Turkish political life and the state. CHP formed a widespread organization throughout the country in a short time and made investigations to audit their colleagues working in the country in certain periods. In this study, the aim was to determine the administrative structure of the Gaziantep City and socio-economic and cultural structure of the city based on the investigation reports kept between 1935-1945 by the Members of the Parliament for Gaziantep and CHP inspectors. The activities of the community centers were audited as two periods in annual scale between 1932-1951 by Party Inspectors, and the missing points, mistakes and the viewpoints and demands of local administrators were determined and reported to the Secretary General of CHP. In this respect, Kilis Community Center was audited by the members of the parliament for Gaziantep and by the party inspectors since the first establishment, and regular reports were sent to the Secretary General of CHP. The investigation reports provide us important data on the activities of the Kilis Community Center, and on the political, social, economic and cultural structure of Kilis. In this study, the literature review method was used as the study model. The findings that were obtained as a result of the review were analyzed.

Keywords: CHP, Community Center, Audit Reports, Kilis
GAZIANTEP COMMUNITY CENTERS AND ITS ACTIVITIES ACCORDING TO INVESTIGATION REPORTS

Mesut Aydın
Inonu University

Between the years 1923 and 1946, The Republican Party, is the party that raised the staff who guided the Turkish political life and the state. CHP formed a widespread organization throughout the country in a short time and made investigations to audit their colleagues working in the country in certain periods. In this study, the aim was to determine the administrative structure of the Gaziantep City and socio-economic and cultural structure of the city based on the investigation reports kept between 1935-1945 by the Members of the Parliament for Gaziantep and CHP inspectors. The activities of the community centers were audited as two periods in annual scale between 1932-1951 by Party Inspectors, and the missing points, mistakes and the viewpoints and demands of local administrators were determined and reported to the Secretary General of CHP. In this respect, Gaziantep Community Center was audited by the members of the parliament for Gaziantep and by the party inspectors since the first establishment, and regular reports were sent to the Secretary General of CHP. The investigation reports provide us important data on the activities of the Gaziantep Community Center, and on the political, social, economic and cultural structure of Gaziantep. In this study, the literature review method was used as the study model. The findings that were obtained as a result of the review were analyzed.

Keywords: CHP, Community Center, Audit Reports, Gaziantep
ANALYSIS OF THE FINANCIAL LITERACY SKILL LEVEL EMPLOYEE OWNERSHIP OF THE POPULATION IN TURKEY

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Financial literacy can be defined as a level of competence that enables a consumer to make informed assessments in the use and management of money and to make effective and rational decisions in the selection of financial instruments to direct investments (https://www.teb.com.tr/document/financial-okuryazarlik-ve-access-endeksi.pdf). In other words, financial literacy can be defined as the ability to have the ability to intelligently evaluate individuals' income, accumulation and investments, and manage their budget appropriately. Financial literacy according to what the OECD has done; is to increase financial well-being by informing financial consumers about financial products and concepts or by having a preference for financial risk and alternatives (https://www.teb.com.tr/document/financial-corporation-and-term-indexi.pdf). When evaluating the financial literacy skills of working population in Turkey I can say that it is a skill which can be regarded as temporal. Because, we can see from the society structure that there is not much attention in the Turkish society in the first decade of working life and investment thinking towards future. In order to test the accuracy of the above expression, which is expressed as a hypothesis in the study, it was decided by the investigator to make such a study. In this study, opinions of individuals from various professions with proficiency in the field of financial literacy skills were used and opinions were evaluated by content analysis.

Keywords: financial literacy, profession, accumulation, investment, skill
ETHNOCENTRISM IN CULTURAL COMMUNICATION ANALYZES IN THE SOCIAL DIMENSION

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The concept of ethnocentrism was first used in 1906 by William Graham Sumner in the sociology literature and it is generally accepted that the ethnic group in which the person is located is viewed as the center of the universe and the other social groups are evaluated from the point of view of their group and blindly blinded by culturally similar persons, to deny it. According to this understanding, the values and symbols of other groups seem unimportant, while the values and symbols of one's own ethnic or social group are a source of pride. Ethnocentrism allows these groups to survive; solidarity, harmony, loyalty and efficiency. It is called ethnocentrism to evaluate and interpret other cultures with the value of the individual possessed or belonged to the cult. We can say that ethnocentrism also leads to the formation of negative situations as individuals provide benefits to individuals on the level of culture evaluation. This means that the individual can easily make evaluations based on criteria, make suggestions, and even get useful results from the evaluations obtained. However, along with this, the prejudiced approach can emerge in harmful dimensions such as empathic thinking and causing identity confusion. In this study, I will determine the effects of the concepts of central culture and cultural communication on the cultural communication on the cultural dimension, which ethnocentrism concept emerges from the scientific studies carried out and gain a different point of view with the help of the literature.

Keywords: ethnocentrism, cultural superiority, evaluation, society, communication
THE BAGHDAD TREATY AND TURKEY

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As of the 2nd World War, the competition between the USA and the Soviet Russia, which determined the world politics, caused that an era called “Cold War” appeared. Turkey became a natural member of the Western Block by taking side with the USA in this grouping. One of the most important results of the security policies of Turkey was the establishment of the Baghdad Treaty. The Baghdad Treaty was established on February 24, 1955 with the entrepreneurship of Turkey and Iraq. Within the process, Iran, Pakistan and the UK also participated to the Baghdad Treaty. However, no other Middle Eastern countries aside from Iraq respected the Baghdad Treaty. After the military coup in Iraq by General Kasım, the new Iraqi Government decided to resign from the Baghdad Treaty. Then, the center of the organization was transferred to Ankara. Soon after, the Baghdad Treaty was changed into CENTO with the leadership and participation of the USA. CENTO sustained its existence until the Iranian Revolution in 1979, and after this date, it was dissolved when Iran quit the organization. The establishment of the Baghdad Treaty is important in that it explains the foreign policy of Turkey during Cold War years. In the present study, the characteristics of the foreign policy of Turkey, and the role of Turkey in the organization in the process that started from the establishment of the Baghdad Treaty until the dissolution of CENTO, and the viewpoint of the Middle-Eastern countries on Turkey will be dealt with.

Keywords: Baghdad Pact, Turkey, the middle east, foreign policy
MALATYA COMMUNITY CENTER, AND AUGUST 30 VICTORY DAY CELEBRATIONS (1932-1951)

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National days have contributions in establishing the national conscious and in strengthening the connection between the individuals and the state, and also activate the solidarity and cooperation feelings among the individuals. Community Centers were among the primary institutions that performed this in early Republican Period. The national days and festivals that were celebrated in the Community Centers of different cities and counties were also celebrated in Malatya Community Center. For the purpose of commemorating the August 30, Victory Day, which is considered as the milestone of the National Struggle, and with which the final strike was made to the enemy, Gazi Mustafa Kemal Pasha participated in person to the ceremony in Afyon Dumlupinar, Çal Village on August 30, 1924 and was called “Commanded-in-Chief Victory”. The draft bill to accept the 30th August as a national day was prepared by the “Müdafaa-i Milliye Vekâleti” and proposed to the Ministerial Cabinet on January 7, 1926 and was sent to the TGNA on February 6, 1926 after negotiations in the Ministerial Cabinet on January 27, 1926. TGNA accepted the bill as a law on April 1, 1926. One of the national days celebrated in Malatya community center was August 30, Victory Day. In this study, the activities of the Governor’s Office, Military Units and Malatya Community Center were included. The aim of the study, which was conducted on the activities in the celebrations of August 30, Victory Day, was to determine the activities of the Malatya Community Center in cultural field in the early years of the Republic. In this present study, the literature review method was used as the research model. The findings obtained as a result of the review were analyzed in the study.

Keywords: Turkey, Republic, Community Centers, Malatya, August 30, Victory Day
MAY 19TH DAY CELEBRATIONS AND THE CASE OF MALATYA COMMUNITY CENTER

M. Korkud Aydın
Inonu University

Community centers were established on February 19, 1932 as cultural institutions. These institutions, which were the most important complements of Public Training in the early years of the Republic, acted as public schools that were influential on the establishment of national conscious until 1951. One of the most important duties of community centers was the activities to celebrate the national days and weeks. National days strengthened the national unity among the citizens and activated the cooperation and solidarity feelings. These national days, which were celebrated in the community centers of different cities and counties, were also celebrated in Malatya Community Center. One of the national days was May 19, Youth and Sports Day celebrated in Malatya Community Center. In the present study, the activities to celebrate the May 19, Youth and Sports Day by the Sports Committee of Malatya Community Center were examined. The purpose of the study which was conducted on the celebrations of May 19, Youth and Sports Day, was to determine the cultural activities of Malatya Community Center in the early years of the Republic. In this study, the literature review method was used as the research model. The findings that were obtained as a result of the review were analyzed in the study.

Keywords: Turkey, Community Centers, Malatya, Republic, 19th May Youth and Sports Day
INVESTIGATION ON THE PROPERTIES OF THE ADMINISTRATORS OF THE DP AFTER BEING REMOVED FROM GOVERNMENT WITH THE COUP OCCURRED ON MAY 27, 1060: THE CASE OF AMASYA

M. Korkud Aydın
Inonu University

After the elections on May 14, 1950, which was called as the white revolution, the Democrat Party came to power and guided the destiny of the country with non-stop three governmental periods. In the first years of the DP, developments that may be considered as positive were observed in the political, economic and social life of the country, and the most significant of all, important steps were taken towards democratization. However, in the period after 1957, the democratic developments and some other events that happened abroad caused that the DP moved away from the discourses it had when it came to power, which altogether caused that the end of the DP was prepared. DP was moved away from the government when Adnan Menderes, Fatin Rüştü Zorlu and Hasan Polatkan were executed, which still pricks the conscious of the society; and a military administration took over the power in the new process. In the process after the coup occurred on May 27, 1960, a cautionary judgment was enacted to the immovable assets of the DP, and the assets and properties of the members of the parliament for DP and local administrators were investigated. In the investigations, it was questioned whether the administrators acquired their properties with unjust methods or not. In this context, the properties of the Amasya DP Provincial President, and Member of the Parliament for Amasya from DP were investigated. The study was prepared by examining the news in the local newspapers and the Prime Ministry, Republican Archives.

Keywords: CHP, Democracy, Multi Party Life, Amasya, DP
THE RANKING OF ADAPTABILITY AND MISSION IN LINE WITH ACADEMIC RESEARCH ETHICS IN IRAN

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This study aims to highlight the existing constraints for developing research ethics among faculty members of an Iranian state university. It is suggested to be taken into consideration that research ethics in an organization like a university, is deeply influenced by its academic culture because a university needs the specific culture and also the research ethics. The researchers applied Denison organizational model as a proper model to view the impact of different aspects of the model on the research ethics among an Iranian state university. The researchers classified the four aspects of the model as involvement, adaptability, consistency and mission; they also applied quantitative approach, Fredman non-parametric measurement using a researcher-made questionnaire and finally the purposeful sampling. They randomly chose 60 faculty members in Human Science as respondents. The conclusion lights up that among the four dimensions of Denison Organizational Model, adaptability and mission own the highest ranks among other traits as to highest attribution to research ethics.

**Keywords:** research ethics, organizational culture, faculty member
INTEGRATING CRAFTS AS AN EFFICIENT APPROACH IN TEACHING ENGLISH FOR NONNATIVE ENGLISH LEARNERS

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The purpose of this study is to examine the impact of integrating crafts in teaching Arab students, who are nonnative English speakers in English teaching lessons. In the Arabian Peninsula boredom may be associated with formal traditional methods. In classrooms, Arab students often struggle to communicate using English language. This may be frustrating in some cases. Being one of the creative arts, crafts engage children across all learning domains including cognitive, social, physical and emotional. By using these crafts, English teachers enrich the learning experience of their students. As long as the objective of the craft agrees with Common Core Standards, it can be applied in all stages of the English lessons. Craft can be used to draw students’ attention, introduce a lesson, offer more practice, or assess their knowledge. The research suggests that when students acquire a language skill while creating an art craft, they become actively engaged in the learning process. This helps them grasp concepts easily and then put these concepts into use in their daily life. Crafts are also a self-esteem booster. As an English teacher, I applied various strategies with fifth and sixth graders to improve their skills and found that crafts produced by the students throughout the learning process were very meaningful and inspiring for all learners, including those who are underachievers. They were able to communicate in English while describing the process of creating their craft projects. The final results, and insights derived from this study will be discussed.

Keywords: english learning, craft arts, creativity
A NECESSARY AND INNOVATIVE TECHNOLOGY FOR SHIPS: 3D PRINTERS

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The human needs changes and diversifies by the improvement of technology. It is important to make these new technologies applicable in related industry. However, adaptation of the industry to a novel tool usually takes time. This is because of the learning and familiarization period of the new tool. Most of the employees prefer to carry on using a tool which he/she get used to. Therefore, they don’t want to spend time and energy for something new. These tools reduce the workload of the workers and improve their ability about their work. One of the recent emerging technologies is 3D printer. 3D printers are extremely useful and flexible tools for production. It is almost possible to produce anything you want as long as you can get the solid model. Marine industry is a sector where usage of 3D printers is a must. A ship is a very large plant with thousands of different machines. All machines have various spare parts. And all parts of a machine don’t have spares. Besides some important spare parts may not exist on board ship or may be used. If you need a spare part or a part of a machine you have to produce it by yourself. All spare parts are not possible to be produced by the existing facilities on board ship. However, it would be possible with a 3D printer. That’s why a 3D printer should be one of the main equipment on board ship which would be lifesaving in critical failure times.

Keywords: 3d printer, innovation, marine engineering, technology, ship
EXERGETIC EFFICIENCY ANALYSIS OF A CONTAINER SHIP’S COMBINED POWER PLANT

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Recently, researchers have been studying energy efficiency of various power plants. Ships are also floating power plants and produce energy for propulsion, electricity and other demands. Therefore, ship power plant should be operated efficiently for energy saving and thus economic and environmental benefits. The exergy is a method for efficiency analysis in a system based on the second law of thermodynamics. Due to its usefulness this method is preferred for efficiency analysis of power plants. In this study, efficiency analysis of a container ship’s combined power plant is carried out based on exergetic approaches. The study is realized for full load condition of the container ship. The data is obtained from a realistic engine room simulator (ERS) for the analysis. The exergy equations for this power system are defined and the obtained data are used in these equations for carrying out analysis. Even more Engineering Equation Solver (EES) software is used for solving the equations. The main outcome of this study is ability to determine the system components which reduce energy efficiency of the ship power system.

**Keywords:** efficiency, energy, exergy, ship power plant, thermodynamics
IMPLEMENTATION OF ACTIVE LEARNING AND ASSESSMENT FOR CHEMISTRY COURSES

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In this paper we focus on project-based learning approach implemented into the teaching practice for training Bachelor and Master students of Chemistry Department at the Buketov Karaganda State University. Project study allows acquiring knowledge and skills needed to deal with real-life situations and developing teamwork and communication skills. We gave examples of using project studies in the classroom and discuss the effectiveness of active learning strategies for promoting deeper understanding of courses material. Learning in Chemistry classes was evaluated using various types of assessment. Bloom’s taxonomy was applied to identify critical thinking skills (comprehension, application, analysis, synthesis, evaluation) that can be connected with specific assessment methods such as Venn diagrams, open-ended questions, image analysis, and concept maps. Assessment criteria for Bachelor and Master students’ activities were elaborated. We revealed the positive role of both active learning approach and formative & summative assessment for the progress of chemistry students, their positive attitude toward the subjects as well as the trainees’ motivation for further study and developing creative thinking skills.

**Keywords:** active learning, project study, assessment criteria
THE CAMPAIGN FOR LITERACY IN TURKEY, AND THE COMMUNITY CENTERS: THE CASE OF AGRI COMMUNITY CENTER

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In the context of the new order that was started with the republic, the revolutions of the alphabet, the language, and culture are especially important. As it is well-known, the Turkish Alphabet was accepted on November 1, 1928 and was based on the Latin Language. Then, on November 24, 1928, it was decided that schools with the name of “Schools of the Nation” would be opened to spread literacy and the new alphabet. The “Schools of the Nation”, for whom the president and the head teacher was Atatürk, started education on January 1, 1929. Those who graduated from these schools, which had two steps, were given literacy certificate. “Schools of the Nation” made over one million people acquire literacy in Turkey within a short time period. However, the education was limited in these existing educational institutions, and new institutions were needed. The Community Centers, which were stabled in 1932, had important duties to cover this need. The Community Centers were indispensable corporate institutions of the literacy campaign in Early Republic Period and showed an important achievement with the literacy courses they opened in The Community Courses and Courses Branch. It was asked in the instructions sent to The Community Centers by the secretary general of the CHP that courses would be opened and every citizen who could not attend schools would be taught how to read in these areas. As it was the case all over the country, a campaign was started in Ağrı the Community Centers against illiteracy; and these centers taught how to read and write to many citizens.

Keywords: Ağrı Community Center, the Revolution of the Alphabet, ignorance, literacy, courses
THE FAMILY NAMES RECEIVED BY THE FAMILIES IN MALATYA IN THE CONTEXT OF THE FAMILY NAME LAW 1934 ACCORDING TO THE DATA OF FIRAT NEWSPAPER

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The most important characteristic of the Turkish Revolution was the efforts for establishing a national corporate structure. It is possible to see the traces of these efforts almost in every step of the Turkish Revolution, which we may consider as the efforts for a new order. The efforts for making all individuals acquire a “family name” as well as their “proper names” were considered as the values that reflected the efforts in Turkish History and Turkish Language; and were one of the most important steps taken to form a national identity. With this practice, it was aimed that the chief of the family would receive a family name and the other members of the family would use it, which is the case in Western societies. The issue was brought to the TGNA with a draft bill prepared by the Government. The family law was enacted on June 21, 1934. In another law enacted on November 26, 1934, the titles and nicknames like hacı, hafız, hoca, mollâ, efendi, bey, beyefendi, paşa, hanım, hanımeffendi and hazret were abolished. It was stated that the citizens would be mentioned only with their names in official documents and in the law. After the family law was enacted, everybody in Malatya, which was the case everywhere throughout the country, started to seek for a proper “family name” that fit their abilities, professions, and some habits. National and local newspapers mentioned this in their columns and tried to help people select a proper family name. The local newspaper in Malatya, Fırat, started this duty, which was considered as a public duty, and continued for a long time. The study includes this process and the family names received by facilities in Malatya; and is based on the data of the Fırat Newspaper.

Keywords: Nationalism, Family Name Revolution, Malatya, Fırat Newspaper
HATAY COMMUNITY CENTERS AND CULTURAL ACTIVITIES (1937-1951)

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Community Centers were very important cultural institutions and were established with the directives of Atatürk and spread all over Turkey in a short time. Community Centers served in nine branches. It cannot be denied that they had social and cultural contributions under then-present conditions. Community Centers were established on February 19, 1932 and became widespread in a short time. They opened branches all over the country under the umbrella title of the CHP and reached counties and villages through Community Chambers as of 1940. One of the Community Centers that were opened in the country was the Hatay Community Center. When Hatay continued its existence as a separate city of Syria, it was opened under the title of “Community Center” under the leadership of Abdülgani Türkmen, who was one of the prominent names of the city on July 20, 1937. Hatay joined the homeland in 1939 and was given the status of a province. As of this date, Hatay Community Center completed its organizations and intensified its activities. It served to the Turkish culture by reinforcing it in the area with five Community Centers and several Community chambers. One of the most important activities of Hatay Community Center was publishing activities. The Community Centers used to publish several publications all over the country, and Hatay Community Center also issued the Beautiful Hatay Journal. In addition, literacy courses were opened in the area, and contributions were made to the education of citizens. The Community Center enhanced the cultural life of Hatay with Language and Literature, Book Palace and Publications, Gösterit, Fine Arts, Peasantry, Public Courses and branches.

Keywords: Hatay, Abdülgani Türkmen, Beautiful Hatay Journal, Literacy Courses
THE CAMPAIGN FOR LITERACY IN TURKEY, AND THE COMMUNITY CENTERS: THE CASE OF BITLIS COMMUNITY CENTER

Güler Aydın
Inonu University

In the context of the new order that was started with the republic, the revolutions of the alphabet, the language, and culture are especially important. As it is well-known, the Turkish Alphabet was accepted on November 1, 1928 and was based on the Latin Language. Then, on November 24, 1928, it was decided that schools with the name of “Schools of the Nation” would be opened to spread literacy and the new alphabet. The “Schools of the Nation”, for whom the president and the head teacher was Atatürk, started education on January 1, 1929. Those who graduated from these schools, which had two steps, were given literacy certificate. “Schools of the Nation” made over one million people acquire literacy in Turkey within a short time period.

However, the education was limited in these existing educational institutions, and new institutions were needed. The Community Centers, which were stabled in 1932, had important duties to cover this need. The Community Centers were indispensable corporate institutions of the literacy campaign in Early Republic Period and showed an important achievement with the literacy courses they opened in The Community Courses and Courses Branch. It was asked in the instructions sent to The Community Centers by the secretary general of the CHP that courses would be opened and every citizen who could not attend schools would be taught how to read in these areas. As it was the case all over the country, a campaign was started in Bitlis the Community Centers against illiteracy; and these centers taught how to read and write to many citizens.

Keywords: Bitlis Community Center, the Revolution of the Alphabet, ignorance, literacy, courses
IMPROVING UNIVERSITY MANAGEMENT FOR INCREASING THE RELEVANCY OF HIGHER EDUCATION ON THE LABOR MARKET

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The changes in the Romanian higher education scenery have imposed essential changes of the educational process. The improvement of the university management has a major role in the process of attending to the needs of the current society and creating the premise of a relevant education which is also open-minded to the specific needs of our economy. The aim of the paper is to analyze the ways of improving the quality and efficiency of educational systems in Romania. It will also be intended to increase the visibility of university-oriented service activities for society and the socio-economic environment. The current paper covers an analysis of the results coming from a poll related to the evaluation of the educational quality. This attribute was reviewed in relation to the students, the teaching staff and the current economic status of the workforce market in Romania. The results of the poll were carefully analyzed and interpreted, conclusions and solutions defined. The people surveyed are students, master students, doctoral students and teachers from the technical faculties of the university.

**Keywords:** university management, educational quality, labor market
CRITICAL ANALYSIS OF THE CAUSES OF SCHOOL ABANDONMENT

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The key to succeed in a professional career is continuous education. One of the serious problems faced by the educational system in contemporary society is the early leaving of school. A person who drops out of studies will not have the professional qualification required to integrate into the national or international economic market, eventually becoming the future unemployed worker. While in the EU the general tendency is decreasing, in Romania, school abandonment is increasing both at pre-university and university level. In this paper, the authors propose to analyze the possible causes and to correlate them with the evolution of the school abandonment registered in a composite university. The data are obtained from the national database and statistically processed. The analysis is performed on two of the three study programs namely: Degree and Master Studies. According to the results we obtained, the rate of the school abandonment which is registered in such an university shows different trends depending on the faculty profile and the economic environment.

**Keywords:** university management, school abandonment, professional career
HARMONIC BASED AGING AND COST ANALYSIS IN POWER SYSTEMS

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Today, many of the elements used for transforming, controlling, and consuming electrical power are also factors that cause harmonic distortion and power losses in the network. Although the harmonics are tried to be prevented with the aid of the developed filter circuits, the number of harmonic generating systems connected to the network increase day by day. Therefore, the harmonic power flow and the loadability limits of the elements in the system must be well determined. Short and long-term negative effects of harmonics on the elements in the power systems can be noticed. Examples of short-term effects; can include sudden failure, incorrect measurement/action, and so on. The long-term effect is that the harmonic-based temperature rising in the equipment increases the regular temperature caused by the nature of the system and it increases the aging of the dielectric used in the environment, resulting in a deterioration of the insulation level and coordination. In both cases, the harmonics affect operating life of the main and auxiliary elements which are used in the power system. In this study, it is investigated how and at what level harmonic-based aging effects on power transformers, distribution transformers and cables, which are the main elements in power systems. IEC and IEEE standards are taken as reference for the thermal model and loadability analysis. Cost analyzes were performed by taking into consideration the additional life losses caused by harmonics, total life losses and remaining service life.

**Keywords:** harmonics, dielectrics, aging, cost analyzing, service life
CHARACTERIZATION OF GENETIC DIVERSITY AMONG NINETEEN LOCAL BEAN VARIETIES USING POX GENE-BASED MARKERS

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Common bean (Phaseolus vulgaris L.) is an important economic food legume widely grown in many countries in the world. However, there is evidence that its domestication has induced an intense reduction in diversity at the molecular level. Secretory class III plant peroxidases (POXs) (EC 1.11.1.7) are found in multiple molecular forms in individual plant species. Each POX catalyzes the oxido-reduction between H₂O₂ and several different reductants, suggesting its contribution to diverse physiological processes such as lignification, suberization, crosslinking of cell wall proteins, auxin deterioration, defence against pathogen infection. Multiple forms and low substrate specificity of POXs also make it difficult to define the specific biological functions of individual POXs. Comparison of POX genes could resolve evolutionary relationships in common bean. In this study, 19 common beans (Akman-98, Bulduk, Cihan, Gina, Karacaşehir-90, Zülbıye, Noyanbey-98, Sururbey, 4F-2409, Şehirali-90, Akın, Batallı, Muzaffer, Karaman, Göynük-98, İstanbul, Aslan/Konya Dermasonu, Akman-98) genotypes were studied using a POX gene-based marker method. The POX-PCR analysis was performed to determine the genetic diversity of 19 local bean varieties, using 8 POX primers from screened 13 primers. PCR amplified fragments were separated on 1.3% agarose gel containing ethidium bromide (0.5 q/l/ml). Agarose gels were visualized under UV light and digitally photographed. The degree of band-sharing was used for evaluating the genetic similarity between species and for constructing a dendrogram by UPGMA (the unweighted pair group method with arithmetic mean) method. The dendrogram showing genetic diversity among bean species was drawn using MEGA 7 software.

Keywords: phaseolus vulgaris L., genetic diversity, pox gene-based marker
THE SOCIAL AND EMOTIONAL REALITIES OF UNRECOGNIZED TWICE EXCEPTIONAL STUDENTS

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Gifted students with learning disabilities, commonly called twice-exceptional, go through an enormous battle to reach their academic potential throughout their academic endeavor. This pilot study concerns with this particular group of students who are mostly identified either as gifted or as children with a disability. This, of course hinder their rights to be identified for both conditions, the gift and disability, and thus suffer from lack of educational services, including timely assessment and appropriate interventions. The research suggest that twice-exceptional students face social and emotional difficulties, such as feelings of anxiety towards academic tasks when compared with their peers. This emotional distressful feeling may lead to fear of school failure and social isolation. For this study, a group of eight high-school Palestinian students from East Jerusalem with twice-exceptional, were identified by their teachers as having a gift in one area or with some sort of learning disabilities who are performing at or below grade level. The participants were individually interviewed, and data were derived from school archive on students' current and previous performances. The preliminary results indicate that teachers are not fully aware of the twice exceptional conditions. Further, school personnel do not possess the necessary resources to assess, and thus make educational decisions for this unique group of students. On the other hand, those students are being left alone to face their fate and the daily social and emotional challenges. Findings from the study and implications for future research will be discussed.

Keywords: gifted, learning disabilities, twice-exceptional.
ROLE OF ACADEMIC INSTITUTIONS IN IMPLEMENTING SOLAR ENERGY RESEARCH IN THE ARAB WORLD

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This paper presents the role of universities in the Arab World in implementing research projects for the technological development in solar energy. According to published data taken from Scopus database, there are twenty major higher academic institutions that contribute to solar energy research in the Arab World. They are: King Abdulaziz University, King Saud University, King Fahd University of Petroleum and Minerals, King Abdullah University of Science and Technology, Khalifa University, Cairo University, Ain Shams University, Alexandria University, University of Tanta, University Science and Technology of Houari Boumediene, Sultan Qaboos University, Qatar University, Jordan University of Science and Technology, University of Jordan, Mohammed-V University Rabat, University of Sfax, University of Constantine, University of Kuwait, University of Tunis, American University in Cairo. Their contribution is considered in terms of published work, with a total of more than 13,000 documents published by end of year 2017. The above academic institutions have a combined number of publications of 7,500 documents (about 60% of the total published documents in the field of solar energy). The growth was very tremendous in recent years. More than 60% of the published work occurred in the last five years. Solar energy research ranges from solar photovoltaic cells to solar radiation, solar power generation, solar desalination, thin films, solar collectors, to solar heating and cooling.

Keywords: solar energy research, academic institutions, arab world
THE EFFECT OF THE VIRTUAL LAB IN BIOLOGY TEACHING ON THE MOTIVATION AND ACHIEVEMENT OF THE SCIENTIFIC 11TH-GRADE STUDENTS AND THE PROFESSIONAL DEVELOPMENT OF THE TEACHER

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This study aimed to understand the influence of applying the virtual lab strategy on students' motivation and achievement. It aimed to explore the teacher professional development. The study sought to answer the following main question: What is the effect of the virtual lab in biology teaching on the motivation and achievement of the scientific 11th-grade students? And the professional development of the teacher? The researcher used a combination of the experimental quantitative and qualitative analytical design. The sample consisted of the biology teacher, 24 schoolgirls group as the experimental group, and 19 schoolboys as the control group. Several tools have been used; a pre- and post-tests to assess achievement progression, interviews with the biology teacher to identify the professional development, a post-interview of the focus group students. A classroom observation was used as a method to evaluate the virtual lab strategy implementation in biology classes, in order to see the extent of the motivation of the students and professional development of the teacher. The results indicated that the implementation of the virtual laboratory strategy in science education led to the professional development of the teacher's abilities. There was a major shift in teacher's role in class. He changed from being the information provider and became a facilitator. The introduction of this strategy into education contributed to the development of the teacher's TPACK. Statistical significant differences were achieved in the mean score of students in the post-test between the control and experimental groups, and an increase motivation for the experimental group.

Keywords: virtual lab
COMPACT WIDEBAND LOWPASS FILTER BASED ON INVERTED CASCADING STUBS

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In this study, a new compact wideband lowpass filter was introduced. The proposed filter is developed by cascading two shapes of "4"open stubs back to back embedded on a microstrip line. This structure results in wide cutoff frequency and rejection band with improved scattering parameters. The filter utilized operating bands up to 4 GHz. Many useful wireless communication bands were allocated within this band, global system for mobile communications (GSM) bands (1.8, 1.9 and 2.1 GHz) and 2.4 GHz which is used for industrial, scientific and medical (ISM) band and wireless local area networks (WLANs) applications. The designed filter also covers the band 3.5 GHz widely used for worldwide interoperability for microwave access (WiMAX) applications. The frequency response of the filter shows good stopband characteristic and provides -3 dB cutoff frequency at 3.85 GHz. The return loss of the designed filter is -50.8 dB at 3GHz and the insertion loss is less than -0.18 dB along the passband. The proposed filter has been designed, analyzed, and optimized on a substrate with 10.8 dielectric constant and thickness of 1.27 mm using full wave Electromagnetic Simulator. The proposed filter is a compact size and the final optimized dimension of the simulated filter with the above features is only 20 mm-15mm.

Keywords: microstrip, lowpass filter, wlan applications, wimax, wideband filter
THE RELATIONSHIP BETWEEN PRE-SERVICE TURKISH TEACHERS' ATTITUDES TOWARDS READING AND CRITICAL READING SELF-EFFICACY PERCEPTIONS

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The aim of this research is to determine the relationship between pre-service Turkish teachers' attitudes towards reading and critical reading self-efficacy perceptions. The research was done using relational screening method. The universe of the research is composed of 190 students studying in Bartin University Faculty of Education Turkish Language Teaching program. No sample was taken and volunteers participated in the research. Total 161 valid scales were obtained. The data were collected with the Attitude Scale towards Reading Habit and the Self-efficacy Perception Scale Related to Critical Reading Skill. As a result of the research, it was seen that pre-service Turkish teachers' attitudes towards reading and the critical reading self-efficacy perceptions were high. Their attitudes towards reading and critical reading self-efficacy perceptions were not significantly different according to gender, grade, and mother education level. It was seen that the reading attitude did not differ according to the level of father education, but the critical reading self-efficacy perceptions showed significant differences according to the education level of the fathers. It was determined that the differences between elementary, secondary, high school and university were in favor of university graduates. A moderate relationship was determined between the attitude towards reading and the number of books read out of course in a year but no significant relationship between the critical reading self-efficacy perception and the number of books read was seen. In addition, a positive and moderately significant relationship between attitude towards reading and critical reading self-efficacy perception was determined.

Keywords: critical reading, attitudes towards reading, self-efficacy, pre-service Turkish teachers, teacher education
ANALYSIS OF EXAM QUESTIONS PREPARED BY TURKISH TEACHER CANDIDATES ACCORDING TO THE REVISED BLOOM TAXONOMY

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The purpose of this research is to examine exam questions prepared by Turkish teacher candidates according to Bloom Taxonomy. The research was conducted through qualitative research method using document review method. In the working group, there are 36 teacher candidates studying in the Department of Turkish Education at Bartın University Education Faculty. The research data were collected in the spring semester of the 2016-2017 academic year. Teacher candidates were asked to prepare questions at any grade level that would include achievements for the first semester’s first writing. 16 of the exam papers are for the 5th grade, 10 for the 6th grade, 7 for the 7th grade and 3 for the 8th grade. There are 359 questions in the prepared exam papers. These questions were examined by descriptive analysis method. In the analysis, the questions were described according to the themes of remembering, understanding, applying, analysing, evaluating, and creating based on the cognitive domain steps of the renewed Bloom taxonomy. As a result of the analyzes, it was seen that 30,8% of 359 questions asked by the prospective teachers were remembering, 23,95% were in understanding, 8,7% were in applying, 25,57% were in analyzing, 3,34% were in evaluating and 6,96% were in creating levels. These results show that teacher candidates are inadequate in preparing questions to improve students’ high-level thinking skills.

Keywords: Turkish teacher candidates, exam questions, renewed bloom taxonomy
INVESTOR BEHAVIORAL FINANCE: EXAMINING ITS APPLICABILITY ON EGYPTIAN INVESTORS

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Behavioral finance is a new approach to financial markets that has emerged in response to the difficulties faced by the traditional investors. In broad terms, it argues that some financial phenomena can be better understood using models in which some agents are not fully rational. More specifically, it analyzes what happens when we relax one, or both, of the two concepts that underlie individual rationality. In some behavioral finance models, agents fail to update their beliefs correctly. In other models, agents make choices that are normatively questionable. It gives a glimpse to behavioral finance, describes the background, aim and objectives of the paper. It begins with a description of standard as well as behavioral finance, which often contradicts the modern financial theories. In other models, agents make choices that are normatively questionable. It gives a glimpse to behavioral finance, describes the background, aim and objectives of the paper. It begins with a description of standard as well as behavioral finance, which often contradicts the modern financial theories.

**Keywords:** financial theory, egyptian investors, stock analysis
A DESIGN OF WEB BASED DYSLEXIA HOMESCHOOLING SOFTWARE SYSTEM

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Mustafa Bugra Balaban
Engineer

Dyslexia is a developmental disorder and can be treated in early ages when treated properly. Young people who has dyslexia are able to get a limited treatment in special treatment centers. In this study, it is observed that there are not enough Turkish materials. It has been aimed to help patient’s treatment and development by making possible to patients practice with their parents in home environment with web-based system with seven different practicing modules. Scope and the contents of those modules are defined by the professionals in the area of dyslexia and this system will be the first in Turkey in this sense. With this system, it is intended to give people with dyslexia necessary treatment in homeschool environment without needing private educational schools. It is also recognized that with an always updateable interdisciplinary approach providing easy access to dyslexia patients necessary materials will help to increase patients’ life quality in this era which is that easy to access internet and information.

Keywords: dyslexia, web programming
A DESIGN OF PROCESS MANAGEMENT OF FACTORY BASED ON INDUSTRY 4.0 AND INTERNET OF THINGS

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Huseyin Erdogan
Engineer

Nowadays, the production process focuses on stocking which results in rise of the cost. There are requirements for investment in Land Procurement, storage conditions, intelligent stocking systems which is reflected as passive expense to the production facility. Another important factor is inconsistent and blur sales speed. According to historical days or economic conditions of the country of sales may result in increase or decrease of sales. In facilities with constant production, the sales speed may not match with the production speed which may result in accumulation of orders or accumulation of extra stock. In this study, we aim at blurring the production process to overcome the aforementioned problems and expenses which will be best innovation of Industry 4.0. In the proposed system, the method of internet objects has been used for communication between different production facility and the improvements have been analyzed and evaluated. Software tools are used to design simulation environment.

Keywords: process management, industry 4.0, internet of things
A DESIGN OF HYBRID EXPERT SYSTEM FOR DIAGNOSIS OF BREAST CANCER AND LIVER DISORDER

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Naciye Mulayim
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It is certain that accurately and timely diagnosis of the diseases reduces the risk of morbidity and mortality of the disease. At that point, an expert system based on artificial intelligent techniques helps physicians or other healthcare professionals for diagnosis of it. In this study an expert system based on Firefly Algorithm is developed to diagnose both breast cancer and liver disorder. An experiential labour of the proposed system was managed using Indian Liver Patient Dataset and Breast Cancer Wisconsin (Original) Data Set received from UCI Machine Learning Repository sites. Standard statistical Metrics which are Negative Predictive Value, Positive Predictive Value, Specificity, Sensitivity, Precision, F_Measure and Accuracy are used to evaluate the performance of the proposed systems and simulation results show that the proposed system is 92% efficient in providing accurate diagnosis of Liver Disorder and 94.81% efficient in providing accurate diagnosis of Breast Cancer. C# programming language is used for the implementations of the system.

Keywords: firefly algorithm, expert system, breast cancer, liver disorder
A DESIGN OF FUZZY LOGIC BASED COLOR DETERMINATION SYSTEM IN INTERIOR ARCHITECTURE

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Nowadays, architectural and interior architectural phenomenon has passed from intuitive realms to scientific and artistic realms. Instead of skills and randomness, they have become phenomenon that can be further analyzed and formulated. Along with that, the relationship between architecture and color has begun to become more firm and stable. An architectural product that can be considered successful in function, form and design, can be defined as unqualified if it does not have a good appearance in color. The coloring of architectural forms should be arranged by choosing colors without being left to chance that participate to symbolic, formal and that responds to the spiritual needs of person in this direction. In this article, factors that play an active role in the perception of a place such as personal enjoyment, age range, cultural influences, functions of the place have been taken into account in order for the ambience (pleasant, peaceful, intellectual, excited, enjoyable, healthy, vivid, romantic, emotional) to be created and how to successfully utilize fuzzy logic system has been discussed and a sample system design has been proposed. The authors have used the MATLAB package program for the design of this work and the most important steps of the fuzzy logic method in the system are modeled with this program.

Keywords: fuzzy logic, interior architecture
MANIFESTATION ANKYLOSING SPONDYLITIS AND CROHN'S DISEASE

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Regional or granulomatous ileitis is a chronic bowel disease (Crohn's disease) that covers all the layers of the intestinal wall (transmural lesions), and sometimes spreads to the mesentery, regional lymph nodes affecting both the small and large intestines, but most often localized in the terminal section of a thin guts (regional, terminal ileitis). These diseases can be accompanied by damage to the peripheral joints, spine, or joints and spine. The clinical manifestations of the joint syndrome in both processes are the same. The pathogenesis of the intestinal process and joint damage has not been fully established, but it is believed that many mechanisms participate in it, and in particular, toxic, immune, autoimmune. In the blood of patients, antibodies to the cells of the intestinal mucosa, lymphocytotoxin antibodies, circulating immune complexes, in which, possibly, antigenic components of intestinal microbes, etc., are also present. In Crohn's disease, articular manifestations usually occur in childhood and adolescence. The development of peripheral arthritis in these diseases is usually not associated with the carriage of the histocompatibility antigen B27. Ankylosing spondylitis is more common in men than in women (3:1). This disease usually develops in people who have HLA B27. Articular changes with regional ileitis occur more often in patients with other extraintestinal manifestations of the processes - with ulcers of the oral mucosa, exacerbate erythema nodosum, gangrenous pyoderma.

Keywords: manifestation, spondylitis, crohn's disease
Arthritis, or joint inflammation, is the most common complication of ulcerative colitis. Twenty-five percent of people with ulcerative colitis suffer from it, and it is often found in young patients. In addition to joint pain, arthritis also causes swelling and stiffness (stiffness in the joint). With ulcerative colitis, arthritis can manifest itself in two different forms: Peripheral arthritis usually affects large joints of the hands and feet, including elbows, wrists, knees and ankles. Pain can "migrate" from one joint to another and last from a few days to several weeks. The more intense the inflammatory process in the colon, the more pronounced arthritis. To date, there are no special tests to confirm ulcerative colitis-associated arthritis. This diagnosis can be made only by eliminating other causes of pain in the joints. Fortunately, such peripheral arthritis usually does not cause a significant change in the function of the joint. Spondyloarthritis (arthritis of the intervertebral joints) causes pain and stiffness in the lower part of the spine and sacroiliac joints. In young people, these symptoms may appear much earlier than intestinal manifestations. Unlike peripheral arthritis, spondyloarthritis can lead to a significant deterioration in the function of the spine, as the amount of movement in the intervertebral joints decreases. Spondylitis usually appears at the age of about 35-45 years. In most cases, the symptoms of peripheral arthritis decrease with the disappearance of inflammation in the large intestine. After a course of drugs such as prednisolone or sulfasalazine, joint pain usually disappears.

**Keywords:** treatment, arthritis, ulcerative colitis
STUDY REGARDING THE QUALITY OF THE INTERNATIONAL STUDENTS' TEACHING ENVIRONMENT

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The paper presents the statistical analysis of the quality of international students’ learning environment based on a questionnaire that includes several issues related to the quality of educational process. Thus, besides the general information on the respondents, the following issues are analyzed: the quality of teaching, the quality of facilities and students’ services, and the system of quality management. All these issues are according to Romanian regulations and the national methodology for quality assurance in higher education. The results are important for improving the teaching environment, because according to them, the university management will plan its future actions, in order to increase the number of international students. This analysis is also important due to the fact that the teaching language for these students is not their native one and the courses and seminars are held abroad, not at the university administrative center. Based on this study, a connection can be made between the quality of educational services offered abroad and the students’ satisfaction. This will be the starting point in developing new strategies, if necessary.

Keywords: education, quality management, learning environment
STUDY ON THE EFFICIENCY OF DIFFERENT METHODS OF TEACHING THE MINIMUM SIZE CAM PRINCIPLES

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The paper will be concerned with establishing the most efficient way of teaching the principles of minimum size cam for mechanical engineering students. Three methods are presented and the test will reveal the most efficient one, in terms of understanding the general principles and the details related to the subject. Three groups of students are involved in this study. For each group, a different method was presented and the grades at the final test demonstrate which method was more effective for teaching the principles and for receiving the information by the tested subjects. The graphical method consists of drawing the cam profile by points taking into account the maximum admissible pressure angle. The second method for the minimum size cam is the analytical one, which consists of determining the eccentricity and radius of the cam basic circle using mathematical equations. The third method consists of an estimated method for translational followers based on simplifying assumptions.

Keywords: teaching methods, minimum size cam
THE IMPORTANCE OF PROFESSIONAL COUNSELING AND CAREER GUIDANCE IN TECHNICAL FACULTIES

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The point of this paper is to prove that the existence and the proper operation of a center for professional counseling and career guidance are important for the students of technical faculties. The analysis of the focus group responses demonstrates how necessary and useful is the existence of an information center for business and students, how effective is the students’ training for social and professional insertion, as well as for their personal development according to their interests and aspirations. The paper also reveals the implication of the professional counseling and career guidance in developing their own educational path, related to their skills, in engaging them in extracurricular activities. It is also relevant to analyze the convenience of training stages for the development of transversal skills, for preparing the necessary steps for employment, the opportunity of specialized conferences or volunteer activities, of study visits to companies but also the organization of cultural and charity events.

**Keywords:** quality management, counseling, guidance
ORGANIZATION OF PRACTICAL-RESEARCH WORKS WITH "BLACK BOX" METHOD

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The ability to use basic formulas to improve students' knowledge of the physical Olympiad, knowledge of units of measure and their ability to influence logical and abstract thinking. Algorithms and necessary instructions are used to calculate the tasks. The period of application of knowledge in practice has a leading place in the learning process because comprehensive activities of pupils in the execution of tasks are carried out through a great mental work. The Olympiad tasks allow to use creativity and thus expand the scope of their application. It is necessary to take into account that students cannot do without realistic mental activities on the basis of the analysis of the theoretical and practical skills required for the release of the Olympiad tasks. The solution of experimental tasks selects the theoretical proof of its execution, the method of its solution, evaluates the process of measurements, estimates of errors and analysis of received results.

**Keywords:** physics, black box, logical thinking, experimental research work, olympiad tasks.
The main problem in adding Renewable Energy Sources (RES) to electric power systems is that the energy generated from these sources is often unstable and volatile, depending on the climatic conditions. When the sun shines very well from the solar energy, a high amount of electricity can be produced on a cloudless day. In wind energy, when the wind speed is above a certain value, electricity is obtained with high efficiency and most importantly the energy production values change continuously according to the climatic conditions (solar brightness, wind speed etc.). This disadvantage of the RES can be eliminated by adding an energy storage unit to the established power generation system. Energy storage unit is required to be controlled by a smart energy management algorithm in the case of storage of energy overload of the energy storage unit, energy storage unit in case of load demand, and possible working conditions such as providing end user benefit by taking the RES. In this way, the energy demand of the customer will be met in a stable, high quality and continuous manner without a power loss in the system to be formed. In addition, the smart energy management algorithm raises the power quality factor in the electric grid, thus preventing frequency fluctuations, voltage fluctuations and other problems. Smart energy management control for distributed network infrastructures, together with being an indispensable unit, constitutes the most important part of the smart network concept. In this study, the importance of smart energy management algorithm in RES, which includes energy storage system, includes the contributions to the smart grid infrastructure and the benefits provided to the end user.

**Keywords:** energy storage, renewable energy resources, smart energy management algorithm, smart grids
SIMULTANEOUS STATISTICAL APPROXIMATION OF ANALYTIC FUNCTIONS IN ANNULUS BY K-POSITIVE LINEAR OPERATORS

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Let \( A(\mathbb{R}) \) denote the space of all analytic functions on the annulus \( \mathbb{R} \) with the topology of compact convergence. This means that, by a convergence in this space we will mean the uniform convergence in any compact of \( \mathbb{R} \). It is easy to see that any operator \( T \) acting from \( A(\mathbb{R}) \) to \( A(\mathbb{R}) \) can be represented in the form

\[
T(f; z) = \sum_{k=0}^{\infty} \left( \sum_{m=0}^{\infty} f_m T_{k,m} \right) (z-z_0)^k,
\]

where \( f_m \) is Laurent coefficient of \( f \) and for each \( T_{k,m} \) is Laurent coefficient of \( T((z-z_0)^k) \). We will study the sequence of linear operators

\[
T_n(f; z) = \sum_{k=0}^{\infty} \left( \sum_{m=0}^{n} f_m T_{k,m}^{(n)} \right) (z-z_0)^k,
\]

where \( \sum_{m=0}^{n} f_m T_{k,m}^{(n)} \) is Laurent coefficient of \( T_n(f) \) and \( n \in \mathbb{N} \), acting on functions \( f \in A(\mathbb{R}) \). A linear operator \( T_n \), acting from \( A(\mathbb{R}) \) to \( A(\mathbb{R}) \), is called \( k \)-positive if it preserves the class of functions with non-negative Laurent coefficients. The sequence of linear operators \( T_n \), given by formula (1), is \( k \)-positive if and only if \( T_{k,m}^{(n)} \geq 0 \) for all \( k, m, n \). The different approximation properties of \( k \)-positive linear operators and statistical approximation of analytic functions by the sequence of \( k \)-positive linear operators were studied by many mathematicians. In this talk, the purpose of this study is to obtain simultaneous statistical approximation theorems by means of the sequences of \( k \)-positive linear operators defined on the space of all analytic functions and their derivatives on an annulus of complex plane.

Keywords: the space of analytic functions, k-positive linear operators, simultaneous approximation, krovkin type theorems
FINDING THE SOLUTIONS OF THE SINGULAR PENCIL OF A SCHRODINGER EQUATION

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Özkan Karaman  
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In this work the solutions of the equation

\[ u'' + [q(x) + 2\lambda p(x) - \lambda^2]u + \frac{n(n+1)}{x^2} u = 0, \quad xeR_+ = [0, \infty) \]

is considered by using the solutions of the quadratic pencil of Schrödinger equation

\[ u'' + [q(x) + 2\lambda p(x) - \lambda^2]u = 0, \quad xeR_+ = [0, \infty) \]

where p and q are real valued functions, \(\lambda\) is a spectral parameter and n is a natural number. We consider the following boundary value problems

\[ u'' + [q(x) + 2\lambda p(x) - \lambda^2]u = 0, \quad u(0) = 0 \]  
(1.1)

and

\[ u'' + [q(x) + 2\lambda p(x) - \lambda^2]u + \frac{n(n+1)}{x^2} u = 0, \quad xeR_+ = [0, \infty) \]  
(1.2)

where p and q are absolutely continuous real valued in each finite interval \(R_+\) and satisfying

\[ \int_0^\infty |p(x)|dx < \infty, \int_0^\infty x(|p(x)| + |q(x)|)dx < \infty. \]  
(1.3)

the conditions. Under these conditions equation (1.1) has the solutions

\[ e^+(x, \lambda) = e^{i(\omega(x) + i\lambda x)} + \int_x^\infty A^+(x, t)e^{i\lambda t} dt \]

and

\[ e^-(x, \lambda) = e^{i(\omega(x) - i\lambda x)} + \int_x^\infty A^-(x, t)e^{-i\lambda t} dt \]

for \(\lambda\) in the closed upper and lower half-planes, respectively where \(\omega(x) = \int_x^\infty p(t) dt\) and kemels \(A^\pm(x, t)\) are expressed in terms of p,q. It must be noticed that \(A^\pm(x, t)\) are the solutions of Volterra type integral equations (1.3). As it is known for the investigation of spectral analysis and scattering theories of the boundary value problems (1.1), the solutions of \(e^+(x, \lambda)\) and \(e^-(x, \lambda)\) which are given in (1.4) and (1.5) have an important role. But the equation (1.2) has no solutions respectively as the solutions (1.4) and (1.5) due to the having a singularity of term \(\frac{n(n+1)}{x^2}\) in the neighbourhood of zero. In this study, our purpose is to find that the equality (1.2) has similar solutions to (1.4) and (1.5) using the solution of the equation (1.1).

**Keywords:** equations, schrodinger equation, quadratic pensils
SPATIAL ABILITY OF PRE-SERVICE PRIMARY SCHOOL TEACHERS ACCORDING TO DIFFERENT VARIABLES

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This study investigates spatial ability of pre-service primary school teachers in terms of gender, class level, GPA, and situation of taking pre-school education. Participants who study in primary school education are 212 pre-service teachers who study at Ondokuz Mayıs University. For the purpose of measuring spatial ability, Purdue Spatial Visualization Test (PSVT) that were developed by Guay (1976) and revised by Yoon (2011) is used. Correlational techniques from quantitative research model are used to analyze data. According to the researches in spatial ability, it is expected that there would be a significant relationship between GPA and spatial ability in this study. Also, pre-service teachers who take pre-school education might get higher scores on spatial ability. Moreover, it will be expected that gender would be an effective factor determining spatial ability since there are many studies that advocated the effect of gender, yet it cannot be estimated whether females or males' spatial ability would be higher.

Keywords: spatial ability, pre-service primary school teachers, gender, class level, purdue spatial visualization test (psvt)
TEACHING GEOMETRY WITH SKETCHPAD: MISCONCEPTIONS AND PRESERVICE TEACHERS’ VIEW

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This study investigates revealed misconceptions of pre-service teachers during the process of learning and using Sketchpad and their views concerning the software. In this qualitative study, the participants were 22 pre-service teachers in the 4th year of the Undergraduate Program in Secondary School Mathematics Education at the Ondokuz Mayıs University. All participants have taken the course of Computer Assisted Mathematics Education and all process during the course was observed by the researchers. Participants tried to construct some geometrical shapes like triangle, quadrilateral, and circle and to discover some relations by using these basic shapes. Also, researchers questioned their constructions of geometric shapes to reveal misconceptions. After this process, 5 pre-service teachers who are in different levels at using Sketchpad and in terms of geometry knowledge were chosen for clinical interviews. The results from observations in the class shows that pre-service teachers have several misconceptions about the basic shapes and their relations and using sketchpad revealed these misconceptions. Moreover, the results from their interviews shows that they generally think using sketchpad could improve constructing geometric concepts and their relations. They also believe that such software could increase students’ motivation.

Keywords: geometers sketchpad (gsp), dynamic geometry software, misconception, pre-service mathematics teachers
CENTRAL AUTOMORPHISM GROUPS FOR SEMIDIRECT PRODUCT OF P-GROUPS

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Let $G$ be a group. By $Z(G)$, $\text{Aut}(G)$ and $\text{Inn}(G)$ we denote the center, the group of all automorphisms and the group of all inner automorphisms of $G$, respectively. An automorphism $\theta$ of $G$ is called central automorphisms if $\theta$ commutes with every inner automorphism, or equivalently, if $g^{-1}\theta(g)$ lies in the center of $G$ for all $g$ in $G$. The central automorphisms form a normal subgroup of $\text{Aut}(G)$ and we denote this group with $\text{Aut}_C(G)$. Also $\text{Aut}_C(G) \leq \text{Inn}(G)$.

A p-group is a group in which every element has finite order, and the order of every element is a power of prime number $p$. The term p-group is typically used for a finite p-group, which is equivalent to a group of prime power order.

In literature, there are important studies about central automorphisms of p-groups [1], [2]. In [1] Adney and Yen has shown that if $G$ is a finite purely non abelian group then $|\text{Aut}_C(G)| = |\text{Hom}(G/G', Z(G))|$ The automorphisms of direct and semidirect product of p-groups was given by Stahl in [3].

In this work our goal is to determine the central automorphisms of $\mathbb{Z}_p^2 \rtimes_{\varphi} \mathbb{Z}_p$ where $p = 3$ and $\varphi$ is homomorphism from $\mathbb{Z}_p$ to $\text{Aut}(\mathbb{Z}_p^2)$.

Keywords: central automorphism, p-group, semidirect product
UNIPOTENT AUTOMORPHISMS OF FREE NILPOTENT LIE ALGEBRAS

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Let $\mathcal{F}$ be the free Lie algebra over a field $K$ of characteristic zero with two free generators $x$ and $y$. $\mathcal{L} = \mathcal{F}/\gamma_c(\mathcal{F})$, where $\gamma_c(\mathcal{F})$ is the $c$th lower central term of $\mathcal{F}$. It is clear that $\mathcal{L}$ is the free nilpotent of class $c - 1$ Lie algebra generated by the set $\{\bar{x}, \bar{y}\}$, where $\bar{x} = x + \gamma_c(\mathcal{F})$, and $\bar{y} = y + \gamma_c(\mathcal{F})$. For the sake of simplicity we write $x, y$ instead of $\bar{x}, \bar{y}$. By $\text{Aut}(\mathcal{L})$ we denote the automorphism group of all automorphisms of $\mathcal{L}$.

Let $\sigma$ be an automorphism of $\mathcal{L}$ and $u \in \mathcal{L}$. The element $(\sigma_n, u)$ is defined inductively by

$$(\sigma_1, u) = \sigma(u) - u$$

and, when $n > 0$

$$(\sigma_{n+1}, u) = \sigma(\sigma_n, u) - (\sigma_n, u).$$

For every $u \in \mathcal{L}$, if the integer $n$ can be chosen independently of $\sigma$, then $\sigma$ is called an unipotent automorphism.

In literature there are many publications about automorphism group and special automorphisms of free Lie algebras. In $[3]$ $\mathcal{S}$. Findik studied the normal and normally outer automorphisms of free metabelian nilpotent Lie algebras. Some characterizations of the central automorphisms of free nilpotent Lie algebras was given by Ekici and Öztekin in $[6]$. Although we can find many studies about unipotent automorphisms of groups $[1,4,7]$, the corresponding problems for free Lie algebras hasn’t worked.

**Keywords:** unipotent automorphism, free nilpotent lie algebra
The purpose of this study was determined to "reveal the school administrators’ metaphorical perceptions of change and uncertainty situations". The study group is composed of 28 school administrators working in a big province in Marmara region in the academic year 2014-2015 and selected through convenience sampling. It was conducted with descriptive phenomenological design which is one of the qualitative research methods. Therefore, the data were gathered through a semi-structured open-ended form which were prepared in line with the expert opinions. In this form, the expression of "Change is like ... . Because ..." and "Uncertainty is like ... . Because ..." were given to the school administrators in order to reveal their perceptions of change and uncertainty phenomena. The first part of this expression (change/uncertainty is like...) aimed to produce metaphoric perceptions while the second part (because.....) quested for the rationales of these metaphors. Besides, the form provided a description of what the metaphor is and what function it has in order to prevent a possible contradiction in terms. The obtained data were analyzed by content analysis method. In line with the analysis made, the results revealed that the school administrators perceive the phenomenon of change as a natural phenomenon, a development or uncertainty environment. When the metaphors and rationales created for uncertainty were examined, it was concluded that all the school administrators perceive the uncertainty negatively. In this context, it was seen that the school administrators define uncertainty as indecision, chaos, or foreseeing the future.

Keywords: change, metaphor, uncertainty, school administrator
GETTING LOST IN TURKISH SCHOOL CULTURE OF SYRIAN TEACHERS

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The Ministry of National Education has implemented employment of foreign language teachers to teach foreign language since 1985. In 2016, the activities concerning serving in special education programmes or educational institutions implementing projects, has shown an increase. On the one hand school staff shares the organisation culture, on the other hand they affect the existing culture with their subcultures. The achievement of socialization period, providing adaption to existing culture of new comers in organisation, is known as positive consequences like organisational commitment, organisational citizenship and motivation increase. However, there is a negative effect of organizational socialization period on the new comers, leaving the organization in the literature. In this regard, organizational socialization of foreign teachers becomes more of an issue in the achievement of teaching foreign language in the country. New comers’ expectations and their perception concerning organization culture have an important effect on socialization. The aim of this study is to clear the case of sharing the common culture by evolving out of the views of Syrian teachers about the culture of Turkish schools where they are charged in. In the study, the holistic single case design, one of the cultural analysis designs, is used. The study group of the research consists of eight Syrian foreign teachers working at Project School affiliating The Ministry of National Education. In the phase of collecting data, the method of individual interviews is used. In the analysis of research data, content analysis technique is used. The findings will be offered later.

Keywords: foreign teachers, organizational culture, syrian teacher, school culture
A RELIABILITY TEST TRACK ASSESSMENT OF A LIGHT COMMERCIAL VEHICLE BY INDEX METHOD

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One of the most important parameters of a product's quality concept is its failure frequency and warranty costs during the warranty period; Product tests conducted in the process of reliability. For product test of a vehicle, the manufacturers require mathematically determined special test tracks and / or routes of fatigue effect. In order to create a test track, firstly Turkish customers' car usage was determined by questionnaire method. Data with a vehicle equipped with sensors for Turkey road characteristics were collected. Collected raw data were elaborated by signal processing methods. The 3-axis Rainflow method was used to evaluate the signals obtained from the strained parts. On the other hand, the gear ratio, etc. 2-axis Level-Crossing method is preferred for parts that do not have stress on them. After the Turkish customer profile signals were processed, the Turkish customer obtained from the questionnaires was multiplied by the percentage of automotive usage and calculated for each sensor, thus the Turkish customer profile in general was created. An accelerated test track for the warranty period corresponding to the fatigue effect of the Turkish customer profile using the fatigue life effects weighted average method was established near the manufacturer. The vehicle usage result between Turkish customer and one of the European countries customer were compared.

Keywords: customer automobile usage, test track, reliability, level crossing counting, rainflow counting, index method
Conferences are useful meetings where scholars come together to share their studies and experiences. The abstract books at conferences help the audiences choose which presentation to follow. The abstract book keeps a mirror on the conference. Therefore, the review of abstract books can provide important information for both the future of the conference and the academic field of study. Generally, the frequencies of words are taken into account when studying abstract books. In addition to this, it is thought that using advanced text-mining techniques and applying the techniques with different parameters can produce useful information.

This research aims to explore the topics of International Conference on Research in Education and Science (ICRES) with text-mining. Abstract books from the last three years of ICRES have been used as the data source. Python and Orange3 used for text-mining. First, abstract books converted to plain text files. Then text files are imported to the Orange3 software to processing text and mining data to find patterns in studies. The results will be evaluated in the light of the findings.

Keywords: text-mining, educational data mining, data mining, icres, abstract book
VOICED CONTROLLED HOME AUTOMATION DESIGN

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Home automation, one of the pioneer developing sectors, is improving with developed technology. Rapid advance in technology has a dramatic effect on devices used in homes in order to make the daily life easy. Recently, these devices are especially remote controlled so they are not luxurious any more, but daily needs. Moreover, in today’s world, all devices controlled by buttons and keys are easily controlled by voice. Although they are accepted as luxury, actually they are real needs and convenience for old people or physically disabled ones. The aim of the study is to design voiced controlled home automation especially for old or special needs people so that they can maintain their lives in free and comfortable environment. Firstly, model house has been built and then it has been decorated with some devices. Voice commands have been defined in voice recognition card named as EasyVR by using a throat microphone. For controlling automation, ten commands have been defined. Voice recognition module converts voice commands into digital signals, then these digital signals are transmitted to home automation via zigbee module. Receiver zigbee module in home automation receives the commands given by the transmitter and sends them to microcontroller. Microcontroller analyzes the commands and performs the expected operations. In this way, home automation system is controlled via voice. In this study, Arduino Uno is used as microcontroller and EasyVR module is used as voice recognition card. Software of the design has been completed using C language by Arduino Ide.

Keywords: home automation, voice recognition, microcontroller, easy vr, arduino
A COMPARISON OF THE PERFORMANCE OF CLASSIFICATION METHODS AND ARTIFICIAL NEURAL NETWORKS FOR ELECTRICITY LOAD FORECASTING

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Electricity load forecasting plays a key role for utility companies. Short-term and medium-term electricity load forecasting processes allow the utility companies to retain reliable operation and high energy efficiency. On the other hand, long-term electricity load forecasting allows the utility companies to minimize the risks. Long-term forecasting also helps the utility companies to plan and make feasible decisions in regard to generation and transmission investments. Since there are commercial and technical implications of electricity load forecasting, the accuracy of the electricity forecasting is important not only to the utility companies but also to the consumers. In this paper, we carry out a performance evaluation study to evaluate the accuracy of different classification approaches for electricity load forecasting. As shown with the results of the performance evaluation study, some of the investigated approaches can successfully achieve high accuracy rates and therefore can be used for short-, mid-, or long-term electricity load forecasting.

Keywords: load-forecasting plan, artificial neural networks, regression analysis, support vector machine, prediction techniques
COMPARISON BETWEEN SEVERAL SELECTED STATES AND MULTIPLE CRITERIA DETERMINATION METHODS USING LIFE SATISFACTION INDEX

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In this study, in the Marmara region of Edirne, Kırklareli, Tekirdağ and Çanakkale province living in people’s life satisfaction index (YMI) it is intended to make comparisons based on calculation and the provinces of life satisfaction index. Life satisfaction index (YMI) to calculate the Turkey Statistical Institute (TSI) has been supplying data forming the socioeconomic survey of life satisfaction index. Based on the results of this survey made on the province basis, the scientists like psychology, sociology, social sciences, medicine, economics and geography, which are different moans, are studied and utilized. Turkey Statistical Institute obtained from this survey of seven different multi-criteria decision-making methods of Entropy and SAW (Simple Additive Weighting) method is used. And the results of the calculations made are evaluated and the life satisfaction index of four provinces is found numerically in addition, the visualization of geographic information is provided map with the help of system program. Multi-criteria decision-making methods of Entropy and SAW (Simple Additive Weighting) method is used. Life satisfaction index, according to the methods of the results (YMI) 1.in Çanakkale (0.999812851), 2. in Edirne province (0.924039595), 3.in Kırklareli province (0.906298261) and last in Tekirdağ (0.892411718) were found.

Keywords: multiple criteria decision making, saw, entropy, geographical information systems (gis)
METAPHORIC CONCEPTS ANALYSIS OF CIVILIZATIONS IN TURKEY

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A metaphor is a powerful mental tool that can be used to describe and express an individual's abstract, complex, or theoretical case at a high level. Using this mental tool, the interviewer’s opinion about any event, event or situation gives the researcher a different quality of the findings. Made in this research, analysis of the metaphorical concepts of civilization in Turkey, including a subjective evaluation is foreseen. In the study group of Malatya and Elazig, 150 of the social studies teachers are working in the public school and 40 in the private school in the fall semester of 2017-2018 academic year. The data of the research, the social studies in the scope of the research, the teachers' "civilization ...... similar; because ...... " was achieved by completing the sentence. The content analysis technique was used in analyzing and interpreting the data. According to the results of the survey, it was found that the majority of teachers of social studies working in public schools (24.5%) and private schools (30%) regarded the concept of civilization as a "subjective image".

**Keywords:** civilization, metaphor, opinion, justification, subjectivity
TEACHER PERCEPTIONS ABOUT THE EFFECT OF EMPATHIC THINKING ON AFFECTIVE SKILLS

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In the educational life, the individual acquires many skills, but the dimensions of these achievements are different. These dimensions can be classified as cognitive, behavioral, and affective. The main dimension of work is affective skills. Many strategies, methods and techniques are used in the transfer of these skills as well as many forms of thinking. One of these forms of thought that is used is empathic thinking. Empathic thought can be defined as an individual trying to understand him by putting himself in someone's place without compromising his personality and character. This research work in Turkey, public schools for primary and secondary school teachers working in qualitative research methods are selected as the study group was implemented. The results of the teachers' opinions about the empathic idea were analyzed with the Nvivo 11 program and the literature was supported. As a result of the study, when the findings obtained from teacher opinions were evaluated, it was found that teachers had different perceptions about the level of efficacy of empathic thinking in gaining students' emotional skills. This difference is explained by the different themes and the reasons why they have been studied.

Keywords: empathy, skill, perception, emotional outlook, achievement
OLIVE POMACE AND CHERRY STONES USED AS BIOFUELS

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The aim of the article is to show how to encourage students to deepen their knowledge, creativity and their enthusiasm for research. In this way we can also promote the popularization of science and technology as well as the identification of students talented in specific research areas. This article presents an example of writing a research assignment undertaken by students in the final year of primary school (class 9, i.e. age 14-15). We live in the age of diminishing supplies of fossil fuels and consequently a growing interest in the renewable energy sources, including biofuels. Through research assignment, we wanted our students to learn more about the characteristics of biofuels which we haven’t discussed in detail in class. Biofuel is a solid, liquid or gaseous fuel, obtained from a relatively recently deceased biological substance. In addition to looking for information in literature and electronic resources, we conducted experiments in which we measured how many degrees a particular quantity of water heats up by the burning of various fuels, and the amount of residue left after burning. The biofuels we used were: pellets, briquettes, olive pomace, cherry stones, biodiesel, ethanol and sawdust. We established that different types of fuel emit, when burnt, different amounts of heat. Water heated up the most when burning ethanol, while it heated up the least when using biodiesel. Experiments showed that different fuels burn for different amounts of time, leaving a residue which depends on the type of fuel.

**Keywords:** research assignment, biofuels, experimental work
The aim of this research is to determine effecting argumentation on preservice science teachers’ opinions and suggestions related to main skills and value education. It was used action research method. The sample of study is comprised of 75 preservice science teachers from the 3rd grade. An argumentation scale (AS) consisting of 4 open-ended questions was used to collect data. In order to provide validity, it was taken expert views and necessary corrections were made at the scale. It was wanted to explain how argumentation affects science learning in the first question of AS. In the second question, it was wanted to explain how argumentation uses to gain science process skills. It was wanted to explain how argumentation uses to gain life skills in the third question. And in the fourth question, it was wanted to explain how argumentation contributes value education. Science curriculum was examined within the scope of Special Teaching Methods I lesson and theoretical and practical training on the argumentation model was given. Then, preservice science teachers’ opinions related to argumentation were taken. For analyzing data, descriptive statistics were done, preservice science teachers’ opinions were categorized and were determined frequencies/percent values. Preservice science teachers expressed that argumentation can contribute to develops critical thinking, communication skills and reasoning. They suggested some activities for implementing argumentation to gain science process skills and life skills. In addition, they thought that argumentation can be effective to gain values like tolerance, diligence, patience, solidarity and responsibility because of collaborative studying.

**Keywords:** argumentation, science process skills, life skills, values education, preservice science teachers
THE RELATIONSHIPS BETWEEN THE RATIO OF CO₂ OUTPUT TO HEART RATE AND AEROBIC FITNESS LEVELS IN HEALTHY YOUNG MALE DURING AN INCREMENTAL EXERCISE TEST

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The anaerobic threshold (AT) and maximal exercise (Wmax) are the most frequently applied variables in assessment of exercise intolerance. The relationships between aerobic fitness levels and CO₂ output to heart rate ratio called as CO₂ pulse at AT and at Wmax were evaluated in health subjects. Twenty males (age: 20.7±0.4 yr) performed an incremental exercise (15 W/min) to Wmax on a cycle ergometer. The ethical approval has been obtained before study. Pulmonary gas exchange parameter was measured breath-by-breath using a metabolic gas analyzer. V-slope method used to estimate AT. Aerobic fitness level was determined from Wmax for each kg of body weight (Wmax/BW). A linear regression analysis was used to evaluate fitness and CO₂ pulse. Wmax/BW was 3.033±0.1 W/min/kg. Heart rate at Wmax was 185±1.9 beat/min. CO₂ pulse was found to be 14.21±0.5 at AT and 19.30±0.5 at Wmax. There is a significant correlation between aerobic fitness levels and CO₂ pulse at Wmax and \( R = 0.72416; \ p<0.0001 \) and at the AT \( R = 0.48608; \ p=0.02 \). Consequently, CO₂ pulse reflects the CO₂ output with regarding each heart beat at the AT and Wmax can be used as an important parameter for evaluation of aerobic fitness levels of the subjects.

Keywords: incremental exercise test, aerobic fitness, anaerobic threshold, pulmonary gas exchange, v-slope
This study aims to determine the views of primary school prospective teachers on
the application of STEM included in the science teaching curriculum published in
2017. Phenomenology which is one of the qualitative research designs will be used in
the study. 52 primary school prospective teachers studying at 4th grade at a
university in the south of Turkey were participated in the study. A questionnaire
consisting of 7 open-ended questions was used as data collection tool. Expert
opinions were received for the validity of the questions, and necessary corrections
were made. After primary school prospective teachers experience the processing of
the new science teaching curriculum at the primary schools at which participants
have visited within the scope of the course 'Teaching Practice I', their perceptions
towards the concept of STEM and their views on the adequacy and applicability of
the application along with the change in the program were received. Conducting
content analysis in data analysis, the views of primary school prospective teachers
were classified and frequency / percentage values were looked at. Based on the
findings, it was found out that the addition of STEM applications to the program is
positive when used correctly and effectively by teachers, but the practice of
engineering and mathematics are not adequately covered in the program considering
the fact that primary school teachers are inadequate in engineering and
mathematics. Besides, STEM applications are not used very effectively in our country,
which is why the current teachers are considered as inadequate in these issues.

Keywords: stem, the new science teaching curriculum, the primary school
prospective teachers
WHAT STATISTICS SHOULD BE REPORTED AFTER STATISTICAL ANALYSIS?

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Researchers generally report some basic statistics and P-values after performing statistical analysis. Although it is necessary to report those statistics, reporting only these statistics will not be enough to fully understand the study and the messages which the authors want to give to the readers. To avoid such deficiencies, it is useful to report some effect size measures such omega-squared and epsilon squared and test power values besides descriptive statistics and P-values. That way, it will be possible to evaluate both statistical and practical significance simultaneously. It will also be possible to find some information to assess adequacy of the sample size of the study. That is why, recently many respectable journals have been requested the authors to report some effect size measures to assess practical significance along with P-values. It is also requested to report test power values to evaluate if the probability of presenting the actual difference/relation in the correct way. Therefore, statistical analysis results should be reported as informative as possible. The main objective of this study is to show the researchers what statistics should be reported after performing statistical analysis. For this aim, three different applications related to Social Science, Education, and Agriculture have been performed and results have been discussed in detailed.

**Keywords:** statistical analysis, p-value, descriptive statistics, effect size measure
ON DETERMINING APPROPRIATE CORRELATION COEFFICIENT

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Researchers are commonly interested in investigating the relations between two or more variables. Although Pearson-Moment correlation (r) is the most commonly used correlation for this purpose, it is only valid under the assumptions of bivariate normality, linear relationship between and homoscedasticity of the two variables. This correlation is also highly sensitive to the outliers and even a single outlier can mask strong relationship between two variables. In practice, these assumptions are generally not being fulfilled, which results in a decrease in test power and a deviation of the type I error rate from the nominal level. To address the cases where Pearson correlation may not be appropriate, different correlation coefficients including Spearman-Rank, Kendall-Tau, Winsorized, Permutation-based, Tetrachoric, Biserial, Point Biserial, Multiserial, Concordence, Kendall Concordence, and Canonical Correlation have been proposed. Now the question is: which correlation coefficient is more appropriate for our data set and how can we determine it? In order to answer this question, the measurement levels of the variables, whether there is an outlier, and the purpose of the study should be considered. It is because the appropriate correlation coefficient to be used for determining linear relationships between two or more variables varies depending on the factors mentioned above. This study was conducted to answer the following questions: a) Why are there so many correlation coefficients? b) How can we determine appropriate correlation coefficient for our data set(s)?

Keywords: association, pearson-moment correlation, point biserial correlation, simulation
INFLUENCE OF INCLINED BED CHANNEL ON CHARACTERISTICS OF FLOW FOR STEP BROAD-CRESTED WEIRS

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The effect of channel bed slope on characteristics of flow for single step Broad-Crested Weir was studied experimentally under free over flow conditions. Five weir models were manufactured and tested and one hundred twenty experiments were conducted in a laboratory horizontal channel of 12m length, 0.5m width and 0.45m depth for a wide range of discharge. The experimental results showed that water surface profiles were smooth and continues having a descending trend from the point of measurement taking the shape of the weir with a steep drop near the downstream face of the weir. It was found that for the same ratio \( P/P1 \). The discharge coefficient \( C_d \) increases with the increase of effective head to crest height ratio \( (He/P) \) and with the increase of channel slope \( (S_o) \). Also, it was found that for small values of \( (Fr_2) \), the weir performance tends to the ideal .and with increase \( (Fr_2) \), the discharge coefficient \( C_d \) decrease for all weir models, because the discharge and the velocity heads increases. Empirical equation was obtained to estimate the value of discharge coefficient in terms of effective head to crest height ratio\( (He/P) \), upstream crest height to downstream height ratio\( (P/P1) \), Froude number \( (Fr_2) \) at downstream of the weir and bed slope of channel \( (S_o) \) with high correlation coefficients.

Keywords: broad–crested weir, experimental study, open channel, discharge coefficient
THE ROLE OF THE POPULAR STORY IN THE DEVELOPMENT OF NATIONAL IDENTITY AMONG THE STUDENTS OF THE RESOURCE ROOM IN THE BASIC SCHOOL OF RENAISSANCE "B"

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This study dealt with the role of the folktale in the development of the national identity among the students with learning difficulties in Al-Nahda primary school (B) in order to develop and promote the concept of identity. The study aimed at identifying to what extent folktales can be used to work on the development of students' national identity. The team followed the participatory action research in order to develop the students' national identity. The researcher used the purposive sample consists of 10 students with learning difficulties. In order to answer the main question of the study, the teamwork met with the storyteller Abu Aisha in order to obtain Palestinian folktales. Based on the stories selected by the team, the researchers planned a pre-activity to measure the level of national identity of children and a number of pre-activities and post activities which are related to Palestinian folktales. After that, the team did a post-test with students by giving them a chance to write their own folktale. The study results: 1. Folktales have a role in developing and promoting the national identity through the using of the vocabulary and similes included in the folktales and instilling some national values such as charity, loyalty and generosity. Study Recommendations: 1. It's important to allocate classes for folktales. 2. Increasing the studies which are related to the folktales 3. Raising the awareness of the parents and drawing their attention to the importance of the Palestinian heritage.

**Keywords:** popular story, national identity
THE ROLE OF USING THE FLIPPED CLASSROOM STRATEGY IN INCREASING THE VOCABULARY CAPACITY ON 4TH GRADE STUDENTS IN AL-NAHDA ISLAMIC SCHOOL "B" IN JERUSALEM

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The study aimed at investigating the role of using the flipped classroom in increasing the vocabulary capacity and retaining them to use in English language skills the flipped classroom activates the role of the student and encourage the student to be the center of the learning process. In the flipped classroom, the teacher sends instructional videos that is interesting and motivating using technology. The researchers followed the participatory action research. The researchers used a purposive sample consists of fourth grade students. The study lasted for two months included three units. The researchers wrote reflection essays and side notes for the flipped classroom lessons. The researchers compared them with the previous reflections of the traditional lessons in order to answer the questions of the study. Moreover, the researchers used the interview with the parents and the students to assess the effectiveness of the flipped classroom. The study results: Using the flipped classroom is very effective and important in increasing the students' vocabulary capacity. The flipped classroom increases the motivation of the student toward learning as it is activating the role of the learner and encourages the student to be the center of the learning process. The flipped classroom strategy reduces the academic gap between students. The study recommendations: Increasing the studies that are related to the flipped classroom organizing workshops for the English teachers to raise their awareness about the flipped classroom. Raise the awareness of the parent about the importance of the flipped classroom.

Keywords: flipped classroom, vocabulary, motivation, academic gap
ROUGH IDEAL CONVERGENCE WITH ANY MATRIX A

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In 2008, after the definition of rough statistical convergence, some basic mathematical concepts such as ideal convergence, $l$-statistical convergence, Wijsman $I$-convergence redefined for this expression. A sequence $x = (x_k)$ is said to be rough $I$-convergent to $x$ provided that the set of all of $N$ which $|x_i - x| > r + \mu$ belongs to the ideal. In these papers, the set of all rough statistical limit points and the set of all rough statistical cluster points and also the set of all rough $I$-limit points and the set of all rough $l_i$-cluster points have been investigated. In this paper, we will consider the rough ideal convergence with any matrix $A$. We introduce $A^{1'}$-rough convergence and we investigate some main relation results. Thus, we generalize the wellknown summability method $I$-convergence. We also study the set of all rough $A^{1'}$-limits of a sequence and relation between boundedness and rough $A^{1'}$-convergence.

Keywords: rough convergence, ideal, ideal convergence
HUMAN FACTORS AND ERGONOMICS IN SUSTAINABLE INVENTORY MANAGEMENT: A LITERATURE REVIEW

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Traditional economic order quantity and lot sizing problems have a big impact on the decisions of production and inventory management systems. In recent years, increasing environmental awareness and sustainability concepts have become significant for companies. When the literature is examined, it is concluded that companies try to determine sustainable lot sizes that take into account traditional costs as well as environmental costs. Nevertheless, the concept of sustainability has a triple bottom line system that includes economic, social and environmental components. For this reason, companies need to consider human factors and ergonomics as a measure of social sustainability in order picking and storage systems where manual material handlings and labor are intensively used. This research field, which has been highly neglected in the literature, has recently gained importance and new studies have begun to be made in this issue. From this point of view in this study, a literature review has been carried out to examine which ergonomic criteria are taken into account, which methods are used and how social factors are included in storage and order picking systems.

Keywords: ergonomics, lot sizing, social sustainability
RANKING OF THE FACTORS INFLUENCING THE CLING OF THE NEW PRODUCT IN THE MARKET: A CASE STUDY

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In order that companies’ assets can continue, they need to adapt to evolving/changing world and changing customer needs. By closely following customer needs, they need to make changes in their existing products in line with these needs and maybe develop new products. Although new product is designed to meet customer needs, it is very important for the success of the company to cling this new product to the target market. As a result of the literature survey, it is seen that the factors which are effective in new products' efficiency in the market are top management support, customer friendliness of product, faultless production, proper distribution channel selection, e-commerce efficiency, advanced technology-based production. Understood from factors, each factor is important to itself and carries a financial value. It is not possible for a company to approach all of these factors equidistant in terms of costs. For this reason, a prioritization study has been carried out in order to determine the most important factor affecting the product's success in the target market in this study. The Fuzzy AHP method is used in prioritizing these factors. This study is conducted for a company operating in Ankara.

Keywords: prioritization, ahp, marketing, market efficiency
THE EUPHRATES ACCORDING TO MEDIEVAL ISLAMIC GEOGRAPHERS
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Today, in the broad sense, the name given to the region between the Tigris and the Euphrates is Mesopotamia. It was founded the first cities and the first organized states on the banks of the Euphrates and the Tigris. One of the two rivers that make up Mesopotamia is the Euphrates and this river has found considerable space in the geography books of Arab scientists. The Euphrates word has taken place both in the old sources as a river name and as a good water source. The Euphrates River, considered to have been born from the heavens and has been regarded as a sweet and lush source of water like the rivers of heaven. The 8th and 14th centuries are regarded as the Golden Age of Islam in science. In this period, as in other branches of science, many works have been taken in the field of geography. Islamic geographers have portrayed the geographical features of the areas they visited in accordance with the understanding of that period. These works were also discussed with the Euphrates River maps and miniatures. In this study, the characteristics of cities taking place in and near the Euphrates River will be discussed with the expression of Islamic geographers. For this purpose, the geographical works written between the X and XIV centuries will be examined and thus the Euphrates River will be tried to be revealed about a thousand years ago.

Keywords: historical geography, the euphrates, islamic geographers
HISTORICAL GEOGRAPHY OF CYPRUS ISLAND BETWEEN 10TH AND 14TH CENTURY

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Cyprus has been a geopolitical highlight throughout history where the third largest island of the Mediterranean after Sicily and Sardinia. Because of this location, it has been settled by people from ancient times. This island is an important accommodation center in the heart of the Eastern Mediterranean and at the crossroads of trade routes. The importance of Cyprus comes to the forefront when it is important for the trade routes of the Mediterranean. In the middle ages, Arab geographers who have made scientific visits many places of the world have also been interested in Cyprus Island. In this research will be investigated the historical geography of Cyprus Island in the light of the works of Arabic geographers of the middle ages. For this purpose, will be examined 10th and 13th centuries of Arabic geography and travel books and thus the historical geography of Cyprus Island will be revealed. In this study, the works written by Arab geographers and travelers will be examined and the information contained in these books will be tried to be earned. Thus, the features of the island of Cyprus will be investigated in terms of historical geography. Historical geography, which is geography of the past, uses today's methods and principles to research the geographical position of any region. For this are the main sources to be used, especially geographical books belonging to the past various, manuscripts, travel books, archives and travel books.

Keywords: cyprus, historical geography, cyprus geography
COACHING AND MENTORING STUDENTS TO OVERCOME STRESS AND ANXIETY

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63% of UK university students report experiencing stress or anxiety that interferes with their day-to-day life (YouGov, 2016). This is concerning because stress and anxiety have detrimental effects on students' academic, physical, emotional and psychological well-being. Higher levels of stress and anxiety have been associated with lower academic achievement, higher drop-out rates, physical illness, poor sleep quality, increased substance use, decreased self-esteem, and lower life satisfaction. My research seeks to address some of these issues by coaching and mentoring students into different skills and techniques to overcome stress and anxiety. Using an action research methodology, this study builds on my previous findings (presented at ICEMST-May 2017) from similar coaching and mentoring sessions; these have been refined and restructured to enhance their effectiveness and maximise student learning and benefits. The teaching is structured according to Bloom's (1956) taxonomy of educational objectives and addresses the cognitive, affective and psychomotor learning domains. Data collection is in progress and the findings will be available at the time of the conference. Based on my previous findings, I hypothesise that after an initial coaching and mentoring session, students' self-reported levels of stress and anxiety will decrease. I also hypothesise that those who attend subsequent advanced sessions will continue to benefit and there will be a further decrease in their stress and anxiety levels as compared to those who do not attend advanced sessions.

Keywords: coaching, mentoring, student well-being, stress, anxiety
This paper complements the one on Coaching and Mentoring Students to overcome stress and anxiety in which we will report the results from a series of coaching and mentoring sessions to teach students how to overcome stress and anxiety. In this second presentation we will elaborate on the intervention itself. We will give an overview of the nature (experiential and reflective) and background of the intervention, explain why and how it was developed and structured, elaborate on the theoretical basis behind it and some of the content covered in the sessions. We will draw on theories and findings from different fields including education, psychology, cognitive neuroscience and physiology. We will also present some of the benefits that students have reported from attending these sessions and explain the reasons behind their success. This includes key components that we have identified which can either enhance or hinder student learning and affect how much they gain and benefit from these sessions.

Keywords: coaching, mentoring, student well-being, stress, anxiety, confidence, intervention
CARTOONS WITH THE PERSPECTIVE OF DIFFERENT AGE GROUPS

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Teachers must be instructive to the students for making accurate choices in cartoon selection. In this context, it is important for the teacher candidates to evaluate the cartoons in this respect, to determine the opinions of the individuals in different age groups about cartoons and to examine the individuals in different age groups in terms of the status of watching cartoon. Phenomenology among the qualitative research approaches is used in this research which tries to reveal the opinions of candidate teachers and different age groups about the cartoon. The study group consists of five different age groups and teacher candidates. The data of the research is collected with semi-structured interviews. In the analysis of the data, a descriptive analysis technique is used. As a result of the preliminary analyzes, it is seen that while everything is accepted as real with short, single word responses in small age groups, unreal events in cartoons are beginning to be questioned in older age groups. However, it is expressed that the unreal events in cartoons do not get as much as attention as other groups and they approach the events more logically in 18-20 age period. Teacher candidates emphasize that in the selection of cartoons, the cartoons must present appropriate subject, character and behaviors by considering that the cartoons shall form the life style of the child and the child's world in lower age groups.

Keywords: cartoons, different age groups, teacher candidates, phenomenology
THE IMPORTANCE OF TRADITIONAL CHILDREN'S GAMES FOR CHILDREN

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Traditional children's games have been played for hundreds of years. These games are games that are played by more than one child from the past until now. It also includes children's concepts of respecting the line, knowing responsibility within the group, sharing, exercising for hand, arm, body, language development. Initially, the game and the ending game are planned in-house, which also provides the child's socialization while improving the ability of the children to take part in the group. The fact that the games are aimed at more self-centered individuals than self-centered individuals helps the children grow more sharing and we-centered than self-centered. In terms of personality development, traditional children's games are extremely important. In the same way, the movements that must be done, such as the language skills, running, hiding, throwing, etc., also contribute to the development of body art. The silence and obesity of children living in today's home and playing virtual environment games make them away from the environments that allow children to socialize and move. Traditional games therefore contribute to the development of the child's language, body development and personality development in terms of played with more than one child. The study will be evaluated in terms of precaution for the child by examining the traditional children's games such as burning/burning ball, one-and-a-half stone, three stone, five stone, Ali father clock and frost-fire in terms of their playing style. In addition, children's thoughts who play traditional games will also take place in this study.

Keywords: traditional, children's games, today, folk culture
CHILDREN’S GAMES FROM TRADITION UNTIL TODAY

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The traditional games based on hundreds of years of their first play, have changed day by day with little difference compared to the places and people who have played them and where they have been played during these years. Children by playing their face-to-face games, entertain themselves, become excited and angry, but ultimately continue to play in contact with the other person. The ball games, hide-and-seek, one-to-one, five-stone, high-lying, burning / burning ball games played by the father, the father and the child play an important role in ensuring harmony, integration and personal development in children's social life. Today's children play games through the virtual world. While playing the game, the rule program is pre-loaded and does not allow the child to contribute. Sometimes the program itself is played with virtual rivalry in the virtual world, sometimes on the virtual world, perhaps without ever meeting someone else in the world, without talking at all. As there is no control over the games, which are involving violence, pornography, deviant teachings are entering the lives of children. Concepts that should not be known as children are made known by early games. Some virtual games are the ones that totally change the life of the person like suicide, assault, theft. In our work, comparisons will be made in terms of the way games are played, especially in virtual environments. After this comparison, traditional games and contemporary games will be evaluated in terms of language, body, personality development, social harmony.

Keywords: child, games, traditional, internet games
EXAMINATION OF THE EFFECT OF WRITING TO LEARN WITH COOPERATIVE METHOD ON ACADEMIC ACHIEVEMENT, RETENTION AND WRITING ABILITY

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The purpose of this study is to determine the influence of cooperative method on academic success and the retention of this success in poster presentation, one of the writing to learn activities and compare the skills of poster presentation. The study participants consisted of 54 students that study in Science Teaching Department of a big university located in the east of Turkey. The experimental group students cooperatively conducted poster presentation process, given as a report assignment, by naming their group all together and finding a logo for themselves. On the contrary, the control group individually conducted poster presentation process. Achievement test, pretest, post test and retention test developed by researchers were applied to both experimental and control groups in the study. Cronbach’s Alpha reliability of the achievement test was found 0.82. T-test was employed to measure whether there was a significant difference among pretest, posttest and retention test scores of students, compare the scores of pretest, posttest and retention test in-group and create descriptive and independent samples with the aim of analyzing the relationship between poster presentation skills of experimental group and those of control group. The study results indicated that the difference regarding academic achievement was in favor of experimental group and there was no statistically significant difference in terms of retention. Significant difference between poster skill scores obtained by taking into account of scoring reliability of rubrics prepared by researchers belonged to the experimental group.

Keywords: writing to learn, cooperative method, academic achievement
The purpose of this study is to determine the opinions of Science teacher candidates regarding poster-making. The study whose design was qualitative employed a descriptive case study. The study universe was created by means of selection out of 6 teacher candidates that study in science teaching department during 2017-2018 academic year and write the reports of Fundamental Physics I class via poster-making, one of the writing to learn activities. The participants selected through purposeful sampling method which is not included in random sampling. The selection of teacher candidates which created the study group was based on their consent. Data was collected with semi-structured interview method. Data obtained from focus group discussion was recorded and after content analysis, it was deciphered and yielded certain codes, categories and themes. The results obtained in the light of findings indicated that all teacher candidates enjoyed poster-making activities and they stated that especially cooperative poster-making was highly efficient. These teacher candidates that used various writing to learn activities emphasized that poster and newspaper preparations were more educational and resident. They also mentioned that poster-making had a significant contribution to learning of Fundamental Physics I Laboratory class, they learned experiments in detail, however the only drawback was this kind of activities demanded a great amount of time. They pointed out that they will use these kinds of writing to learn activities when they become teachers.

Keywords: poster, writing to learn, semi-structured interview
A GENERALIZATION ON I-ASYMPTOTICALLY LAMBDA STATISTICAL EQUIVALENCE OF ORDER $\alpha$ FOR SET SEQUENCES

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In 2012, statistical convergence of sequences of sets were defined. Then many mathematical concepts such as I-statistical convergence and asymptotically equivalence redefined for this type of sequences. On the other hand, many concepts that are considered essential in this area has been reworked using the alpha number. In some papers, different direction was given to the statistical convergence, where the notion of statistical convergence of order $\alpha$ (0<$\alpha$<1) was introduced by using the notion of natural density of order $\alpha$. The behavior of this new convergence was not exactly parallel to that of statistical convergence. Some other applications of this concept are $\lambda$-statistical convergence of order $\alpha$, lacunary statistical convergence of order $\alpha$, weighted statistical convergence of order $\alpha$ and almost statistical convergence of order $\alpha$. I-statistical convergence and I-asymptotically equivalence of order $\alpha$ which we use more introduced in 2014. In all these studies, the authors gave a different direction to the study of statistical convergence where n is replaced by $n^\alpha$ in the denominator in the definition of natural density. In this paper, we use both concepts to describe the asymptotic I-statistical equivalence of set sequences with an alpha number, while at the same time we expand these concepts to a more general definition by a $p=(p_k)$sequence. Then we examine the relationship between these new concepts, taking into account the limitations of set sequences.

Keywords: statistical convergence, ideal, set sequences, i-statistical convergence, asymptotic equivalence
INVESTIGATING ECONOMY AS A MEAN TO REJUVENATE FOSSILIZED MATHEMATICAL KNOWLEDGE

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Teaching to first years at university level, we invariably had to deal with students having trouble with what we considered to be basic knowledge, like first degree equations. This issue was of paramount importance to us because most of the subsequent knowledge we had to teach relied, to some extent, on this basic knowledge. At some point we had to recognize the fact that recalling what a first degree equation was, was a completely inefficient strategy: students were bored to hear about the same concepts over and over again. Teaching in a business and management school led us to investigate the possibility of using economy as a mean to give these "older" mathematical concepts a second live. From a didactical point of view, our approach was to, sort of, reverse the connection between mathematics and economy. We went from "mathematics as tool for economy" to "economy as a semiotic model of mathematics". Our investigation is still at a preliminary stage. However, what we have found so far hints at the possibility of using this approach to have students gain a new and fresh interest in what they believed to be well-known mathematical concepts and moreover have them create, manipulate and reflect upon mathematics through the lenses of economy, so reshaping the very meaning of some mathematical concepts and letting them have the opportunity to experience a dual relationship between mathematics and economy, each one being in turn modeled by the other one.

Keywords: duality, semiotic model, fossilized knowledge, relationship with knowledge, transition between secondary school and university
OPTIMIZATION THE COMBINED HEAT AND POWER ECONOMIC DISPATCH PROBLEM USING HARMONY SEARCH ALGORITHM

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Recently, combined heat and power units, known as cogeneration, which produce both heat and electrical power, have played an increasing role in different industries. In order to utilize CHP units more efficiently, economic dispatch problem is applied to determine the optimal combination of the power and heat outputs of system while satisfying heat and power demand and other constraints with minimum fuel cost. This problem is known as combined heat and power economic dispatch (CHPED). Due to complex characteristics, heuristic and evolutionary based optimization approaches have become effective tools to solve the CHPED problem. The problem which is used in this paper is non-linear, non-smooth and non-convex. Harmony Search Algorithm is applied to two tests with different characteristics. The obtained results demonstrate the efficiency of the proposed method in solving non-convex and non-smooth problems, with considering and non-considering the transmission loss and also with both equal and different initialization of the problem for the same CHP units.

**Keywords:** combined heat and power (chp), cogeneration, economic dispatch (ed), harmony search algorithm (hs), optimization
RESEARCHING THE ALCOHOLIC FERMENTATION IN PRIMARY SCHOOL LABORATORY

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Research in primary school has recently become a hot topic and is gaining a foremost position among the educational goals and objectives in primary education. Thus, a responsible contemporary teacher of a natural science subject enables the student to get to know research work, which means that he or she guides them – through quality mentoring – through the methodology of writing a research paper, which is basically the same at all levels of the educational system, differing only in the complexity of the set research problem. At the same time, a teacher mentor should find pleasure in doing research work with their students, and regard that as an opportunity to make their work more interesting and to enhance their own knowledge. At our primary school we decided to actively integrate students into research work. The article presents a research assignment in which students in the final year of primary school (age 14-15) researched the question of what happens to apple juice of different sorts of apples before and after alcoholic fermentation. We tried to find out whether the sort of apples and the amount of sugar in apple juice affect the process of alcoholic fermentation. During experimental work, we took notes and gathered data on the amount of sugar in juice and the temperature changes that occur during alcoholic fermentation, which we measured by using a Vernier interface.

**Keywords:** research assignment in primary school, alcoholic fermentation, experimental work
NEW FUSED HETEROCYCLIC COMPOUNDS: SYNTHESIS OF SOME 1,4-DI[1,2,4-TRIAZOLES[3,4-B]5-PHNYL/ARYL-1,3,4-THIADIAZOLE] BENZENE

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In this paper the synthesis of some substituted di – 1,2,4-triazoles and it is conversion to multi nuclear heterocyclic compounds; described Terphthalic acid was esterified to its ethyl ester (1) by its reaction with absolute ethanol, concentrated sulfuric acid, the ethyl ester (1) was treated with hydrazine hydrate is ethanol to give the acid hydrazide (2). the hydrazide (2) then treated with ammonium thiocyanate to give thiosemicarbazide (3), reaction of thiosemicarbazide (3) with hydrazine hydrate gave 1,4-bis(3-thiol-4-amino-1,2,4-triazole-5-yl) benzene (4). Compound (4) treatment with three type substituted benzaldehyde gave 1,4-dihydrazones phenyl (5,6 and 7). Cyclization hydrazones compounds (5,6,7) with phosphorous oxochloride in xylene to give bicyclic system 1,4-bis[1,2,4-triazole[3,4-b]-5-substituted – 1,3,4-thiadiazole] benzene (8,9 and 10). On the other hand, some physical parameters of compounds (4-10) under investigation such as the Mullikan charge at the active atoms, HOMO and LUMO energy levels, hardness (η), electronic chemical potential (µ) and global electrophilicty index (W) were theoretically calculated using (Gaussian program). The antibacterial activity some of the synthesis compounds was studied. The structures of the synthesized compounds were confirmed by physical and spectral methods.

Keywords: heterocyclic, triazoles, thiaadiazole, terphthalic acid
Impact of Racquet Evolution: How New Technologies Affected Tennis Players Statistics?

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Like in many sport branches, technological developments have had a significant impact of how tennis is played. The evolution of materials used for the production of equipments created further evolution for the game. In this study, my purpose is to observe the impact of four racquets of different production date (An average 10-year difference between each production date). Five volunteers of average age of 24±3.54, average height of 179±8.19 centimeters, average weight of 80.2 ±2.17 kilograms and average sport year of 5.8±3.83 have participated in this study. Also, Wilson RF Autobiograph series (100 inch² head size, 340gr. Unstrung weight) production date 2017, Babolat Pure Drive Series (100 inch² head size, 300gr. Unstrung weight production date 2006), Expo (247gr. Strung weight, 90 inch², production date 1980) Donnay (253gr.strung weight, 90 inch², production date, 1970) were used. The data are analyzed by SPSS Statistics Program. The outcomes of the research point out to a positive impact of new racquet technologies on the game, especially in second serve percentages for all games (%75) and double faults numbers per a service game (%65) (As well as the other parameters, such as first serve percentage, winner and unforced errors per game). According to TQI (Tennis Quality Index) the new racquets affected tennis game enormously (%57). This study also makes certain predictions about possible future changes of the game of tennis.

Keywords: tennis, racket, racket technology
TEACHING ON TELEMEDICINE TECHNOLOGIES FOR MEDICAL STUDENTS, METHODOLOGY OF RUDN-UNIVERSITY

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Telemedicine technologies are actively being introduced into the health care practice. The Department of Medical Informatics has developed new curriculum module "Telemedicine" for students of 4-5 courses, which is implemented on the basis of the Telemedicine Center of the Medical Institute of the RUDN-University. It’s designed for 36 academic hours (1 credit ECTS), 17 hours for practice, and the rest for students' self-education. The following topics are included: the fundamentals of telemedicine, and the world trends in its development; technological equipment of telemedicine events; hardware and software of telemedicine; economic and legal aspects of telemedicine; scenarios of telemedicine activities. After theoretical lectures, students receive practical skills in the course of business games in preparation and conduct of video conferencing. During the classes we demonstrate to students the technologies of remote interactive learning, in particular television lectures and master classes from the leading clinics of Russia, countries of Europe, India, Brazil and Canada. Telemedicine Center for video conferencing equipped with all modern ITU standards. It is equipped with video conferencing complex, Full HD camcorder, professional document camera with built-in illumination plate for displaying x-rays. During two years we have taught 1200 students. Besides students from Russia (899), the module was mastered by students from Asia (135), Africa (123), America (21) and Europe (22). Teaching approach allows to obtain theoretical knowledge and practical skills of video conferencing and distance education methods, to get familiarized with international experience and trends in the development of telemedicine technologies. Methodology of training is described.

**Keywords:** telemedicine, videoconferencing, interactive education, distance learning
A RESEARCH RELATED TO PRIMARY SCHOOL STUDENTS’ USAGE OF BELONGINGS

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In primary schools, a lot of equipment, materials, etc., are used in conducting the learning process. Also, students use personal belongings like schoolbags, books, notebooks, water bottles, pencil cases, etc., during teaching process. This research aims to determine the present situation that is for some physical characteristic of primary school students and their frequency of usage of belongings such as school bags and etc. Survey Model is used in the research and it propounds a descriptive quality. The research was conducted in 2016, on 910 students who were from 5 different primary schools in Elazig. The SPSS package program was utilized for analyzing of data obtained in the research, and it was evaluated by using percentage, frequency and arithmetic average. As a result of the research; it was detected that, the average stature, the minimum was 106 cm and the maximum was 152 cm, was 128.46 cm. likewise, the average weight, the minimum was 16 kg and the maximum was 65.60 kg, was detected as 28.48 kg. Also, it was detected students were carrying schoolbags that had average of 3.56 kg while the minimum bag weight was 1 kg and the maximum was 8.90 kg. After rating students’ weights to weights of the bags they were carrying; it was detected that bag weights were 8% of their self-weight and this might cause some students have crucial problems in their physiological developments.

Keywords: primary school, schoolbag, bag weight, belonging, weight, stature
DETERMINATION OF THE OPINIONS OF THE 4\textsuperscript{TH} GRADE TEACHER CANDIDATES ABOUT RELIGIOUS EDUCATION

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Science Board

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The purpose of this research is to determine the opinions of the 4\textsuperscript{th} grade prospective teachers regarding the religious education. This study is composed of 50 class teacher candidates. The research is designed in the framework of the scientific research method and it was applied in the fall semester of 2017-2018 academic year. Semi-structured interview form, developed by researchers was used as data collection tool. The obtained data were analyzed according to the content analysis steps. As a result of the research, it was concluded that teacher candidates were positive about religious education. Teacher candidates expressed that the child should obtain religious information to distinguish between right and wrong, good and evil, and to live an ethical life. Participants also argued that, besides there would not be any problem in giving religious education to children, due to the importance of this education, educators should be careful and they should pay attention to the education and information given. Another data obtained in the survey is that educators who give religious education should be conscious, the education should be given in the level that the children can understand, the lesson should be processed through concrete examples while the education is being given and the subjects should be processed through activities that the individual will actively participate in.

Keywords: religion education, class teacher, class teacher candidate
LEARNING TO APPRECIATE INTERCULTURAL DIFFERENCES AS A NATIONAL RESOURCE (EFFECTIVE INTERCULTURAL RESPONSIVE TEACHING)

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Teaching a foreign language is a long and complex process. The teacher needs to present not only a new language, but also a new culture, a new way of thinking and viewing the world. Culture is a lens through which people perceive reality. A system of rules, established by a group of people to ensure their own survival. Culture is the glue that binds people together. Intercultural Communicative Competence (ICC) is rather the ability to communicate effectively with people from another culture. It is a concept that brings together a set of features such as flexibility, non-judgmental attitudes, openness, empathy, tolerance for ambiguity, and accepting diversity. The teacher plays a key role in any cross-cultural situation to foster students' intercultural competencies, their skills of interpreting, skills of discovery and interacting as well as raising both their critical cultural and intercultural awareness. The teacher is the learners' guide towards interculturality who helps students develop their awareness of different values and behaviors of the others as well as skills to deal with them in a non-judgmental strategy. The Intercultural teacher is a 'mediator' rather than a transmitter of knowledge. So, the role of teacher should be focused on encouraging autonomous learning skills in their students. This can be fulfilled through raising intercultural awareness and awakening students' curiosity and motivation. The teacher's task is encouraging students to build an understanding of intercultural values.

**Keywords:** foreign language, teaching, culture, awareness, intercultural
PRE-SERVICE TEACHERS’ ABSOLUTE VALUE EQUATIONS & INEQUALITIES SOLVING STRATEGIES AND ERRORS

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Many students in different grade levels have troubles with solving absolute value equations and inequalities because either they did not understand the basic concepts or they have a hard time in the procedural aspects. One of the reasons that causes these troubles is the skills of the math teacher and his/her strategies in solving absolute value equations and inequalities. This study investigated the strategies that pre-service teachers used and the errors they made while solving absolute value equations and inequalities. Fifty-one pre-service teachers enrolled in an introductory mathematics course participated in this study. Data were collected from a test that consisted of four absolute value equations and inequalities. Participants were asked to solve these absolute value equations and inequalities and show their work. Participants’ errors while solving each absolute value equation and inequality were recorded. The results of the study indicated that many pre-service teachers made few errors when solving absolute value equations and inequalities.

Keywords: math, absolute value, equation, inequality, pre-service teacher
THERORETICAL STUDY OF MECHANICAL, DYNAMICAL AND THERMODYNAMIC PROPERTIES OF PbX (X= Si, Ge AND Sn) IN ZINC-BLENDE STRUCTURE

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The full potential augmented plane wave plus local orbital method (FP-LAPW) using the generalized gradient approximation (GGA) within the framework of density functional theory (DFT) is applied to investigate structural, elastic and thermodynamic properties of PbX (X= Si, Sn and Ge). We expand the basis function up to $R_{MT}K_{\text{max}}= 9$ ($R_{MT}$ is the plane wave radius and $K_{\text{max}}$ is the maximum modulus for the reciprocal lattice vector), the maximum value for partial waves inside the atomic sphere is $l=10$. Full relativistic approximation is used for core electrons and scalar relativistic approximation is used for valence electrons. The muffin-tin sphere radii $R_{MT}$ used are 2.50 a.u. for each atom. Brillouin zone integration is performed using 29 k-points for zinc-blend structure. The numerical error was less than 0.1 mRy/cell. Dynamical calculations are performed using the generalized gradient approximation (GGA) within the plane wave pseudopotential method as implemented in the PWSCF code. For each atom, we used a PAW pseudopotentials. The electron wave functions were expanded with a plane wave basis set with a kinetic energy of 90 Ryd. The k-space integration on the Brillouin zone (BZ) for the self-consistent calculations was calculated with 8x8x8 k-points mesh of Monkhorst-Pack.

Keywords: fp-lapw method, pwscf method, dft, gga, elastic constants, phonon, thermodynamic properties
RESEARCH OF SHUBARKOL’S COKE OF DIFFERENT SIZE

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The types of coke density are studied. Specific density was determined by the pycnometryc method, the apparent densities of Shubarkol’s coke samples were determined by immersion in glycerin medium. The porosity and strength of the Shubarkol's coke are determined by the coke particle size classes. There is a true, apparent and bulk of coke. True density is determined by the pycnometric method and it is the most accurate and accessible in production conditions. The true density $d_{\text{true}}$ of coke depends on the calcination temperature and the duration of isothermal endurance. It is proved that by changing the holding time at a constant temperature of calcination, it is possible to obtain coke of different true densities [1-4]. True density is an indicator of quality for needle coke. In calcined needle, coke should be 98,5-99,5% of material of density 2140kg/. The apparent density $d_{\text{app}}$ represents the ratio of the mass of a porous material to the unit of its volume (that is, the coke density in the reaction apparatus, the cube, the apparent density is always less than the true density). Methods are known for determining the apparent density of coke by immersing them in a medium that does not penetrate into the pores (glycerin or solid powder).

**Keywords:** shubarkol's coke, densities, pycnometric method, porosity of coke, coke size
INVESTIGATION OF HAPTOGLOBIN, ALBUMIN AND SOME BIOCHEMICAL PARAMETERS IN CALVES WITH PNEUMONIA

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In this study, it was aimed to determine levels of haptoglobin, albumin and some biochemical parameters before and after treatment in calves with pneumonia. Ten clinically healthy calves as control and 15 calves with pneumonia total 25 calves were used. Blood samples were collected from Jugular vein (before treatment 0. day, after treatment 7th) and centrifuged. Serum samples were used to determine the concentration of haptoglobin, albumin, total protein, urea, creatinine, total bilirubin concentration and activity of ALP and AST. Pre-treatment haptoglobin, urea, creatinine, total bilirubin concentration activity of ALP and AST were significantly increased in pneumonia-infected animals compared to the control group, and albumin, total protein concentration was significantly decreased. In this study were found significant changes in haptoglobin and biochemical parameters of pneumonia-infected animals and these parameters could be used for determining pathogenesis of diseases and prognosis.

Keywords: pneumonia, calves, haptoglobin
SYNTHESIS OF SOME NOVEL 3-ALKYL(ARYL)-4-[3-(2-FURYLCARBONYLOXY)-4-METHOXY-BENZYLIDENAMINO]-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE COMPOUNDS

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The biochemical properties of the triazole ring and triazole derivatives containing this ring, which are important members of the heterocyclic compounds, provide a broad field of study. Especially in recent years, the triazole ring, which is manifested in increased biological activity studies, is a ring with antimicrobial, antioxidant, anti-inflammatory and different pharmacological properties. 1,2,4-Triazole and 4,5-dihydro-1H-1,2,4-triazol-5-one derivatives are reported to possess a broad spectrum of biological activities such as antibacterial, antifungal, antioxidant, anti-inflammatory, anticonvulsant, antiparasitic, analgesic, antiviral, antitumor, anti-HIV, antihypertensive and diuretic properties. In addition, several articles reporting the synthesis of some N-arylidenamino-4,5-dihydro-1H-1,2,4-triazol-5-one derivatives have been published so far. This study was planned as two parts. The first part contains that synthesis of new compounds, nine novel 3-alkyl(aryl)-4-[3-(2-furylecarbonyloxy)-4-methoxymbenzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-one (3) compounds were synthesized from a reaction of type 1 compounds with 3-(2-furylecarbonyloxy)-4-methoxybenzaldehyde (2) which is obtained from a reaction of 3-hydroxy-4-methoxybenzaldehyde and furan-2-carbonyl chloride. The final part contains that synthesis of new compounds. The structures of these novel compounds were characterized by using, IR, $^1$H NMR and $^{13}$C NMR spectral data.

Keywords: 1.2.4-triazol, schiff base, synthesis.
A STUDY ON THEORETICAL AND EXPERIMENTAL SPECTROSCOPIC PROPERTIES 3-ETHYL-4-(3-METHOXY-4-PHENYLACETOXYBENZYLIDENAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE

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In this study, theoretically spectral values of 3-ethyl-4-(3-methoxy-4-phenylacetoxybenzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-one were calculated and these values were compared with experimental values. The obtained conclusions were evaluated. For this purpose, firstly, 3-ethyl-4-(3-methoxy-4-phenylacetoxybenzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-one has been optimized using B3LYP/6-31G(d) and HF/6-31G(d) basis set. $^1$H-NMR and $^{13}$C-NMR spectral values according to GIAO method was calculated using Gaussian G09W program package in gas phase and in DMSO solvent. Theoretically and experimentally values were plotted according to $\delta_{\text{exp}}=a \cdot \delta_{\text{calc}} + b$, Eq. a and b constants regression coefficients with a standard error values were found using the Sigma plot program. Experimental data were obtained from the literature. Theoretically calculated IR values of this compound were calculated in gas phase by using of 6-31G(d) basis sets of B3LYP and HF methods and are multiplied with appropriate scale factors and the values obtained according to B3LYP and HF methods are formed using theoretical infrared spectrum. The identification of calculated IR values was used veda4f program. UV-vis values in ethanol were calculated. In addition, bond angles, bond lengths, dipole moments, the highest occupied molecular orbital-lowest unoccupied molecular orbital (HOMO-LUMO) energy, mulliken charges and total energy of the molecule were calculated with both methods. The calculated and experimental results were exhibited a very good agreement.

Keywords: 1.2.4-triazol-5-one, gaussian 09w, giao, b3lyp, hf.
SYNTHESIS AND ANTIOXIDANT ACTIVITIES OF SOME NOVEL 3-(MORPHOLIN-4-YL-METHYL)-3-ALKYL(ARYL)-4-(3-METHOXY-4-ISOBUTYRYLOXYBENZYLIDENEAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONES

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In this study, five novel 1-acetyl-3-alkyl(aryl)-4-(3-methoxy-4-isobutryryloxybenzylideneamino)-4,5-dihydro-1H-1,2,4-triazol-5-ones (2) were obtained by the reactions of 3-alkyl(aryl)-4-(3-methoxy-4-isobutryryloxybenzylideneamino)-4,5-dihydro-1H-1,2,4-triazol-5-ones (1) with acetic anhydride. The titled compounds were characterized by using IR, $^1$H-NMR $^{13}$C-NMR and mass spectroscopic methods. This study was planned as three parts; in the first part, 3-alkyl(aryl)-4-(3-methoxy-4-isobutryryloxybenzylideneamino)-4,5-dihydro-1H-1,2,4-triazol-5-ones (1) were treated with morpholine in the presence of formaldehyde according to the Mannich reaction to synthesize five novel 1-(morpholin-4-yl-methyl)-3-alkyl(aryl)-4-(3-methoxy-4-isobutryryloxybenzylideneamino)-4,5-dihydro-1H-1,2,4-triazol-5-ones. In the second part, The antioxidant properties of the title compounds were analyzed and evaluated using three antioxidant assays, including reducing power, free radical scavenging and metal chelating activity. For the measurement of the reductive ability, $\text{Fe}^{3+}-\text{Fe}^{2+}$ transformation was investigated in the presence of compound using the method of Oyaizu (1986). The hydrogen atoms or electrons donation ability of the synthesized compound was measured by DPPH using the method of Blois (1958). The chelating effect of ferrous ions by the compound was determined according to the method of Dinis, Madeira & Almeida (1994). BHT, BHA, EDTA and $\alpha$-tocopherol were used as reference antioxidant compounds. In the last part of the study, antibacterial activities of 3-(morpholin-4-yl-methyl)-3-alkyl(aryl)-4-(3-methoxy-4-isobutryryloxybenzylideneamino)-4,5-dihydro-1H-1,2,4-triazol-5-ones (2) were evaluated against six bacteria such as Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus, Bacillus subtilis, Bacillus cereus and Klepsiella pneumonia according to agar well diffusion method.

Keywords: 1, 2, 4-triazol-5-one, schiff base, manich base, synthesis, antioxidant activity
THEORETICAL INVESTIGATION OF STRUCTURAL, SPECTROSCOPIC ELECTRONIC PROPERTIES OF 3-(p-METHOXYBENZYL)-4-[(3-METHOXY-4-ISOBUTYROXYLOXY) BENZYLIDENAMINO]-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE BY USING 6-31G (D,P) BASIS SET

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3-(p-Methoxybenzyl)-4-[(3-methoxy-4-isobutyroyloxy) benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-one was optimized by using the B3LYP/6-31G (d,p) and HF/6-31G (d,p) basis sets. \(^1\)H-NMR and \(^13\)C-NMR isotropic shift values were calculated by the method of GIAO using the program package Gaussian G09W. Experimental (Sevda & Yüksek, 2017) and theoretical values were inserted into the grafic according to equatation of \(\delta_{\text{exp}} = a + b \cdot \delta_{\text{calc}}\). The standard error values were found via SigmaPlot program with regression coefficient of a and b constants. IR absorption frequencies of title molecule were calculated by two methods. The veda4f program was used in defining IR data, which were theoretically calculated. The experimental and the obtained theoretical values were compared and found by regression analysis that are accurate. Furthermore, the ground state geometrical energy, the dipole moment (\(\mu\)), mean polarizability (\(\alpha\)), the total first static hyperpolarizability (\(\beta\)), energies of the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO) in the ground state were calculated by using HF/DFT with 6-31G (d,p) basis set. \(E_{\text{LUMO}} - E_{\text{HOMO}}\) energy gap (\(\Delta E\)), electronegativity (\(\chi\)), electron affinity (\(A\)), global hardness (\(\eta\)), softness (\(\sigma\)) and ionization potential (\(I\)) were calculated.

**Keywords:** 4.5-dihydro-1h-1.2.4-triazol-5-on, gaussian 09w, giao, b3lyp, hf, 6-31g(d, p)
EVALUATION OF THEORETICAL AND EXPERIMENTAL PROPERTIES OF 1-(MORPHOLIN-4-YL-METHYL)-3-P-METHYLBENZYL-4-(4-METHYLTHIOBENZYLIDENEAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE

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In this study, 1-(morpholin-4-yl-methyl)-3-p-methylbenzyl-4-(4-methylthiobenzylideneamino)-4,5-dihydro-1H-1,2,4-triazol-5-one was optimized by using B3LYP/6-31G(d,p) and HF/6-31G(d,p) basis sets. The calculated IR data of compound were calculated in gas phase by using of 631G(d) basis sets of B3LYP and HF methods and are multiplied with appropriate adjustment factors. Theoretical infrared spectrums are formed from the data obtained according to B3LYP and HF methods. In the identification of calculated IR data was used the veda4f program. Also, $^1$H-NMR and $^{13}$C-NMR spectral data values were calculated according to the method of GIAO using the program package Gaussian G09W Software. Experimental (Kol et al., 2017) and theoretical values were inserted into the graphic according to equitation of $\delta_{exp} = a + b \cdot \delta_{calc}$. The standard error values were found via SigmaPlot program with regression coefficient of a and b constants. Furthermore, molecule’s theoretical bond angles, dihedral angles, UV-Vis values, dipole moments, mulliken charges, HOMO-LUMO energies, total energy of the molecule, ionization potential, electron affinity, electronegativity and thermodynamic properties for both methods were calculated.

Keywords: 4.5-dihdro-1h-1.2.4-triazol-5-one, morpholine, giao, b3lyp, hf, 6-31g(d)
SYNTHESIS OF ANTIOXIDANT ACTIVITIES OF NEW 1-(3-METHYLPYPERIDINE-4-YL-METHYL)-3-ALKYL(ARYL)-4-(4-(METHYLTHIOBENZYLIDENAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONES

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Considering about the development of new hetero moieties by combining potential biological active scaffolds, an attempt was made here to obtain 1,2,4-triazoles bearing 3-methylpiperidine ring. In this regard, 3-alkyl(aryl)-4-(4-methylthiobenzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-ones (1) reacted with formaldehyde and 3-methylpiperidine to afford 1-(3-methylpiperidine-4-yl-methyl)-3-alkyl(aryl)-4-(4-methylthiobenzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-ones (2). The structures of eight new Mannich bases were established from the spectral data. The starting compounds 1 were prepared according to Kardaş (2006). Antioxidants are extensively studied for their capacity to protect organism and cell from damage that is induced by the oxidative stress. A great deal of research has been devoted to the study of different types of natural and synthetic antioxidant. The synthesized 2 type compounds were analyzed for their in vitro potential antioxidant activities in three different methods; including reducing power, according to the method of Oyaizu (1986); free radical scavenging activity, using the method of Blois (1958) and metal chelating activity, by the method of Dinis, Madeira & Almeida (1994). Butylated hydroxytoluene (BHT), butylated hydroxyanisole (BHA) and α-tocopherol were used as reference antioxidant compounds. Acknowledgements: This work was supported by the Scientific Research Projects Coordination Unit of Kafkas University (Project Number: 2016-FM-61).

**Keywords:** 1.2.4-triazol-5-one, mannich base, synthesis, antioxidant activity
SYNTHESIS, CHARACTERIZATION AND ANTIOXIDANT ACTIVITIES OF NEW [2-METHOXY-5-(1-ACETYL-3-ALKYL/ARYL-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE-4-YL)-AZOMETHINPHENYL] BENZOATES

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Antioxidants are extensively studied for their capacity to protect organism and cell from damage that is induced by the oxidative stress. A great deal of research has been devoted to the study of different types of natural and synthetic antioxidant. A large number of heterocyclic compounds, containing the 1,2,4-triazole ring, are associated with diverse biological properties such as antioxidant, anti-inflammatory, antimicrobial and antiviral activity. In the present study, due to a wide range of applications to find their possible antioxidant activity, eight new [2-methoxy-5-(1-acetyl-3-alkyl/aryl-4,5-dihydro-1H-1,2,4-triazol-5-one-4-yl)-azomethinphenyl] benzoates (2) were synthesized by the reactions of [2-methoxy-5-(3-alkyl/aryl-4,5-dihydro-1H-1,2,4-triazol-5-one-4-yl)-azomethinphenyl] benzoates (1) with acetic anhydride. 1 Type compounds were synthesized according to Bahçeci et al. (2016). The titled compounds characterized by IR, $^1$H NMR, $^{13}$C NMR and UV spectral data. In the second part of the study, the antioxidant properties of the compounds 2 were studied and evaluated using different three antioxidant assays; including reducing power, free radical scavenging and metal chelating activity. Some of the compounds showed moderate antioxidant activities. Acknowledgements: This work was supported by the Scientific Research Projects Coordination Unit of Karadeniz Technical University (Project Number: 2008.116.006.1).

**Keywords:** 1.2.4-triazol-5-one, synthesis, acetylation, antioxidant activity
A STUDY ON EXPERIMENTAL, THEORETICAL SPECTROSCOPIC AND THERMODYNAMIC PROPERTIES OF 3-METHYL-4-[3-(4-NITROBENZOXOY)-4-METHOXYBENZYLIDENAMINO]-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE BY DFT/(B3LYP)/HF METHODS WITH 6-31G (D,P) BASIS SET

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In this study, theoretical spectral values of 3-methyl-4-[3-(4-nitrobenzoxo)-3-methoxy-benzylideneamino]-4,5-dihydro-1H-1,2,4-triazol-5-one were calculated and compared with experimental values (Bahçeci et al., 2017). Title compound has been optimized using B3LYP/6-31G(d,p) and HF/6-31G(d,p) basis sets. $^1$H-NMR and $^{13}$C-NMR spectral values according to GIAO method was calculated using Gaussian G09W program package in gas phase and in DMSO solvent. Theoretical and experimental values were plotted according to $d_{exp}=a+b$. $d_{calc}$. The standard error values were found via the Sigma plot with regression coefficient of a and b constants. The vibrational frequency values of this compound have been calculated by using 6-31G(d,p) basis set with DFT and HF methods and these values are multiplied with appropriate adjustment factors. The veda4f program was used in defining IR data. In addition, bond angles, bond lengths, dipole moments, the highest occupied molecular orbital-lowest unoccupied molecular orbital (HOMO-LUMO) energy, Mulliken atomic charges and total energy of the molecule were calculated with both methods. Finally, the calculation results were analyzed to simulate $^1$H and $^{13}$C nuclear resonance chemical shifts, infrared spectroscopic values and UV data of this compound.

Keywords: 4.5-dihydro-1h-1.2.4-triazol-5-on, gaussian 09w, giao, b3lyp, hf, 6-31g(d, p)
The azoles that form an important class of heterophilic compounds are noted as heterocyclic compounds with a very broad biological activity enrichment. In addition, in pharmacological applications, they have been of interest to many working groups with their considerable importance for biological activity and have become a research topic for many working groups. In particular, 1,2,3-triazoles, 1,2,4-triazoles, 1,3,4-oxadiazoles and thiazoles have been of interest in terms of heterocyclic chemistry. Triazoles are widely used in the pharmaceutical industry, in the production of agrochemicals, in the paint industry, in the acquisition of photographic materials and in anti-corrosion materials. The basis set of B3LYP 6-31+G(d,p) is selected in the Density Functional Theory of synthesized 4,5-dihydro-1H-1,2,4-5-on triazole derivatives using the Gaussian 09W program and their quantum mechanical data at the gas-phase are obtained. Figure 1: 1-acetyl-3-alkyl (aryl) -4- (3-methoxy-4-isobutyryloxybenzylideneamino) -4,5-dihydro-1H-1,2,4-triazole-5-on compounds

Keywords: triazole, density functional theory, quantum chemical calculations
INVESTIGATION OF ELECTRONIC PROPERTIES OF SYNTHESIZED HETEROCYCLIC MANNICH BASES

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Triazole derivatives belonging to the group of five membered heterocyclic compounds have gained importance, recently. Their popularity has been increasing due to their chemical activities being suitable for the replacement of various substituents on their structure, together with their tautomeric properties. The Mannich reaction is a three-component condensation reaction consisting of an active hydrogen-containing compound, formaldehyde and a secondary amine. Mannich bases have been used in numerous practical applications such as analytical reagents, cosmetic products, paints, products used in water treatment, natural macromolecular materials (such as leather, paper) textile, synthetic polymers production, additives used by the petroleum industry. In this study, the Gaussian 09W program and the Density Functional Theory computational method were used to obtain data on electronic properties of the newly synthesized Mannich bases in the gas-phase. Figure 1: 1-(morpholin-4-yl-methyl)-3-alkyl (aryl) -4- ((3-methoxy-4-isobutryloxybenzylideneamino) -4,5-dihydro-1H-1,2,4-triazole-5-on compounds HOMO energy ($E_{\text{HOMO}}$), LUMO energy ($E_{\text{LUMO}}$), HOMO-LUMO energy gap ($\Delta E$), which are the electronic structure identifiers of the optimized structures, hardness ($\eta$), softness ($\sigma$), electronegativity ($\chi$), chemical potential ($\Pi$), electrophilicity index ($\omega$), nucleophilicity ($\varepsilon$) index, dipole moment ($\mu$), polarizability ($\alpha$) for NLO properties, anisotropic polarizability ($\Delta \alpha$) and primary hyperpolarizability ($\beta_0$) values were calculated and interpreted.

**Keywords:** triazole, nics, mannich reaction, electronic structure identifiers
SOME MICROBIOLOGICAL PROPERTIES OF KARS KASHAR AND CECIL CHEESES

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This study was conducted to investigate the microbial quality of kashar and cecil cheeses and to identify risk factors and deficiencies. A twenty-five kashar and cecil cheese samples collected from local retail markets in Kars, Turkey and microbiological characteristics were investigated. The homogenized cheese samples were taken in appropriate quantities and prepared for microbial analysis. When Escherichia coli, Listeria monocytogenes and Salmonella spp. could not be detected in kashar cheeses, average values of viable aerobes, Coliforms, Staphylococ/Micrococcus, Enterobacteria, Yeast and Mold were found to be $1.02 \times 10^8$ cfu/g, $0.66 \times 10^1$ cfu/g, $8.30 \times 10^1$ cfu/g, $3.5 \times 10^1$ cfu/g, $3.82 \times 10^6$ cfu/g respectively. In cecil cheeses, average values of viable aerobes, Coliforms, Staphylococ/Micrococcus, Enterobacteria, Yeast and Mold, Escherichia coli were determined as $1.6 \times 10^8$ cfu/g, $1.9 \times 10^1$ cfu/g, $1.65 \times 10^2$ cfu/g, $1.9 \times 10^2$ cfu/g, $4.31 \times 10^6$ cfu/g, $0.14 \times 10^1$ cfu/g respectively. Listeria monocytogenes, Salmonella spp could not be determined in cecil cheeses. It was determined that the microbiological quality of Kars kashar and cecil cheeses has been changed very wide limits. In the direction of the obtained results, microbiological risk has been seen in some of the cheeses.

Note: This study was supported by the Scientific Research Projects Coordination Unit of Kafkas University (Project Number 2016-TS-27).

Keywords: kashar cheese, cecil cheese, microbiological properties
THE EFFECT OF FRUIT ADDITION ON THE SHELF LIFE OF YOGHURTS

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In this study, the effects of fruits on chemical, microbiological and sensory characteristics of fruit yoghurts prepared with strawberry, banana, peach, and apricot during storage period were examined. The values of parameters analyzed during the study, when compared to plain yoghurt, were found to have significant difference. During the storage the acidity of plain and fruit yoghurts were found 0.86-1.470, pH 3.89-4.01, L. bulgaricus 6.768-7.809, S. thermophilus 5.985-7.492, mold 1.998-2.202, and yeast 5.016-7.726. At this point, the maximum level of acidity was observed in strawberry yoghurt, while pH level was found to be lower in all the fruit yoghurts in proportion to plain yoghurt. While the numbers of L. bulgaricus (except strawberry yoghurt) and S. thermophilus were found to be higher in all the fruit yoghurts, the number of yeast and mold were found to be less in all the fruit yoghurts. In sensory analyses among the fruit yoghurts, it was determined that, while the fruits had no statistically significant effect on the sensory characteristics, the most popular types were banana and strawberry yoghurts.

Keywords: fruit yoghurt, microflora, lactic acid bacteria, sensory analysis
ANTIOXIDANT AND ANTIMICROBIAL ACTIVITIES OF SOME NEWLY SYNTHESIZED 4\[-1\text{-}(2,6\text{-dimethylmorpholin}-4\text{-yl-methyl})\text{-}3\text{-alkyl(aryl)}\text{-}4,5\text{-dihydrotriazol-5-on-4-yl-azomethyl}\text{-}2\text{-methoxyphenyl benzoates}

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In this study, 4\[-(3\text{-alkyl/aryl}-4,5\text{-dihydro-1H-1,2,4-triazol-5-one-4-yl-azomethine})\text{-}2\text{-methoxyphenyl benzoates were treated with 2,6-dimethylmorpholine in the presence of formaldehyde according to the Mannich reaction to synthesize six novel 4\[-1\text{-}(2,6\text{-dimethylmorpholin}-4\text{-yl-methyl})\text{-}3\text{-alkyl(aryl)}\text{-}4,5\text{-dihydrotriazol-5-on-4-yl-azomethine}\text{-}2\text{-methoxyphenyl benzoate compounds. The structures of synthesized six novel heterocyclic compounds were characterized by IR, }{^{13}}\text{C-NMR and }{^1}\text{H-NMR spectroscopic methods. The synthesized the novel 4\[-1\text{-}(2,6\text{-dimethylmorpholin-4-yl-methyl})\text{-}3\text{-alkyl(aryl)}\text{-}4,5\text{-dihydrotriazol-5-on-4-yl-azomethyl}\text{-}2\text{-methoxyphenyl benzoates were investigated in vitro antioxidant properties by using reducing power, free radical scavenging and metal chelating activity. For the measurement of the reductive ability, }Fe^{3+}\text{-}Fe^{2+}\text{ transformation was investigated in the presence of compound using by the method of Oyaizu (1986). The hydrogen atoms or electrons donation ability of the synthesized compound was measured by DPPH using the method of Blois (1958). The chelating effect of ferrous ions by the compound was determined according to the method of Dinis, Madeira & Almeida (1994). BHT, BHA, EDTA and }\alpha\text{-tocopherol were used as reference antioxidant compounds. The new compounds were examined in-vitro antimicrobial properties against 6 different microorganisms (Bacillus subtilis (ATCC11774), BacillusCereus (ATCC11778), Staphylococcus aureus (ATCC6538), Escherichia coli (ATCC25922), Pseudomonas}
aeruginosa (ATCC27853) and Klebsiella pneumonia (ATCC4352)) by the agar well method and the obtained results were evaluated.

**Keywords:** mannich base, 4.5-dihydro-1H-1.2.4-triazol-5-one, antioxidant, antimicrobial.
A STUDY ON THEORETICAL AND EXPERIMENTAL SPECTROSCOPIC PROPERTIES 4-(3-N-PROPYL-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE-4-YL-AZOMETHINE)-2-METHOXYPHENYL BENZOATE

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In this study, firstly, 4-(3-alkyl/aryl-4,5-dihydro-1H-1,2,4-triazol-5-one-4-yl-azomethine)-2-methoxyphenyl benzoate has been optimized using B3LYP/6-31G(d,p) and HF/6-31G(d,p) basis set. $^1$H-NMR and $^{13}$C-NMR spectral values according to GIAO method was calculated using Gaussian G09W program package in gas phase and in DMSO solvent. Experimental data were obtained from the literature. Experimental and theoretical values were inserted into the graphic according to equitation of $\delta_{exp}=a+b$. $\delta$ calc. The standard error values were found via SigmaPlot program with regression coefficient of $a$ and $b$ constants. Theoretically calculated IR values of this compound were calculated in gas phase by using of 6-31G(d,p) basis sets of B3LYP and HF methods and are multiplied with appropriate scale factors and the values obtained according to B3LYP and HF methods are formed using theoretical infrared spectrum. The identification of calculated IR values was used veda4f program. Then, theoretically spectral values of 4-(3-alkyl/aryl-4,5-dihydro-1H-1,2,4-triazol-5-one-4-yl-azomethine)-2-methoxyphenyl benzoate was calculated and these values were compared with experimental values and obtained conclusions were evaluated. UV-vis values in ethanol were calculated. In addition, bond angles, bond lengths, dipole moments, the highest occupied molecular orbital-lowest unoccupied molecular orbital (HOMO-LUMO) energy, mulliken charges and total energy of the molecule were calculated with both methods. The calculated and experimental results were exhibited a very good agreement.

**Keywords:** 4.5-dihydro-1h-1.2.4-triazol-5-on, gaussian 09w, giao, b3lyp, hf, 6-31g(d.p) basic set.
INVESTIGATION OF THEORETICAL PROPERTIES OF 3-(M-CHLOROBENZYL)-4-[3-(2-METHYLBENZOXY)-BENZYLIDENAMINO]-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE USING B3LYP AND HF BASIS SETS

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In this study, firstly, 3-(m-chlorobenzyl)-4-[3-(2-methylbenzoxy)-benzylidnamino]-4,5-dihydro-1H-1,2,4-triazol-5-one was optimized by using the B3LYP/631G (d,p) and HF/631G (d,p) basis sets (Frisch et al., 2009; Wolinski, Hilton & Pulay, 1990). Thus, the most stable geometrical conformer of compound was obtained. Then, $^1$H-NMR and $^{13}$C-NMR isotropic shift values were calculated with method of GIAO (Wolinski et al., 1990). Experimental (Ulufer, 2014) and theoretical values were inserted into the grafic according to equatati $\delta_{\text{exp.}} = a + b \cdot \delta_{\text{calc.}}$. The standard error values were found via SigmaPlot program with regression coefficient of $a$ and $b$ constants. Otherwise, the veda4f program was used in defining of IR data theoretically (Jamróz, 2004). Theoretically calculated IR data are multiplied with appropriate adjustment factors (Merrick et al., 2007) and the data obtained according to HF and DFT method are formed using theoretical infrared spectrum. Finally, bond lengths, mulliken charges, the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO), total energy of the molecule, dipole moments were calculated with Gaussian 09 program on the computer.

Keywords: b3lyp, hf, giao, mulliken charge, veda4f
SYNTHESIS AND ANTIOXIDANT ACTIVITIES OF NEW 1-ACETYL-3-ALKYL/ARYL-4-[3-(2-METHYLBENZOXY)-BENZYLIDENAMİNO]-4,5-DİHİDRO-1H-1,2,4-TRİAZOL-5-ONES

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The biochemical properties of the triazole ring and triazole derivatives containing this ring, which are important members of the heterocyclic compounds, provide a broad field of study. Especially in recent years, the triazole ring, which is manifested in increased biological activity studies, is a ring with antimicrobial, antioxidant, anti-inflammatory and different pharmacological properties. In this regard, 3-alkyl(aryl)-4-[3-(2-methylbenzox)-benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-ones, which were synthesized according to the literature, were treated with acetic anhydride and five novel 1-acetyl-3-alkyl(aryl)-4-[3-(2-methylbenzox)-benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-ones were synthesized. The structures of new compounds were established from the spectral data. In addition, 1-acetyl-3-alkyl(aryl)-4-[3-(2-methylbenzox)-benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-one compounds were analyzed for their in vitro potential antioxidant activities in three different methods; including reducing power, according to the method of Oyaizu (1986); free radical scavenging activity, using the method of Blois (1958) and metal chelating activity, by the method of Dinis, Madeira & Almeida (1994). Butylated hydroxytoluene (BHT), butylated hydroxyanisole (BHA) and α-tocopherol were used as reference antioxidant compounds.

**Keywords:** 4.5-dihydro-1H-1,2,4-triazol-5-one, schiff base, synthesis, acetylation, antioxidant activity
EFFECTS OF DIFFERENT INTENSITY CONSTANT LOAD AEROBIC EXERCISE TESTS ON ENERGY EXPENDITURE IN MALE SUBJECTS

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During exercise, fat and carbohydrate oxidation are main energy source. We purposed to evaluate impacts of two different aerobic exercise intensity on amount of energy expenditure, fat and carbohydrate oxidations. Eleven males (age: 20.8±1.9 yr, BMI: 22±2 kg/m²) performed an incremental exercise test to maximal exercise (Wmax). Then, each subject performed two 30 min of aerobic constant load exercise tests at their 45% (W⁴₅: 98±15 W) and 60% (W⁶₀: 130±21 W) of Wmax on different days. Ethical approvement has been obtained before study. Respiratory and pulmonary gas exchange parameters were measured breath-by-breath using metabolic gas analyser. Frayn Formula was used to determine fat and carbohydrate oxidation. Wmax was 217±27 W. Fat and carbohydrate oxidations were found to be 0.228±0.003 gr/min and 1.589±0.01 gr/min in W⁴₅ and increased to 0.346±0.005 gr/min (p<0.05) and 1.945±0.01 gr/min (p<0.05) in W⁶₀. Energy expenditure from fat oxidation was 8.58±0.1 Kjoule/min W⁴₅ and increased to 13.01±0.2 Kjoule/min W⁶₀. Energy expenditure from carbohydrate was found to be 26.57±0.2 Kjoule/min W⁴₅ and it increased to 32.52±0.2 Kjoule/min at W⁶₀. Fat to carbohydrate oxidation ratio was 0.323±0.006 W⁴₅ increased to 0.400±0.009 W⁶₀. Considering high capacity fat to carbohydrate oxidation ratio at W⁶₀ compared to W⁴₅ could be advantageous for maintenance of metabolic health.

Keywords: exercise, fat oxidation, carbohydrate oxidation
THEORETICAL INVESTIGATION OF SPECTROSCOPIC AND THERMODYNAMIC PROPERTIES OF 1-ACETYL-3-METHYL-4-[3-(3-METHOXYBENZOXY) BENZYLIDENAMINO]-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE BY 6-311G(D) AND 3-21G HF/DFT(B3LYP) METHODS

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In this study, theoretically spectral and thermodynamic values of 1-acetyl-3-methyl-4-[3-(3-methoxybenzoxyl)-benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-one was calculated and compared with experimental values. For this purpose, firstly, this compound has been optimized using 6-311G(d) and 3-21G HF/DFT(B3LYP) basis sets. $^1$H-NMR and $^{13}$C-NMR spectral values were calculated according to the method of GIAO using Gaussian G09W Software program. Theoretical and experimental values (Medetalibeyoğlu, 2015) were plotted according to $d_{exp}=a+b$. $d_{calc}$. The standard error values were found via the Sigma plot with regression coefficient of a and b constants. Futhermore, the vibrational frequency of title compound has been calculated by using 6-311G(d) and 3-21G HF/DFT(B3LYP) basis sets and these values are multiplied with appropriate adjustment factors. In the identification of calculated IR data was used the veda4f program. Also, the molecular structure, the highest occupied molecular orbital-lowest unoccupied molecular orbital (HOMO-LUMO), electronic transition, Natural Bonding Orbital (NBO) analysis, total static dipole moment ($\mu$), the mean polizability ($<\alpha>$), the anisotropy of the polarizability ($\Delta\alpha$), the mean first-order hyperpolarizability ($<\beta>$), electronegativity($c$), hardness($h$), molecular electrostatic potential maps (MEP) and Mulliken atomic charges of 1-acetyl-3-methyl-4-[3-(3-methoxybenzoxyl) benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-one molecule have been investigated by using DFT(B3LYP) and HF levels with 6-311G(d) and 3-21G basis sets.

Keywords: 4, 5-dihydro-1h-1, 2, 4-triazol-5-on, gaussian 09w, giao, b3lyp, hf, 6-311g(d), 3-21g basis sets
DFT (B3LYP) AND HF STUDIES ON MOLECULAR STRUCTURE AND VIBRATIONAL ANALYSIS OF 3-P-METHOXYBENZYL-4-[3-METHOXY-4-(4-METHYLBENZENSULFONYLOXY)-BENZYLIDENAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE MOLECULE

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Theoretical study on molecular structure, electronic and nonlinear optical properties of 3-p-methoxybenzyl -4-[3-methoxy-4- (4-methylbenzensulfonyloxy)-benzylidnamino)-4,5-dihydro-1H-1,2,4-triazol-5-one has been conducted. The ground state geometrical energy, the dipole moment (μ), mean polarizability (<α>), the total first static hyperpolarizability (<β>), energies of the highest occupied molecular orbital energy (HOMO) and the lowest unoccupied molecular orbital (LUMO) in the ground state were calculated by using Hartree-Fock (HF) and Density functional theory (DFT/B3LYP) with 6-31G(d,p) basis set. E_{LUMO}-E_{HOMO} energy gap (ΔE), electronegativity (χ), electron affinity (A), global hardness (η), softness (σ) and ionization potential (I) were calculated. Also, Mulliken atomic charges, molecular electrostatic potential (MEP), electronic and geometric properties of 3-p-methoxybenzyl-4-[3-methoxy-4-(4-methylbenzensulfonyloxy)-benzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-one have been performed. Experimental spectroscopic data were obtained from the literature (Medetalibeyoğlu & Yüksek, 2009). The structural and spectroscopic (IR, ¹H-NMR and ¹³C-NMR) data of the molecule in the ground state have been calculated by using Hartree–Fock method (HF) and density functional method (DFT/B3LYP) with the 6-31G(d,p) basis set.

**Keywords:** 4, 5-dihydro-1h-1, 2, 4-triazol-5-on, gaussian 09w, giao, b3lyp, hf, 6-31g(d, p)
SYNTHESIS AND ANTIOXIDANT ACTIVITIES OF NEW 1-ACETYL-3-ALKYL(ARYL)-4-(3-METHOXY-4-BENZOXY) BENZYLIDENAMINO-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONES

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1,2,4-Triazole derivatives have drawn considerable attention for the past few decades because of their diverse biological properties. Many 1,2,4-triazole derivatives are found to be potent antioxidant, anti-inflammatory, antimicrobial and antiviral agents. The identification of triazoles and determination of their antibacterial activities are of considerable interest because of the role they play in pharmacological actions. This study was planned as two parts; in the first part nine new 1-acetyl-3-alkyl(aryl)-4-(3-methoxy-4-benzoxy) benzylidenoamino-4,5-dihydro-1H-1,2,4-triazol-5-ones (2) were synthesized by the reactions of 3-alkyl(aryl)-4-(3-methoxy-4-benzoxy) benzylidenoamino-4,5-dihydro-1H-1,2,4-triazol-5-ones (1), which were obtained according to the literature (Yüksek et al., 2010), with acetic anhydride. The structures of nine new compounds were established from the spectral data. In the last part of the study, the antioxidant properties of the compounds 2 were analyzed for their in vitro potential antioxidant activities in three different methods; including reducing power, according to the method of Oyaizu (1986); free radical scavenging activity, using the method of Blois (1958) and metal chelating activity, by the method of Dinis, Madeira & Almeida (1994). Butylated hydroxytoluene (BHT), butylated hydroxyanisole (BHA) and α-tocopherol were used as reference antioxidant compounds.

Keywords: 1.2.4-triazol-5-one, schiff base, synthesis, acetylation, antioxidant activity
POTENTIOMETRIC TITRATIONS OF NEW 1,3,5-TRI-{4-[(3-ALKYL/ARYL-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE-4-YL)-AZOMETHIN]-PHENOXYCARBONYL} BENZENE DERIVATIVES

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It is known that 1,2,4-triazole and 4,5-dihydro-1H-1,2,4-triazol-5-one rings have weak acidic properties, so that some 1,2,4-triazole and 4,5-dihydro-1H-1,2,4-triazol-5-one derivatives were titrated potentiometrically with TBAH in non-aqueous solvents. Determination of pKₐ values of the active constituent of certain pharmaceutical preparations is important because the distribution, transport behavior, bonding to receptors, and contributions to the metabolic behavior of the active constituent molecules depend on the ionization constant (Demirbas et al., 1998; Frey, Kokesh & Westheimer, 1971; Putun, Bereket & Keskin, 1995). In the present study, nine new 1,3,5-tri-[4-[(3-alkyl/aryl)-4,5-dihydro-1H-1,2,4-triazol-5-one-4-yl]-azomethin]-phenoxy carbonyl] benzenes (3) were prepared from the reactions of 3-alkyl(aryl)-4-amino-4,5-dihydro-1H-1,2,4-triazol-5-ones (1) with 1,3,5-tri-(4-formylphenoxy carbonyl)-benzene (2) which were obtained by the reaction of 4-hydroxybenzaldehyde with 1,3,5-benzenetricarbonyl chloride by using triethylamine. The newly synthesized type 3 compounds were titrated potentiometrically with tetrabutylammonium hydroxide in four non-aqueous solvents such as acetonitrile, isopropyl alcohol, tert-butyl alcohol, and N,N-dimethylformamide, and the half-neutralization potential values and the corresponding pKₐ values were determined for all cases.

Keywords: 1.2.4-triazol-5-one, schiff base, synthesis, potentiometric titration
SYNTHESIS AND POTENTIOMETRIC TITRATIONS OF 3-ALKYL(ARYL)-4-[3-ETOXY-4-(4-METHOXYBENZENSULFONYLOXY)-BENZYLIDENAMINO]-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONES

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Determination of pKₐ values of the active constituent of certain pharmaceutical preparations is important because the distribution, transport behaviour, bonding to receptors, and contributions to the metabolic behaviour of the active constituent molecules depend on the ionization constant. It is known that 1,2,4-triazole and 4,5-dihydro-1H-1,2,4-triazol-5-one rings have weak acidic properties, so that some 1,2,4-triazole and 4,5-dihydro-1H-1,2,4-triazol-5-one derivatives were titrated potentiometrically with tetrabutyl ammonium hydroxide (TBAH) in non-aqueous solvents, and the pKa values of the compounds were determined. In this study, the first part of the study nine novel 3-alkyl(aryl)-4-amino-4,5-dihydro-1H-1,2,4-triazol-5-ones with 2-ethoxy-4-formylphenyl 4-methoxybenzenesulfonate, which was obtained from the reaction of 3-ethoxy-4-hydroxybenzaldehyde with 4-methoxybenzensulfonyl chloride by using triethylamine. The new compounds synthesized were also characterized by using IR and ¹H-NMR, ¹³C-NMR spectral data. The second part of the study, nine novel 3-alkyl(aryl)-4-[3-etoxy-4-(4-methoxybenzensulfonyloxy)-benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-ones were titrated potentiometrically with TBAH (tetrabutylammonium hydroxide) in four different non-aqueous solvents (isopropyl alcohol, tert-butyl alcohol, acetone and N,N-dimethylformamide) and graphs were drawn for all cases. The half neutralization potentials and pKₐ values were determined by half neutralization method. The effects of solvents and molecular structure upon acidity were also discussed.

Keywords: synthesis, 4.5-dihydro-1h-1.2.4-triazol-5-one, tbah, pka, half-neutralization method
A STUDY ON GAUSSIAN CALCULATIONS OF SOME 3-BENZYL-4-(3-BENZENSULFONYLOXY-4-METHOXYBENZYLIDENAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE MOLECULE

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The molecular structure, electronic and spectroscopic properties of 3-benzyl-4-(3-benzensulfonyloxy-4-methoxybenzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-one have been calculated by using the B3LYP/6-31G (d) and HF/6-31G (d) basis sets. $^1$H-NMR and $^{13}$C-NMR isotropic shift values were calculated by the method of GIAO using the program package Gaussian G09W. Experimental (Yokuş, 2012) and theoretical values were inserted into the grafic according to equation of $δ_{\text{exp}} = a + b \cdot δ_{\text{calc}}$. The standard error values were found via SigmaPlot program with regression coefficient of $a$ and $b$ constants. IR absorption frequencies of title compound were calculated by two methods. The veda4f program was used for defining of IR data which were theoretically calculated. Furthermore, thermodynamic parameters, geometric properties (bond angles, bond lengths and dihedral angles), electronic properties (total energy, dipole moment), the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO), Mulliken atomic charges and molecular electrostatic potential (MEP) of this compound have been investigated. $E_{\text{LUMO}} - E_{\text{HOMO}}$ energy gap ($ΔE$), electronegativity ($χ$), electron affinity ($A$), global hardness ($η$), softness ($σ$) and ionization potential ($I$) were calculated.

**Keywords:** 4, 5-dihydro-1h-1, 2, 4-triazol-5-on, gaussian 09w, giao, b3lyp, hf, 6-31g(d)
GAUSSIAN CALCULATIONS OF 1-(MORPHOLINE-4-YL-METHYL)-3-ETHYL-4-(4-HYDROXYBENZYLIDENAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE MOLECULE

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1-(Morpholine-4-y1-methyl)-3-ethyl-4-(4-hydroxybenzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-one was optimized by using Density Functional Theory (DFT/B3LYP) and Hartree Fock (HF) methods (Frisch et al., 2009; Wolinski, Hilton & Pulay, 1990). Then, from this the most stable structure of the molecule, dipole moments, the HOMO-LUMO energy, total energy of the molecule, bond lengths and Mulliken charges were calculated with B3LYP/6-31G (d,p) and HF/6-31G (d,p) basis sets. $^1$H-NMR and $^{13}$C-NMR isotropic shift values were calculated by the method of GIAO using the program package Gaussian G09 (Wolinski et al., 1990). Theoretical and experimental values were inserted into the graph according to the equation of $\delta_{\text{calc}} = a + b \cdot \delta_{\text{exp}}$. Experimental data obtained from the literature. The standard error values were found via SigmaPlot program with regression coefficient of $a$ and $b$ constants. Furthermore, the veda4f program was used in defining of IR data theoretically (Jamróz, 2004). Theoretically calculated IR data are multiplied with appropriate adjustment factors (Merrick et al., 2007) and the data obtained according to DFT and HF method are formed using theoretical infrared spectrum.

**Keywords:** 2, 4-triazol-5-one, gaussian g09, homo-lumo, dft, hf
SYNTHESIS AND ANTIOXIDANT ACTIVITIES OF SOME NEW 1-(3-METHYLPIPERIDIN-1-YL)-METHYL-3-ALKYL(ARYL)-4-(4-HYDROXYBENZYLIDENAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE

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1,2,4-Trizaole derivatives have drawn considerable attention for the past few decades owing to their synthetic and effective biological importance. Many 1,2,4-triazol derivatives are found to be potent antioxidant, antimicrobial and antiviral agents. This study was planned as two parts. The first part contains that synthesis of new compounds. 3-Alkyl(Aryl)-4-(4-hydroxybenzylidenoamingo)-4,5-dihydro-1H-1,2,4-triazol-5-ones, which were synthesized according to literature, reacted with formaldehyde and 3-methylpiperidine to afford 1-(3-methylpiperidin-1-yl)-methyl-3-alkyl(aryl)-4-(4-hydroxybenzylidenoamingo)-4,5-dihydro-1H-1,2,4-triazol-5-ones. The structures of these novel compounds were characterized by using, IR, \(^1\)H NMR and \(^{13}\)C NMR spectral data. In the second part of the study, the synthesized new compounds were analyzed for their in vitro potential antioxidant activities in three different methods; including reducing power, according to the method of Oyaizu (1986); free radical scavenging activity, using the method of Blois (1958) and metal chelating activity, by the method of Dinis, Madeira & Almeida (1994). Butylated hydroxytoluene (BHT), butylated hydroxyanisole (BHA) and ±-tocopherol were used as reference antioxidant compounds.

Keywords: manich base, synthesis, 4, 5-dihydro-1h-1, 2, 4-triazol-5-on
DETERMINATION OF THE ELECTRONIC PROPERTIES OF SOME ORGANIC ELECTROLUMINESCENT 2-[3-(METHYL/ETHYL/P-METHYLBenzyL)-5-OXO-1H-1,2,4-TRIAZOL-4(5H)-Yl]-ISOINDOLINE-1,3-DIONES WITH DENSITY FUNCTION THEORY

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In this study, experimental data of 2-[3-(methyl/ethyl/p-methylbenzyl)-5-oxo-1H-1,2,4-triazol-4(5H)-yl]-isoindoline-1,3-diones were obtained from the literature. The potential organic electroluminescent properties of 4,5-dihydro-1H-1,2,4-triazol-5-one derivatives that have recently attracted much of the scientists' interest is discussed. The electronic features of these heterocyclic organic compounds are examined with computational methods. The calculation operations were conducted with the high-performance server systems running on Windows operating systems. The geometries of the studied molecules were plotted using the GaussView 5.0 computer program. Theoretical calculations were conducted using the Gaussian09W program. Then, the HOMO-LUMO shapes of the molecules that were optimized with theoretical calculations were obtained. The HOMO-LUMO energy difference (ΔE) of each molecule was calculated in terms of eV. The results were compared with the values obtained from relevant literature. According to the theoretical and simulation results obtained from the B3LYP 6-31++G(d,p) basic set calculations of the DFT (Density Functional Theory) method used in this study; when the HOMO-LUMO energy differences were examined, it was determined that from among the studied candidate molecules, there were potential molecules that have / could have optoelectronic features. Therefore, it is expected that the study will shed light on synthetic organic chemistry procedures in terms obtaining optoelectronic materials. Organic electronic devices are quite remarkable due to their optoelectronic features. These devices can be examined under three main headings. These are organic light emitting diode (OLED), organic thin-film transistors (OTFT) and organic solar cells. These devices are usually structured in the form of anode-organic material-cathode layers placed on top of each other.

Keywords: 1.2.4-triazol-5-one, organic light emitting diode, electroluminescent molecules, density functional theory
INVESTIGATION OF THEORETICAL AND EXPERIMENTAL SPECTROSCOPIC PROPERTIES OF NOVEL 3-(M-CHLOROBENZYL)-4-(4-METHYLBENZOXY)-BENZYLIDENAMINO-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE

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In this study, 3-(m-chlorobenzyl)-4-(4-methylbenzoxy)-benzylidenameino-4,5-dihydro-1H-1,2,4-triazol-5-one was optimized by using B3LYP/6-311G(d,p) and HF/6-311G(d,p) basis sets. $^1$H-NMR and $^{13}$C-NMR spectral data values were calculated according to the method of GIAO using the program package Gaussian G09W Software. Experimental data were obtained from the literature. Experimental and theoretical values were inserted into the graphic according to equitation of $\delta_{\text{exp}}=a+b$. $\delta_{\text{calc}}$. The standard error values were found via SigmaPlot program with regression coefficient of a and b constants. Also, calculated IR data of compound were calculated in gas phase by using of 6311G(d,p) basis sets of B3LYP and HF methods and are multiplied with appropriate adjustment factors. Theoretical infrared spectrums are formed from the data obtained according to B3LYP and HF methods. In the identification of calculated IR data was used the veda4f program. Furthermore, molecular structure, HOMO and LUMO energy analysis, electronic transitions, Natural Bonding Orbital (NBO) analysis, total static dipol moment ($\mu$), the mean polarizability ($<\alpha>$), the anisotropy of the polarizability ($\Delta\alpha$), the mean first-order hyperpolarizability ($<\beta>$), electronegativity ($c$), hardness ($h$), molecular electrostatic potential maps (MEP), and Mulliken charges of 3-methyl-4-(3-nitrobenzylideneamino)-4,5-dihydro-1H-1,2,4-triazol-5-one molecule have been investigated by using B3LYP and HF levels with the 6-311G(d,p) basis set. In addition, acidic, in vitro antioxidant and antimicrobial properties of this compound was investigated.

Keywords: 1.2.4-triazol-5-one, giao, b3lyp, hf, natural bonding orbital, homo and lumo
SYNTHESIS, IN-VITRO ANTIOXIDANT AND ANTIMICROBIAL ACTIVITIES OF SOME NEW 1-(MORPHOLINO-4-YL)-METHYL-3-ALKYL(ARYL)-4-[3-(3-NITROBENZOXY)-4-METHOXYBENZYLIDENAMINO]-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONES.

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1,2,4-Triazole derivatives have drawn considerable attention for the past few decades because of their diverse biological properties. Many 1,2,4-triazole derivatives are found to be potent antioxidant, anti-inflammatory, antimicrobial, antifungal, anticonvulsant, antiparasitic, analgesic, antitumor, anti-HIV, antihypertensive and antiviral agents. The identification of triazoles and determination of their antibacterial activities are of considerable interest because of the role they play in pharmacological actions. This study was planned as two parts; firstly, the reactions of 3-alkyl(aryl)-4-[3-(3-nitrobenzoyl)-4-methoxybenzylidenoyno] -4,5-dihydro-1H-1,2,4-triazol-5-ones with morpholine in the presence of formaldehyde were investigated and five new 1-(morpholino-4-yl)-methyl-3-alkyl(aryl)-4-[3-(3-nitrobenzoyl)-4-methoxybenzylidenoyno]-4,5-dihydro-1H-1,2,4-triazol-5-ones. The structures of synthesized five novel compounds were characterized by using IR, $^1$H-NMR and $^{13}$C-NMR spectroscopic methods. Secondly, antioxidant properties of synthesized new compounds were investigated and conclusions obtained were discussed with antioxidant methods such as reducing power, free radical scavenging and metal chelating activity. Subsequently, in-vitro antimicrobial properties of these novel compounds were investigated and evaluated against six (6) different microorganisms with agar well diffusion method.

Keywords: 1.2.4-triazol-5-one, synthesis, antioxidant, antimicrobial.
INVESTIGATION OF EXPERIMENTAL AND THEORETICAL SPECTROSCOPIC PROPERTIES USING DENSITY FUNCTIONAL THEORY (DFT/B3LYP) AND HATRE FOCK (HF) METHODS WITH 6-31G (D) BASIS SET OF 1-ACETYL-3-P-METHYLBENZYL-4-[3-(3-NITROBENZOXY)-4-METHOXYBENZYLIDENAMINO]-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE

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In this study, 1-acetyl-3-p-methylbenzyl-4-[3-(3-nitrobenzoxo)-4-methoxybenzylideneamino]-4,5-dihydro-1H-1,2,4-triazol-5-one (Ilgar and Demirci, 2014) was optimized by using the B3LYP/6-31G (d) and HF/6-31G (d) basis sets. $^1$H-NMR and $^{13}$C-NMR isotropic shift values were calculated by the method of GIAO. Experimental and theoretical values were inserted into the gráfico according to equation of $\delta$ exp=a+b. $\delta$ calc. The standard error values were found via SigmaPlot program with regression coefficient of a and b constants. IR absorption frequencies of this compound were calculated by two methods. The veda4f program data was used for the identification of calculated IR. Furthermore, theoretical bond lengths, bond angles, UV-Vis values, dipole moments, Mulliken atomic charges, the highest occupied molecular orbital-lowest unoccupied molecular orbital (HOMO-LUMO) energies and total energy of 1-acetyl-3-p-methylbenzyl-4-[3-(3-nitrobenzoxo)-4-methoxybenzylideneamino]-4,5-dihydro-1H-1,2,4-triazol-5-one have been investigated. $E_{LUMO}$-$E_{HOMO}$ energy gap ($\Delta E$), electronegativity ($\chi$), electron affinity (A), global hardness ($\eta$), softness ($\sigma$) and ionization potential (I) were calculated. The electronic and structural data of this compound have been calculated by using 6-31G (d) basis set with density functional method (DFT/B3LYP) and Hatree-Fock method (HF).

Keywords: 4, 5-dihydro-1H-1, 2, 4-triazol-5-on, gaussian 09w, giao, b3lyp, hf, 6-31g(d)
A STUDY ON THE ANTIBACTERIAL CHARACTERISTICS OF ETHYL ALCOHOL EXTRACTS OF HYOSCYAMUS RETICULATUS SEED

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Hyoscyamus reticulatus belonging to Solanaceae family is an important source of tropane alkaloids such as hyosiamin and scopolamine, and these alkaloids are widely used because of their mydriatic, antispasmodic, anticholinergic, analgesic and sedative properties. In this study, it was aimed to investigate the antibacterial activity of the ethanol extract of Hyoscyamus reticulatus seed. H. reticulatus seeds were extracted with ethanol. Escherichia coli, Pseudomonas aeruginosa, Pasteurella multocida, Yersinia enterocolitica, Klebsiella pneumoniae, Staphylococcus aureus and Salmonella enteridis bacteria were used for antibacterial activity test. These bacteria were tested against the ethanol extract of H. reticulatus seed with an agar well diffusion technique. The ethanol extract of H. reticulatus seed formed 10 mm zone diameter on Pasteurella multocida. The extract did affect no bacteria except Pasteurella multocida. The antibacterial activity of the ethanol extract of H. reticulatus seed was not found enough. It is believed that these results are obtained because the antibacterial agents in H. reticulatus seed are not expose by ethanol. The active components responsible for the activity in the extract can be identified and suitable extraction methods investigated. For this reason, this study is a preliminary study for future studies.

Keywords: h. reticulatus seed extract, antibacterial
INVESTIGATION OF ANTIMICROBIAL EFFECT OF DIFFERENT EXTRACTS OF ARMORACIA RUSTICANA (HORSERADISH)

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Armoracia rusticana (horseradish), a member of the Brassicaceae family, has been known since ancient times as a folk medicinal herb and as a plant of nutritional value and culinary interest. The length of this plant is 120 cm and the leaves are 30 cm long. This cultivated plant is a perennial plant that grows spontaneously in Kars Region. In this study, it was aimed to investigate the antibacterial and antifungal activity of A.rusticana leaf. A.rusticana leaf was extracted with ethanol, methanol, acetone and water. Different extracts of A. rusticana leaf was tested against Bacillus subtilis, Bacillus cereus, Escherichia coli, Pseudomonas aeruginosa, Pasteurella multocida, Yersinia enterocolitica, Klebsiella pneumoniae, Staphylococcus aureus bacteria and Candida albicans yeasts for antimicrobial activity assay by well diffusion technique. The highest activity has been shown by acetone extract on Y.enterocolitica (20mm) and methanol extract on B. subtilis (20mm). Acetone extract was the largest zone diameter on Y.enterocolitica, K.pneumoniae, E.coli, P.aeruginosa, S.aureus and C.albicans. The water extract on P.multocida (18mm) was found to be the most effective. Only the methanol extract affected B.cereus (10mm). Acetone and water extracts on E.coli (16mm) and S.aureus (16mm) formed the same zone diameter. The antimicrobial activity of different extracts of A.rusticana leaf was found to be high. This study is a preliminary study for future studies. By increasing the usage areas of this plant in our country and carrying out studies about its breeding, both diversity in agriculture and human health can be positively contributed.

**Keywords:** armoracia rusticana (horseradish) leaf extracts, antibacterial, antifungal
DETERMINATION OF THE CONTENT OF HYOSCYAMUS RETICULATUS SEEDS BY XRF METHOD

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Hyoscyamus reticulatus is a member of the Solanaceae family and is represented by six species in Turkey (Baytop 1999). Hyoscyamus species contain important tropane alkaloids, which have antispasmodic, anticholinergic, analgesic and sedative effects. Hyoscyamus species have medicinal importance because of their scopolamine and hyoscyamine content. Moreover, Hyoscyamus reticulatus is used as a hallucinogenic drug in the east of Turkey (Kartal et al. 2002). In this study, we aimed to determinate content of Hyoscyamus reticulatus plant seed by XRF (X-ray Fluorescence Spectrometry). Energy dispersive X-ray fluorescence (XRF) spectrometry is one of the important instruments which used to determine the elemental and chemical composition of all types of liquids and solids, allows quick and accurate qualitative and quantitative analysis of elements. It is able to measure element concentrations from sodium to (Na-11) Uranium (U-92) with high sensitively at ppm level. This method is very useful in understanding the structure of the sample and leads for further analysis. In this study, content of Hyoscyamus reticulatus plant seeds were determined by XRF method; While the seeds have content rates % 1.98 K$_2$O (%1.65 K), %1.22 P$_2$O$_5$ (%0.53 P), % 0.80 SO$_3$ (% 0.32 S), % 0.49 CaO (%0.35 Ca), %0.26 Fe$_2$O$_3$ (%0.18 Fe), %0.13 Cl, %0.11 MgO (%0.07 Mg), %0.10 ZnO ( %0.08 Zn), %0.06 MoO$_3$ ( %0.04 Mo),%0.05 SiO$_2$ (%0.02 Si), %0.02 Cu, %0.02 MnO (%0.01 Mn), NiO (67 ppm) and Al$_2$O$_3$ (94 ppm) rates were determined at the ppm level.

**Keywords:** hyoscyamus reticulatus seed, xrf
DETERMINATION OF FATTY ACID COMPONENTS OF RUMEX PATIENTIA L. LEAFS

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Rumex patientia L. is a member of the Polygonaceae family and is represented by 25 species in Turkey. It grows in all Anatolia and has dark green leaves between 25 and 50 cm. Rumex patientia L. possesses laxative, diuretic, antipyretic, wound cure, and anti-inflammatory properties. In this study, we aimed to determinate oil rate and fatty acid components of Rumex patientia L. leaves. In this study, Rumex patientia L. leaves were extracted, later its oil rate and fatty acid composition was determined using GC-MS instrument. In order to perform fatty acid analysis, first fatty acid methyl esters were formed. Then, gas chromatography method was employed using an FID detector. Rumex patientia L. leaves oil rate was found to be (%2.3). Rumex patientia L. leaves were detected the fatty acid total of 26 components. The most important of these components were Arachidic acid (%43.217), Linoleic acid (%13.564), alfa-Linolenic acid (%11.620), Palmitic acid (%11.283) and Butyric acid (%7.590).

Keywords: rumex patientia l., fatty acid, gc-ms
GAUSSIAN CALCULATIONS OF 3-(P-CHLOROBENZYL)-4-(3,4-DIHYDROXYBENZYLIDENAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE AND N-ACETYL DERIVATIVE USING B3LYP AND HF BASIS SETS

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3-p-Chlorobenzyl-4-(3,4-dihydroxybenzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-one (1) and 1-acetyl-3-p-chlorobenzyl-4-(3,4-dihydroxybenzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-one (2) were described in the literature (Bahçeci et al., 2002). In this study, these compounds were optimized by using the B3LYP/631G (d,p) and HF/631G (d,p) basis sets (Frisch et al., 2009; Wolinski, Hilton & Pulay, 1990). IR absorption frequencies of analysed molecules were calculated by two methods. The veda4f program, was used in defining IR data, which were calculated theoretically (Jamróz, 2004). $^1$H-NMR and $^{13}$C-NMR isotropic shift values were calculated by the method of GIAO using the program package Gaussian G09 (Wolinski et al., 1990). Experimental (Bahçeci et al., 2002) and theoretical values were inserted into the grafic according to equatation of $\delta_{\text{exp}}=a+b$. $\delta_{\text{calc}}$. The standard error values were found via SigmaPlot program with regression coefficient of a and b constants. The experimental (Bahçeci et al., 2002) and the obtained theoretical values were compared and found by regression analysis that are accurate. Furthermore, UV-Vis values, dipole moments, the HOMO-LUMO energy, total energy of the molecule, bond angles, bond lengths and mulliken charges from both methods were calculated.

**Keywords:** 4, 5-dihydro-1h-1, 2, 4-triazol-5-one, giao, homo-lumo, uv-vis
THEORETICAL STUDIES OF NOVEL 1-(MORPHOLINE-4-YL-METHYL)-3-PHENYL-4-(4-ETHYLBENZYLIDENAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE MOLECULE ACCORDING TO TWO DIFFERENT METHOD

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In this study, 1-(morpholine-4-yl-methyl)-3-phenyl-4-(4-ethylbenzylidenamino)-4,5-dihydro-1H-1,2,4-triazol-5-one (Kotan & Yüksek, 2017) was optimized by using the B3LYP/HF 6-31G(d,p) and B3LYP/HF 3-21G(d,p) basis sets (Frisch et al., 2009; Wolinski, Hilton & Pulay, 1990). The optimized structures is the most stable form of the compound. Therefore, this optimized structure used to calculation of the different theoretical properties of the compound. $^1$H-NMR and $^{13}$C-NMR isotropic shift values were calculated by the method of GIAO using the program package Gaussian G09W (Wolinski et al., 1990). Experimental and theoretical values were inserted into the graphic according to equation of δ exp=a+b. δ calc. The standard error values were found via SigmaPlot program with regression coefficient of a and b constants. The veda4f program was used in defining IR data (Jamróz, 2004). IR absorption frequencies were compared with experimental data. Infrared spectrums were composed by using the data calculated. Additionally, bond lengths, dipole moments, the HOMO-LUMO energy, energy of the molecule, mulliken charges by using the B3LYP/HF 6-31G(d,p) and B3LYP/HF 3-21G(d,p) basis sets of this compound were theoretically calculated. Finally, theoretical properties of the compound according to two different method were compared.

Keywords: synthesis, 4, 5-dihydro-1h-1, 2, 4-triazol-5-one, gaussian g09w, homolumo
POTENTIOMETRIC TITRATIONS OF SOME 3-ALKYL/ARYL-4-[4-(2-METHYLBENZOXY)-BENZYLIDENAMINO]-4,5-DIHIDRO-1H-1,2,4-TRIAZOL-5-ONES

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Determination of pKₐ values of the active constituent of certain pharmaceutical preparations is important because the distribution, transport behaviour, bonding to receptors, and contributions to the metabolic behaviour of the active constituent molecules depend on the ionization constant. It is known that 1,2,4-triazole and 4,5-dihydro-1H-1,2,4-triazol-5-one rings have weak acidic properties, so that some 1,2,4-triazole and 4,5-dihydro-1H-1,2,4-triazol-5-one derivatives were titrated potentiometrically with tetrabutyl ammonium hydroxide (TBAH) in non-aqueous solvents, and the pKa values of the compounds were determined. In the present study, nine novel 3-alkyl/aryl-4-[4-(2-methylbenzoxy)-benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-ones were synthesized from the reactions of the corresponding 3-alkyl(aryl)-4-amino-4,5-dihydro-1H-1,2,4-triazol-5-ones with 4-(2-methylbenzoxoxy) benzaldehyde which was obtained from the reaction of 4-hydroxy benzaldehyde with 2-methylbenzoyl chloride by using triethylamine. The synthesized nine different compounds were titrated potentiometrically with tetrabutyl ammonium hydroxide in four non-aqueous solvents such as acetonitrile, isopropyl alcohol, tert-butyl alcohol, and N,N-dimethylformamide, and the half neutralization potential values and the corresponding pKₐ values were determined for all cases.

**Keywords:** 4.5-dihydro-1h-1.2.4-triazol-5-one, schiff base, acidity, potentiometric titration
A STUDY ON THEORETICAL AND EXPERIMENTAL SPECTROSCOPIC PROPERTIES OF 3-METHYL-4-(3-METHYL-2-THIENYL METHYLENEAMINO)-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE MOLECULE

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3-Methyl-4-(3-methyl-2-thienylmethylenamino)-4,5-dihydro-1H-1,2,4-triazol-5-one molecule was optimized by using the B3LYP/6311G (d,p) and HF/6311G (d,p) basis sets (Frisch et al., 2009; Wolinski, Hilton & Pulay, 1990). Afterwards, $^1$H-NMR and $^{13}$C-NMR isotropic shift values were calculated by the method of GIAO using the program package Gaussian G09W (Wolinski et al., 1990). Experimental and theoretical values were inserted into the graphic according to equitation of $\delta$ exp=a+b. $\delta$ calc. Experimental data obtained from the literature (Gürsoy Kol et al., 2013). The standard error values were found via SigmaPlot program with regression coefficient of a and b constants. Furthermore, the veda4f program was used in defining of IR data theoretically (Jamróz, 2004) and the data obtained with using HF and DFT method are formed using theoretical infrared spectrum. In addition to, geometric properties (bond angles, bond lengths and dihedral angles), electronic properties (total energy, dipole moment), the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO), Mulliken atomic charges have been investigated by using Gaussian 09W program.

**Keywords:** 4, 5-dihydro-1h-1, 2, 4-triazol-5-one, gaussian g09, homo-lumo, giao
MIDDLE IRON AGE CASTLES IN KARS REGION IN THE LIGHT OF SURVEY RESEARCHS

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Kars where is situated in Northeastern Anatolian Region, is an important crossroad city combining Caucasus and Anatolia. Kars Region, with its strategical importance, its rich water sources, large grasslands, has been preferred by the people throughout the history. In this region, In the Iron Age, The Urartian State founded an important roadway in the Northeastern Anatolia, and so strenghtened its dominance. The Urartian aimed to invade productive lands and get benefits from the region's strategical state. After The King of Urartian State, Menua, made so many military expedition to this area, he got the control of Erzurum, Pasinler, Horasan, Sarikamis and Kars roads. And it's benn proved that The Urartian Stade controlled the region militarily with the evidence of Delibaba and Yazilitas (near town of Horasan, Erzurum), Pasinler (in the town of Pasinler), Zivin (in the town of Sarikamis, Kars), Taskopru Inscriptions (in the village of Taskopru, Arpacay). When we search for the castles near this region and in Kars, we can understand the structure of defending type of the Urartus. This is a model defence in the high hills, on the rocks, and mostly in Cyclopean Wall Technique used in Castles, and they made this model in city walls by using cortin and bystion to strenghten them. When we evaluate the defending structures and especially castles in general, we can easily say the function of defending was more important than the aesthetic of the castle rocks, while in the regions far away the capital city

Keywords: northeastern anatolia, kars, middle iron age, castles, urartu
PAINTINGS ON THE ROCKS DETERMINED IN THE PROVINCE OF KARS

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People have used a means of communication to express their emotions and thoughts in each period of history. In the periods before “writing” has been used, this way of communication was generally a picture, image and a mark on the cave walls, shelters and on the surface of the rocks. Rock pictures or Petrogliphes which were mostly described as a horse, cavalry and goat; wild animals, deer, etc. Were drawn with the techniques of tattoo, scraping, scratching or painting. People expressed their relationship with nature, struggle with it, and beliefs and rituals about them (religion) on these paintings. In Kars where is an important passageway combining caucasia and Anatolia and also a high plateau of Anatolia, rock paintings are mostly seen. In this research of us, we will handle paintings on the rocks in Camuşlu, Dereiçi, Borluk, Geyiklitepe, Karaboncuk, Tunçkaya, Doyumlu, Yağlıca, Alem and Kömürlü in the province of Kars.

**Keywords:** middle asia, caucasia, east anatolia, kars, rock paintings
STUDIES ON THE MOLECULAR INTERACTION OF GLUTAMINE AMINO ACID WITH CU$^{+2}$ IONS AT DIFFERENT PH CONDITIONS USING S.W.V. METHOD

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Glutamine Amino Acid (GAA) is the chemical compound with the formula C$_5$H$_{10}$N$_2$O$_3$. Chiral recognition of d- and L- amino acids is achieved and mixtures of enantiomers quantified in the gas phase, using the kinetics of competitive unimolecular fragmentations of trimeric Cu$^{+2}$-bond complexes. Singly charged Copper$^{+2}$- amino acid cluster ions [ Cu$^{+2}$(A)(ref*)$_2$-H]$^+$ [A=amino acid ; ref*=chiral reference ligand ,selected from among the natural.amino acids] undergo competitive collision induced dissociation (CID) in a quadrupole ion trap to form the dimeric complexes [ Cu$^{+2}$(A)(ref*)-H]$^+$ and [ Cu$^{+2}$(A)(ref*)$_2$-H]$^+$. Chemical reaction rates are the rates of change in concentrations or amounts of either reactants or products. Thermodynamics and kinetics are two factors that affect reaction rates. The study of energy gained or released in chemical reactions is called thermodynamics. The present work involves the use off square wave voltammetric method for trace determination of Glutamine amino acid and studying the molecular interaction with Cu$^{+2}$ions. The voltammetric behavior of pure Glutamine Amino acid was studied in a direct method in aqueous phosphate solution at (pH=7.0). Glutamine Amino acid give a well-defined square wave voltammetric peak at (-0.552) volt against the reference electrode (Ag/AgCl/SatKCl). The determined calibration curve is linear within the range of concentration (1.298x10$^{-6}$) M. with a correlation coefficient is ($R^2$=0.9983). The molecular interaction of Glutamine Amino acid with Cu$^{+2}$ions has been studied, the interaction constant (K) were calculated at different temperature. Vant-hoff equation applied to calculate the thermodynamic variables.the result indicate that the interaction of Glutamine Amino acid with Cu$^{+2}$ions is of the type (Ion- Ion).

**Keywords:** glutamine, interaction constant, copper ion
SYNTHESIS AND CHARACTERIZATION OF OSMIUM(III) COMPLEXES WITH SUBSTITUTED NITRONES

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New series of complexes of general formula [OsL(Cl)_2(H_2O)_2]. nH_2O; where LH=[alpha-(2-hydroxy-1-naphthyl)-N-(para-R-phenyl nitrone], n=number of the crystallization water (0-6) and R=H, Cl, Br, COCH_3, NHCOCH_3, NH_2 and CH_3 were synthesized. The complexes were synthesized from direct reaction of the osmium(III) chloride with ligand (L) in a molar ratio of 1:1 respectively. These complexes were characterized by several physical methods such as melting points, molar conductance and elemental analysis(CHN), magnetic moments as well spectral such as infrared and electronic spectral measurements. These studies revealed that the Ligand (L) was behaved as a bidentate, univalent and coordinated to the osmium(III) ion through the oxygen atoms of both, the hydroxyl and the nitrone groups, as well, the presence of two chloride ions and two aqua molecules to give the most probable octahedral geometry around each osmium ion in each complex. The elemental analysis(CHN) as well the infrared spectra showed the presence crystallization water molecules outside the coordination sphere. Their molar conductance measurements revealed the non-electrolytic behavior of the synthesized complexes.

Keywords: osmium(iii), nitrones, complexes
A NEW METHODOLOGY FOR FUZZY MULTI OBJECTIVE FLEXIBLE JOB SHOP SCHEDULING PROBLEMS

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Multi objective fuzzy job shop scheduling problems (MFJSSP) are complicated combinatorial optimization problems known as nondeterministic polynomial hard problems. In recent decades, many algorithms to solve MFJSSP are introduced. In this presentation, multi objective job shop scheduling problems under fuzziness are reviewed, discussed and a new methodology to solve multi objective fuzzy job shop scheduling problems are proposed. Jobs are considered as having multi routes and fuzzy duration times represented as fuzzy numbers. All durations such as processing times, completion times, makespan, and tardiness are operated as fuzzy numbers. A feasible solution is obtained by using efficient heuristics and then by means of simulated annealing method the best solution is obtained by considering multi objectives such as makespan, earliness, tardiness etc. A computer program is written for the proposed method and results are discussed. The experimental evaluation performed by different set of problems showed that the method gives efficient result within a reasonable time.

Keywords: fuzzy job shop scheduling, fuzzy durations, fuzzy simulated annealing
FUZZY APPROACHES TO THE RISK ASSESSMENT METHODS FOR THE OCCUPATIONAL HEALTH AND SAFETY

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Turkey’s “Occupational Health and Safety Law” numbered as 6331 has been published in June 2012. According to the Occupational Health and Safety Law, companies are categorized in three sections as Less Risky, Risky, and High Risky Companies. Based on this law, a regulation called “Occupational Health and Safety Regulation” has become operative and all of the companies compassed by this regulation are forced to prepare a risk assessment report in order to provide occupational health and safety and increase their occupational health and safety levels. In the literature, there are about two hundred of risk assessment methodologies. Among these methodologies, the mostly used ones are 5 by 5 L-type matrix method, Fine Kinney Method, and Hazard and Operability Analysis (HAZOP) which is proposed for the analysis of the risks in the chemical industry. These methods include strict lines and are not reflecting the practical issues of the real-world applications. For this reason, these methods are to be adopted by the use of fuzzy logic. In this study, risk assessment methods used in the risk rating are evaluated and fuzzy approaches are proposed to provide more efficient and realistic results.

Keywords: occupational health and safety, fuzzy risk assessment
ANALYSIS OF THINNING ZONES AND PRES PARAMETERS OF A CAR EXHAUST TO BE PRODUCED BY DEEP DRAWING OF SHEET METAL

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Deep drawing is a method of manufacturing cups and similar deep geometries by giving a plastic form to the sheets through a die. The most important problems observed in the parts produced by deep drawing method are irregularity of sheet metal thickness, thinning errors in certain places, cracking and shrinkage. Production without performing necessary analyses against the faults and designing the mold with respect to the results is problematic and may cause in material and time losses. In this study, a car exhaust to be produced by deep drawing is designed with CATIA program and analysis of thinning zones as well as optimal press parameters are performed by AutoForm program. According to the results of the analysis, the design of the car exhaust is optimized for mass production. In this way, defective parts will be avoided to increase product quality and extend functionality and product life. The study will also provide a guidance for pre-production analysis of other products that can be produced with deep drawing.

Keywords: sheet metal processing, sheep metal production fault analysis, deep drawing
ANALYSIS OF THE OPTIMAL RUNNER DESIGN AND INJECTION PARAMETERS FOR PLASTIC INJECTION MOLDING

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Plastic injection molding is a manufacturing process of heating plastic granules and forcing melted plastic into a mold cavity and removing from the mold after cooling. One of the most important elements in the production of parts by plastic injection molding is the analysis of the plastic injection mold design and the part to be produced. The most common faults in plastic injection molding are burns, air and gas bubbles formation, physical breakdown, poor quality color distributions, stratification, burrs, weld marks, tarnishing and dimensional change. The main reason for most of these faults is the incorrect positioning of the runner design. This study focuses on the design of the runner which is one of the most important parameters. Prior to the design of a plastic injection mold modeled by CATIA, runner analysis is performed with the Mold Flow program. Analysis of positioning, flow rate, filling, injection parameters, air and gas bubble formation and weld trace analysis for runner design is carried. The mold design has been completed by updating the runner design with the obtained optimal design data. In this way, defective parts which may occur in plastic injection can be avoided. Therefore, material and time losses can be reduced.

Keywords: plastic injection moulding, runner design, plastic injection parameters
SELECTION OF CHILDREN’S BOOKS ACCORDING TO THEIR GENDER AND AGE OF PRIMARY SCHOOL STUDENTS

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Juvenile books are literary products consisting texts that meet children’s interest and need, support the development of mental, emotional and psychological development of children and above all they read in a fun. Children meet their need that they don’t meet in their school, family and environment. By this way, they not only develop their personality in a positive way, but also, they grow up as useful individuals to the society. But, juvenile literature products in other words well-qualified juvenile books that are written appropriate to the reality of children and level of children are necessary to get it properly. Gender and age variables are effective on attitude related to reading. Within a research carried out in primary education, female students have more positive attitudes upon reading compared to male students. This research aims to determine the views of children in terms of gender and age upon juvenile books. Research sample consists of 12 schools’ students in Adana Province in formal education. In order to reach the aim, necessary data was supplied with The Questionnaire for Determining the Views of Children on the Juvenile Books. Even in the different age periods, generally female students have more positive attitudes upon reading. At this point, male students’ not developing positive attitude upon reading compared to female students should be examined carefully and precautions should be taken.

Keywords: primary school, gender and age, juvenile books
EMOTIONAL EFFECTS OF KEMALETTIN TUGCU’S NOVELS ON CHILDREN

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Children’s literature has an important role in that it addresses their world and prepares them to the society in which they will live. Those values that we refer to as culture and which mean “togetherness” are conveyed through literature. Main characters are always children in Kemalettin Tuğcu’s novels. However, these children don’t behave like a child; they have the knowledge and experience of adults. In the novels, goodness always win and bad people are always punished. The events of the novels usually take place in Istanbul. In some of his novels, place is a village which he imagined. In a couple of his novels, place is only an isolated island. Kemalettin Tuğcu, wrote his works in İstanbul Turkish, avoided from long descriptions and long sentences and preferred a simple narration. The fiction of his novels is strong. The relationship between people and events are at a level which a child can understand. He reflected the place, where he lived, and the characteristic of the period, when he lived to his works. The novels address to both children and early youth period and also can be read by adults. The frequency of melodrama characteristic in Kemalettin Tuğcu’s novels stems from his personality. There is a close relationship between his life and his works. In this research, screening model was used. When collecting data, informations were input through tagging method. Three of his novels (Kuklacı, Küçük Serseri and Dağdaki Yabancı) were examined according to Mehmet Kaplan’s book, “Story Analyses”.

Keywords: emotional effects, kemalettin tuğcu, children’s literature
UES OF N-BROMOSUCCINAMIDE AND 2R DYE IN THE DETERMINATION OF MELOXICAM AND PIROXICAM DRUGS IN PURE AND PHARMACEUTICALS FORMULATIONS

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A simple, accurate and sensitive spectrophotometric method has been developed for the determination of meloxicam (ME) and piroxicam (PI) in bulk sample and in dosages by using N-Bromosuccinamide (NBS) as reagent. The method is based on oxidation of studied drugs by addition of a known excess of (NBS) in acidic medium (1M) hydrochloric acid followed by determination of residual (NBS) by reacting with a fixed amount of 2R dye measuring the absorbance at 526 nm., the amount of (NBS) reacted corresponds to the amount of drugs and the measure absorbance was found increase linearly with the concentration of drugs, which is corresponds to the amount of (ME) and (PI) which is corroborated by the correlation coefficient of 0.9994 and 0.9993 for two drugs respectively. The systems obey Beer's law for 0.1—20 µg ml\(^{-1}\) and 0.1—17 µg ml\(^{-1}\) respectively. The molar absorptivity was 3.09 x10\(^4\) and 3.2 x10\(^4\) l.mol\(^{-1}\).cm\(^{-1}\). for meloxicam and piroxicam respectively. The limits of detection (LOD) and quantification (LOQ) were 0.07, 0.149 and 0.234, 0.491 µg ml\(^{-1}\) for (ME), (PI) respectively, comparable accuracy (er<27%). Also, both methods were equally precise as shown by relative value < 1.6 %. The methods were successfully applied to the assay of (ME) and (PI) in pharmaceutical preparation and the results agree favorably with British pharmacopeia method.

Keywords: n-bromosuccinamide, meloxicam, piroxicam
SUPPLIER SELECTION WITH QUALITY FUNCTION DEPLOYMENT

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Supply chain management (SCM) requires many complex decisions to be made while ensuring the movement of products, suppliers, producers, wholesalers, distributors, retailers, and ultimately, customers. Selection and evaluation of supplier is very important in these decisions. In order to complete the product design and production process of the products, the Quality Function Deployment (QFD) is widely used. However, this study can also be used in procurement decisions that are included in the production process, making it possible for managers to make the right decisions. In this study, contribution to the supplier selection process, which is the most important step in the management of the supply chain of Quality Function Expansion, was investigated. In an enterprise that produces water treatment devices and water tanks, QFD assessed the supplier characteristics and decided to select the appropriate supplier. The provision of variable components of these suppliers will also be assessed separately. The results have been evaluated in terms of the company.

Keywords: supplier selection, quality function deployment (QFD), supplier ranking
A LITERATURE SURVEY ON GREEN SUPPLIER SELECTION

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In today's supply chain, we have to deal with many complex decision problems. Under appropriate circumstances, appropriate decision problems must be solved. In recent years, as in many fields of work, the increase in environmental awareness in the manufacturing sector and the legal obligations imposed have influenced decisions made by many manufacturers. The green strategies dealt with have become a new competitive tool for companies. Firms have been aiming to increase their productivity and profitability with green applications. In this study, the criteria to be considered in choosing the green supplier, which is the most important group of the green supply chain, have been examined and classified. It has been explained how suppliers should improve their working conditions for these criteria that are sensitive to the environment. In which sectors, which green criteria are mentioned in the foreground. It is explained that the obligations of the law regulatory authorities bring to what sectors.

Keywords: green supplier selection, environment
EDUCATIONAL SYSTEMS OF BANGLADESH; AN OVERVIEW FROM SEVERAL SCHOOLS

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This paper applies historical-structural analysis in arguing that school location in Bangladesh determines the outcomes of students’ learning outcomes, thereby raising questions about equity in the educational system of an emerging economy, even when instructional language is consistent across locations. This paper also argues that government agencies and educators should apply complementary historical-structural theories to proffer language-policy directions and a pedagogic blueprint that have the potential to attain excellence in an educational system fraught with pedagogic inequalities, social disparities, and misaligned resources. A historical-structural perspective places the use of a native medium in schools within the context of socioeducational practices. Four-pronged ethnographic method—(a) depth interviews with key policy planners; (b) depth interviews with teachers; (c) nonreactive, unobtrusive classroom observations; and (d) textual analysis—was used to answer the research question: Result suggest that resource-poor rural schools—e.g., Shinabahar High School, in Gazipur—place their students at a significant disadvantage compared with resource-rich urban schools—e.g., Shobujbagh Government Girls’ High School. Bangla needs to be the medium of instruction nationwide, except in departments of English, foreign languages, medicine and engineering (In medicine and engineering, for example, there are hardly any instructional materials in Bangla.) Strictly for educational purposes, Bangladesh has a dual-language system: Bangla and English. While English as an instructional medium perpetuates a rural-urban divide, Bengali does not. And this divide has major implications for social equity and professional development in the long run.

Keywords: education, language and education policy, educational gap
THE STUDY OF THE INFLUENCE OF FORMATIVE ESTIMATION ON THE QUALITY OF STUDENTS' KNOWLEDGE

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Formative assessment is an integral part of the daily process of teaching and learning. Features of the formative assessment techniques are the using of analytical tools and methods for measuring the learners’ achievement, the progress of students in the cognitive process. The results of this assessment can be applied to develop recommendations to improving learning. In this paper investigated the methods of formative assessment, and also identified whether the methods would be the most effective in checking the quality of students' knowledge. Mini-tests, independent works, oral surveys were used in the study of formative evaluation. For pedagogical experiment students were divided into three levels "A", "B" and "C". The mini-tests offered statements or questions, and they can answer only "True" to "False". This method involves the development of listening ability and hearing each other, be able to find a connection with previous topics, and reflect on the answer. The independent work consisted of three to five problems based on the topics covered. A checking system was developed for evaluation this type of work, which consist of a list of criteria, on which the solution of problems is evaluated. Oral control was conducted in the form of an individual survey. Analysis of the results of three types of testing shows that the students had the least success in written formative work, because they did not have enough time to complete all the problems in the allotted time.

Keywords: formative evaluation, test, methodology, oral questioning, experiment
USING OF CLIL METHODOLOGY IN TEACHING CHEMISTRY IN TRILINGUAL EDUCATION

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The most important direction in the implementation of trilingual education in Kazakhstan is the systematic study of subjects in three languages in secondary and higher education. The aim of the pedagogical experiment is formation of the key competences of students with using of CLIL methodology. The peculiarity feature of this teaching methodology is in conducting classes in two languages (native and foreign). The pedagogical experiment was conducted in practical classes in the discipline "Chemical synthesis" with the participation of fourth-year students studying in a multilingual group. The experiment was conducted during one academic term, attended by 7 students. Individualized and group method of training was applied to maximize learning, and to compare the effectiveness of the chosen method. The following methods were used in the work: interactive form of "Terminology", "Reference schemes" and "Graphic Organizer" for independent work of students, conducive to the development of ability to analyse the incoming information, to draw findings and conclusions, and ability to use it for communication and hear each other, abilities such as teamwork, and individually. At the end of the term, the effectiveness of these methods was determined by survey. The results of the experiment show that the use of the CLIL methodology increases students' knowledge both in the subject taught and in the knowledge of the second language, which ultimately leads to the formation of the most competitive specialists in their field of activity and development of intercultural education.

Keywords: technique, experiment, support circuit, technology, trilingual
MODELING CLUSTERED SCALE-FREE NETWORKS BY APPLYING VARIOUS PREFERENTIAL ATTACHMENT PATTERNS

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 Preferential attachment phenomenon is a key factor providing scale-free behavior in complex networks. In this study, we introduced various preferential attachment patterns applied in a growing Barabasi-Albert network, denoted by a factor α. We first generated networks under constant preferential attachment levels from 0 to 2, where 1 stands for linear preferential attachment. Then we performed network simulations under uniformly distributed random α condition, within the interval [0,2]. Although mean α is 1 for this setup, generated networks displayed greater clustering together with lower modularity and separation values compared to the setup with α=1. We also performed similar network generation procedures with various distribution functions applied for α, each resulting random levels of preferential attachment. We achieved networks with power-law consistent degree distributions with γ coefficients between 2 and 3, together with improved clustering coefficients up to ~0.3. As a result, scale-free network topologies featuring greater clustering levels compared to pure Barabasi-Albert model are achieved.

Keywords: complex network modeling, preferential attachment, scale-free networks, clustering coefficient
FINANCIAL NETWORK ANALYSIS OF COUNTRIES BASED ON IMPORT AND EXPORT VOLUMES THROUGH TURKEY

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In this study, we constructed financial networks between countries based on import and export volume data retrieved from Turkish National Statistics Foundation (TUİK) in monthly resolution. Networks for both import and export volumes are derived from filtered correlation matrix method. We applied various threshold levels for defining links between countries, each correlation threshold investigated for common network parameters like average path length, clustering coefficient and modularity. Degree distributions for all threshold levels are presented as well. Consequently, we outlined that acceptable network outputs are achieved for correlation thresholds in the mid-range of the scale, especially close to 0.5. For this range, we also presented degree distributions of the networks those are in good agreement with power-law decays, correspondingly labelling the networks as scale-free. Network visualizations demonstrating the connections between most similar trading trends with Turkey are also presented. As a result, the presented study provides a practical view of relations between countries defined by similar time series of import and export through Turkey.

Keywords: financial networks, filtered correlation network, data analysis, data retrieval
INVESTIGATION AND NEW DESIGNS OF GAZIANTEP TRADITIONAL WOMEN'S JEWELERY

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The use of jewelery is a tradition dating back to the early ages of history. The desire to look strong and impressive forms the basis of jewelery use. Religious beliefs, such as determining social position, are also other causes of jewelery use. Each region has produced unique jewelery according to culture, civilization, beliefs and traditions, thus creating a rich jewelery culture in universal cultures. A rich variety of jewelery has been realized in Anatolia, which has been diversified with belief traditions and other factors of past cultures. Anatolia has its own meanings and tales in various regions, according to the purpose of use. Jewelry looks rich and beautiful, determining social status and beliefs, expressing class, position, showing which believer believes in, etc. manufactured and worn for reasons. Gaziantep province records the important culture that has been lost in the investigation of traditional women's wear. Over time, it is very important to investigate these local attractions, which we can only see in the museums, in terms of culture and tourism. It is a fact that jewelery is used to look beautiful by women in every period of history. The tradition of wearing jewelery is worn both for the beauty of women as well as for blessings, patience, luck, avoiding the sight of the wicked, protection against evil.

Keywords: traditional, women's jewelery
INVESTIGATION AND NEW DESIGNS OF GAZIANTEP’S TRADITIONAL WOMAN JEWELRIES

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Handcrafts have diversified and developed with the influence of the communities that have lived in Anatolia. One of the decorative needs of people is also jewelery. Jewelery is made by adhering to religious beliefs, social status and traditions except for the purpose of adornment. For this reason, jewelry reflects the beliefs of society, life style and is important in the historical process. Anatolia has its own meanings and tales in various regions, according to the purpose of use. Jewelery looks rich and beautiful, determining social status and beliefs, expressing class, position, showing which believer believes in, etc. manufactured and worn for reasons. Until the first half of the 19th century and the 20th century, twelve kinds of silver jewelery are said to be a woman of Gaziantep. Some of them; tas kaytan, sekke, daktani, picpici, goturumgu, ucger, arpacıklı, gerdan, Antepli gerdan kemer, koruklu bracelet and a button ring. There are many varieties among them the purpose of this study is to examine the traditional women’s jeweleries of Gaziantep and to record the important culture which has been lost due to the creation of new designs by going out of the way, and to use them again today. It is very important in terms of regional culture and tourism that it is possible to search and re-use these local people we can only see in time.

Keywords: jewellery, gaziantep, traditional
READING BETWEEN LINES AND GOING BEYOND THE DATA – TOWARDS A QUALITATIVE OUTLOOK FOR QUANTITATIVE FINDINGS: A SECOND READING OF THE REPORT ‘COMPLETING UNIVERSITY IN A GROWING SECTOR: IS EQUITY AN ISSUE?’

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Indigenous higher education has had its fair share of attention in the last decade amongst the numerous commentaries, reviews and evaluations of the state of Indigenous education in Australia. Through both qualitative and quantitative analyses and reports many aspects of Indigenous Higher Education have been deliberated upon and problems plaguing the sector looked at closely. The recent report ‘Completing university in a growing sector: Is equity an issue?’ focuses on Indigenous university completion rates and provides a quantitative analysis of factors influencing the phenomenal attrition rate. This paper critiques the report and argues for going beyond mere facts and figures, for moving away from quantitatively impervious to a qualitatively sensitive humanistic approach towards the issue of Indigenous education.

Keywords: indigenous higher education, qualitative attrition Australia
HUMANISATION OF UNIVERSITY TECHNICAL EDUCATION

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Stu Bratislava

The complicated reality of the human society life of the last two or three decades is for the needs analyse of humanization of the current technical or natural sciences not only in university study branches the same as what were in the Middle Ages, Nicholas Copernicus or Galileo Galilei for the formation of heliocentric model of the solar system. Humanisation of university technical education is perceived in the perspective of future graduates of technical university as one of the means of their professional adaptation in relation to the social context of their work. The contribution seeks the answer to the question of meaningful humanisation of the teaching process at the Slovak University of Technology in Bratislava. It identifies the factors that students perceive as positive incentives in the development of their own professionalism. It specifies the findings that may be helpful in the process of humanization not only for humanities teachers, but especially for teachers of vocational technical subjects.

Keywords: humanisation, teacher, student, interaction
ETHICS IN THE PREPARATION OF TECHNICAL SUBJECTS TEACHERS

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The contribution analyses the model of education of vocational technical subjects at the Slovak University of Technology through the idea of Claude Levi-Strauss that the 21st century will be the century of science of human - or it will not be.... The presented analysis of the preparation of future teachers seeks meaningful complementarity between those subjects which content is represented on the one hand by rational knowledge and on the other hand by subjects revealing the "ordinary, everyday" coordinates of our being, closely linked with the culture and ethical or moral dimension of people. The know truth of the history of the 20th century unfortunately uncovers the reality of the present, in which still dominates the technocratic model of thinking with an ambivalent attitude to the need of ethics. Ethics in the preparation of technical subjects teaches gives students the chance to understand the current world and its perspective in retrospective evaluation of the fundamental democratic and value pillars of history.

Keywords: ethics, morals, values, attitudes
INVESTIGATIONS OF THESE DIFFERENT VARIABLES AND ANGER LEVELS, ANGER EXPRESSION STYLES OF CHILD DEVELOPMENT PROGRAM STUDENTS

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Anger may arise as a result of the interaction of different variables, such as individual and familial characteristics that individuals possess, education and work environments they have received. Depending on these variables, it is thought that children will not be able to tolerate the different forms of anger they see in adults. For this reason, it is important to determine the level of anger and the anger styles of child educators who spend a long time with children in early childhood. From this point of view, this study was conducted to determine the anger level and anger style of the Child Development program students. The research is descriptive and has consisted of students who attend in the Child Development Program at the Vocational School of Social Sciences of Kafkas University. Based on the principle of volunteering, 77 students participated in the research. Demographic information form and Continuous Anger/Anger Expression Style Scale were used as data collection tool. Scale consists of 4 dimensions such as continuous anger, anger-in, anger-out, and anger control. The students' continuous anger scores 23.77±6.28; anger-in score 18.15±4.40; anger-out score 17.78±4.94; and anger control scores 21.68± 5.50 were obtained. As a result of the statistical evaluations, it was determined that the continuous anger subscale significantly changed according to the family types (F (2,73)=5,078, p<0,05). According to the results of the research, it was found that the anger scores of the individuals without family unity were higher.

Keywords: anger expression style, anger level, child development program
DETERMINATION OF ATTITUDES ABOUT SCIENCE OF UNIVERSITY STUDENTS

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In the preschool period, pre-school teachers and child-educators are the person who will be able to love and teach science to children. It is expected that the persons in this profession group will firstly be in a positive attitude towards science so that they can grasp and associate this knowledge with their daily life. The aim of this study is to determine the attitudes of the child educators and prospective preschool teachers towards science. In the 2017-2018 academic year, the students of the Child Development Program and Pre-School Teachers Department students who are in the 3rd and 4th grade at Kafkas University constitute the universe of work. The sample group represents 118 students who agreed to participate in the survey. Personal data form and "Scientific Attitude Scale" which is developed by Geban et al. (1994), were used as data collection tool. As a result of the statistical analyzes, there was no significant difference between university students' attitudes toward science and their sex, age and class. When the students are examined in terms of the areas they have studied, a significant difference was found in favor of the child development program (p<0.05). This result can be explained as the fact that the students who continue to the child development program are mostly educated in the same sections of the girls' vocational high schools in their upper secondary education and they have gotten more applications in their fields.

**Keywords:** child development program, pre-school department, science education
INVESTIGATION OF BIOLOGICAL PROPERTIES OF NEW 1-(2,6-DIMETILMORFOLIN-4-YL-METIL)-3-ALKYL(ARYL)-4-[3-ETHOXY-(4-BENZENESULFONYLOXY)-BENZYLIDENAMINO]-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONES

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In the present study, 3-alkyl(aryl)-4-[3-ethoxy-(4-benzenesulfonyloxy)-benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-ones were treated with 2,6-dimethylmorpholine in the presence of formaldehyde to synthesize 1-(2,6-dimetilmorfolin-4-il-metil)-3-alkyl(aryl)-4-[3-ethoxy-(4-benzenesulfonyloxy)-benzylidenamino]-4,5-dihydro-1H-1,2,4-triazol-5-ones. The new six compounds were characterized using IR, $^1$H-NMR, $^{13}$C-NMR spectral data. Antibacterial activities of the new compounds were also evaluated against six bacteria such as Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus, Bacillus subtilis, Bacillus cereus and Klepsiella pneumoniae. The biochemical properties of the triazole ring and triazole derivatives containing this ring, which are important members of the heterocyclic compounds, provide a broad field of study. Especially in recent years, the triazole ring, which is manifested in increased biological activity studies, is a ring with antimicrobial, antioxidant, anti-inflammatory and different pharmacological properties. 1,2,4-Triazole and 4,5-dihydro-1H-1,2,4-triazol-5-one derivatives are reported to possess a broad spectrum of biological activities such as antibacterial, antifungal, antioxidant, anti-inflammatory, anticonvulsant, antiparasitic, analgesic, antiviral, antitumor, anti-HIV, antihypertensive and diuretic properties. In addition, several articles reporting the synthesis of some N-arylidemino-4,5-dihydro-1H-1,2,4-triazol-5-one derivatives have been published so far.

Keywords: 1.2.4-triazol-5-one, schiff base, synthesis, antimicrobial activity
A STUDY ON THEORETICAL AND EXPERIMENTAL SPECTROSCOPIC PROPERTIES 2-METHOXY-4-(3-METHYL-4,5-DIHYDRO-1H-1,2,4-TRIAZOL-5-ONE-4-YL-AZOMETHINE)-PHENYL BENZOATE

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In this study, theoretically spectral values of 2-methoxy-4-(3-methyl-4,5-dihydro-1H-1,2,4-triazol-5-one-4-yl-azomethine)-phenyl benzoate was calculated and these values were compared with experimental values and obtained conclusions were evaluated. For this purpose, firstly, 2-methoxy-4-(3-methyl-4,5-dihydro-1H-1,2,4-triazol-5-one-4-yl-azomethine)-phenyl benzoate has been optimized using B3LYP/6-31G(d) and HF/6-31G(d) basis set. $^1$H-NMR and $^{13}$C-NMR spectral values according to GIAO method was calculated using Gaussian G09W software in gas phase and in DMSO solvent. Theoretically and experimentally values were inserted into the graphic according to equitation of $\delta_{\text{exp}} = a + b$. $\delta_{\text{calc}}$. The standard error values were found via SigmaPlot program with regression coefficient of a and b constants. Experimental data were obtained from the literature. Theoretically calculated IR values of this compound were calculated in gas phase. The calculated IR values are multiplied with appropriate scale factors and the values obtained according to B3LYP and HF methods are formed using theoretical infrared spectrum. The identification of calculated IR values was used veda4f program. UV-vis values in ethanol were calculated. In addition, bond angles, bond lengths, dihedral angles, dipole moments, the highest occupied molecular orbital-lowest unoccupied molecular orbital (HOMO-LUMO) energy, mulliken charges and total energy of the molecule were calculated with both methods. The calculated and experimental results were exhibited a very good agreement.

Keywords: 1.2.4-triazol-5-one, gaussian 09w, giao, b3lyp, hf, dihedral
DETERMINATION OF POTENTIAL ALLERGENIC PROTEINS AND MORPHOLOGY OF LINDEN (TILIA CORDATA), ANATOLIAN OAK (QUERCUS ITHABURENSIS) AND BIRCH (BETULA ALBA) POLLENS IN GAZIANTEP

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Allergic diseases are a major public health concern in the modern societies. Wind-mediated spreading pollens are important aeroallergens. When they are released to atmosphere in sufficient amount, they can cause the development of diseases such as asthma, rhinitis, rhinoconjunctivitis etc. in allergically hypersensitive individuals. The spreading of pollens are affected by their amount in the air, their structures, geographic areas and the climate. Therefore, the amount of pollens that hypersensitive individuals who live in different regions are exposed to may differ and different allergic reactions may occur in affected individuals. The high amount of pollen production enhances the pollen sensitivity. Thus, the research on region-specific allergenic effects of species becomes important. Pollens of linden (Tilia cordata), Anatolian oak (Quercus ithaburensis) and birch (Betula alba) are the important allergen sources in Gaziantep region. Pollen allergens are water soluble, stable proteins or glycoproteins of molecular weight between 5-80 kD. A single pollen type usually contains tens of different allergens. Pollens from linden (T. cordata), Anatolian oak (Q. ithaburensis) and birch (B. alba) were collected in pollination period and their extracts were prepared. For determination of pollen morphologies prepare slide use Wodehouse’s method and take photos. Total concentrations of potential allergen proteins were determined from prepared pollen extracts through the use of BCA method. In this study, we aimed to prepare extracts of pollens from linden, Anatolian oak and birch widely deployed in wooded areas of Gaziantep University for studies of allergy and use for diagnosing allergic diseases.

Keywords: tree pollen allergy, tilia cordata, quercus ithaburensis, betula alba, pollen extract
GASTROPROTECTIVE EFFECTS OF PRUNUS LAUROCERASUS FRUIT EXTRACT IN INDOMETHACIN-INDUCED GASTRIC ULCER MODEL

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In the present study, it was aimed to investigate the protective effects of Prunus laurocerasus fruit extract (PL) in the indomethacine-induced ulcer model, one of the non-steroid anti-inflammatory drugs. Different parts of PL are used in the treatment of many diseases including gastric ulcers in alternative medicine. Forty Sprague-Dawley female rats, which 10 animals in each group, were divided into four groups (Control, PL, Indomethacine and Omeprazole groups). Respectively the group I was given isotonic saline only, the group II was given 500 mg/kg PL fruit extract, group III was given isotonic saline and the group IV was given 5 mg/kg omeprazole orally. On the 11th day of the study, a single dose of 100 mg/kg indomethacine was administered orally to the II, III and IV groups. The level of cyclooxygenase-2 (COX-2) increased significantly with indomethacine administration (p<0.001), but significantly decreased with the application of PL and omeprazole (p<0.05, p<0.01 respectively). Similarly, increased (p<0.001) levels of C-reactive protein (CRP) by administration of indomethacine were significantly reduced by PL and omeprazole administration (p<0.001). Indomethacine administration resulted in elevation of interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF-α) levels (p<0.05). It was determined that IL-6 and TNF-α levels decreased with both PL and omeprazole administration, but these decreases were not statistically significant. In conclusion, it was determined that Prunus laurocerasus fruit extract was effective in reducing CRP and COX-2 levels in experimental gastric ulcer model such as omeprazole which is one of the standard drugs in the market.

Keywords: gastric ulcer, prunus laurocerasus, omeprazole, inflammation
PROTECTIVE EFFECTS OF CHROMIUM PICOLINATE AGAINST INDOMETHACIN-
INDUCED GASTRIC ULCER IN RATS

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In the present study, it was aimed to investigate the protective effects of chromium picolinate (CrPic) on gastric ulcer induced by indomethacin, one of the non-steroid anti-inflammatory drugs. CrPic is one of the metals that act as enzymes or catalysts in many biochemical, immunological and physiological activities. Forty Sprague-Dawley female rats, which 10 animals in each group, were divided into four groups (Control, CrPic, Indomethacin and Pantoprazole groups). Respectively the group I was given isotonic saline only, the group II was given 300 μg/kg CrPic, group III was given isotonic saline and the group IV was given 5 mg/kg pantoprazole orally. On the 11th day of the study, a single dose of 100 mg/kg indomethacin was administered orally to the II, III and IV groups. C-reactive protein (CRP) levels was higher than the control group in indomethacin administered groups (I−III p<0.001, I−II, IV p<0.05). However, significant decreases were observed in the CrPic and pantoprazole groups compared to the group treated with indomethacine alone (p<0.01). Clooxygenase-2 (COX-2) levels were increased by indomethacine alone (p<0.01), whereas CrPic (p<0.001) and pantoprazole (p<0.01) applications significantly decreased. Tumor necrosis factor-alpha (TNF-α) (p<0.05) and interleukin-6 (IL-6) (p<0.01), levels increased significantly with indomethacine administration. There were some decreases in TNF-a and IL-6 levels in chromium picolinate and pantoprazapole groups, but these decreases were not significant. As a result, chromium picolinate showed equivalent properties to pantoprazole, the standard drug for reducing COX-2 and CRP levels, which are important inflammatory markers in gastric ulcerated rats.

Keywords: gastric ulcer, chromium picolinate, pantoprazole, inflammation
CYTOTOXIC ACTIVITY AGAINST CANCER CELLS OF PISTACIA VERA

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Pistacia vera fruit, one of the leading products of today's sweet and snack sector, which has been seen in the history of the kingdom, are able to support daily nutritional needs and treatment of many diseases due to the phenolic and flavonoid content in the literature. Especially the studies on colon cancer and breast cancer are remarkable potential antitumoral activity of pistachio examined. The aim of this study is to examine in more detail the *P. vera* plant, in which we have previously tested the methanol-hexane extracts of the seed and the test and obtained positive results. As well as observing the cytotoxic activities of the plant extracts and active ingredients obtained from different parts on the lung cancer cells. After counting H1299, A549 and HUVEC cell lines which replicated in the medium, were added on 96 well plate. Then, different part of plants extracts and 2 major active ingredients also added. Then MTT dye was applied and measured spectrophotometrically. *P. vera* extracts and active ingredients which studied cytotoxic activity research were found to be effective in all cell lines in general. Particularly *P. vera's* remaining after the fruit parts, methanol extract which obtained from waste containing leaf and stem parts and PVK-1 active agent showed selective activity on normal cells and cancer cells, therefore we consider that it has a high therapeutic index. We believe that this plant should be imparted to sciences and health sector with further studies.

**Keywords:** pistacia vera, lung cancer, cytotoxic activity, phytotherapy
EXPERIMENTAL INVESTIGATION OF THE TIME EFFECT OF PRESSURE FLUCTUATIONS IN STEADY TURBULENT PIPE FLOWS

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In the study performed experimentally, the behavior of the time variation of the static pressure heads in pipe water flows has been investigated across pipe diameter, flow rate and pipe roughness. In experiments, five pipe types in different diameters and roughnesses have been used. In the steady and fully developed horizontal pipe water flows, performed at low Reynolds numbers, the static pressure measurements at different pipe downstream stations have been performed. The pressure water heads seen in piezometers has been recorded with a camera for each flow. Snapshots are obtained from each recording at equal time intervals and the pressure heads are readed from that snapshot images. When the pressures at different pipe stations are examined in the same flow rate, it is seen that the pressure fluctuations are existed in the same phase. While RMS values are examined, which show the pressure fluctuation mean intensity, it is observed that the fluctuation intensity is independent of pipe roughness and Reynolds number but it depend on pipe diameters in inversely proportional.

**Keywords:** pipe flow, pressure fluctuations, pipe flow experiment, pressure head
NUMERICAL INVESTIGATION OF THE TRANSITION LENGTH AT THE ENTRANCE REGION OF PIPE FLOWS

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In this study, the steady, incompressible and axis symmetric flows in the pipe entrance region has been simulated numerically. The developing boundary layer at the pipe entrance region first starts as laminar then disturbed to a turbulent state at some distance downstream. From pipe inlet to a downstream distance where laminar to turbulent transition begins is called the transition length. Determination of the transition length has been major problem for hydro and aeromechanics and yet it seems not to be defined clearly. The effects of wall surface roughness, diameter and Reynolds numbers on transition length has been investigated numerically for low Reynolds numbers covering transition and turbulent flow regimes. On the purpose, water flows were carried out numerically with five pipes at different surface roughness with three diameters. The numerical results have shown that the transition length is a function of Reynolds number than much the wall roughness. Likewise, the numerical study has also shown that changing the pipe diameter but keeping the same relative roughness has left no effect on the transition length. As a study product, a numerical correlation which define the dimensionless transition length and well-fitting the numerical values was derived as a function of Reynolds number.

**Keywords:** pipe flow, entrance, laminar to turbulence, transition length
NUMERICAL FLOW ANALYSIS OF THE VARIATION OF CENTRAL AXIAL VELOCITY ALONG THE PIPE INLET

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Due to no slip flow condition at the wall, the fluid enter the pipe with a smooth velocity start to develop along the flow to comply the zero velocity at the wall and maximum at the pipe center. After a certain distance where the development completed, the velocity profile becomes fully developed and no longer changes observed along the pipe flow. The region flows where the velocity profile develops is called developing flow or inlet flow and the region flow where the fully developed profile governing is called fully developed flow. Computation of the flow properties in the fully developed region can be enabled with various empirical theories, but the complex flow structure in pipe inlet region still has not been solved exactly. However, it is quite important to know the flow behavior at the pipe inlet to compute the right pumping power especially in the fluid heating and cooling short pipe flow processes’ the study performed, the steady pipe flows with Newtonian fluid were simulated numerically at low Reynolds numbers (ranged 1000 and 25000) covering the three flow regimes (laminar, transition and turbulence). High turbulence level and smooth velocity profile were assigned to the flow at pipe inlet. Turbulence flows were solved over the time mean flow assumption. On the numerical results obtained, the variation of axial central velocity along the flow was examined for different relative roughness’s. Consequently, a numerical correlation which define the axial velocity and fit the numerical values well is proposed.

Keywords: pipe flow, axial velocity, entrance, numerical, inlet flow
MOLECULAR CHARACTERIZATION OF YOGHURT BACTERIA ISOLATED FROM BEANS AND LENTILS

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The history of the yoghurt is based on very ancient times, but there is no definite information about where and when it was first made. Since yoghurt and similar fermented dairy products have positive effects on human nutrition and health, consumption and production of yogurt in the world is also increasing. Yoghurt is defined as fermented dairy product in which the symbiotic cultures of Streptococcus thermophilus and Lactobacillus Delbruck subsp bulgaricus in the Turkish Food Codex Fermented Dairy Products Report. Naturally, many different methods are widely used in the production of yogurt from milk with lactic acid bacteria. In this study, it is aimed to obtain preliminary data for the detection of bacteria in yogurt produced by microbiological methods from beans and lentils and industrial use of these species. For this purpose, fresh pure cultures were obtained. DNAs were isolated from these pure cultures and they were stored. Subsequently, they were characterized by the new generation sequence targeting 16s rRNA sequence analysis and MALDI-TOF methods. The bacteria in the yogurts produced were found to be Streptococcus thermophilus and L. delbruecki subsp bulgaricus. In the obtained data, breeding bacteria on the MRS and M17 media are advised to use culture in yoghurt production.

Keywords: yoghurt, maldi-tof, 16s rRNA
EDUCATION OF MOLECULAR BIOLOGICAL METHODS AS PART OF MEDICAL LABORATORY PROGRAMS

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Medical laboratory programs are important courses that provide associate degree education for intermediate technical staff who will later be employed in healthcare services. As part of the curriculum, students in this field are trained in molecular biological methods in the spring semester of their second year. The course aims to teach methods for isolating DNA from different biological materials, such as human blood, tissue samples and amniotic fluid, to teach the theoretical steps of the PCR (polymerase chain reaction), which is the basic method used for the amplification of the DNAs obtained, to allow students to practice the PCR method in the hospital's practice laboratories, to provide theoretical lectures on methods for preparing agarose tanks and gels, applying DNA into agarose gel and migrating and visualizing DNA, and to allow students to apply these methods in student laboratories within vocational health service schools. In addition, different PCR-based molecular biology methods and in particular, techniques routinely applied in healthcare services are included in the program's curriculum, and practical training of techniques and methods within the practical infrastructure of university hospitals is also provided. In our healthcare system, the presence of molecular medicine laboratories in both private and government institutions and the necessity of having equipped technical staff in these fields has rendered molecular biological method training a necessity. In conclusion, the combination of theoretical and practical training in the teaching of molecular biological methods increases the employment rate of students in our healthcare system after graduating from the program.

Keywords: pcr, agarose, amnion
Plants provide the oxygen required for maintenance of human life. They are essential for human life in terms of food and health. Thousands of years ago, humans explored the therapeutic power of plants, and preferred to benefit from them to live healthily. According to the data of the World Health Organization (WHO), the number of plants used for therapeutic purposes is around 20,000. Since the beginning of using plants for human health, the bioactivity characteristics of the plants have been studied in laboratories. There are various bioactive components in plants, the most important of which are secondary metabolites. It is very important how and by which methods the secondary metabolites of plants are characterized, as well as their isolation, proper and effective performance of their extraction process, and identification of their various biological activities that might be used in alternative medicine. This review examines the usability of supplementary medical support products after the identification of bioactive characteristics of plants by means of various biochemical and molecular biological methods.

**Keywords:** bioactive components, extraction, secondary metabolite
DETERMINATION OF MORPHOLOGY AND ALLERGENIC PROTEINS OF PISTACHIO (PISTACHIA VERA L.) POLLENS IN GAZIANTEP

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Allergens can be defined as antigens that stimulate specific IgE (Immunoglobulin E) antibody formation and react with it. In this study, the morphologies of Pistachia vera allergen pollen belonging to Anacardiaceous family in South Eastern Anatolia were examined by light microscopy and pollen extracts were prepared from these species. The materials used in morphological studies were obtained from Gaziantep University campus area. Slides of pollen were prepared with Wodehouse (1935) method and morphological characteristics of pollen were determined with light microscopy, then microphotographs were taken. Extraction method applied by Aytug et al. (1991) was used to prepare extracts of collected pollen, and 'Coca' solution was applied extensively and sterile filtration technique was applied for sterilization. The obtained crude pollen extracts belong to the plants grown in this region flora. BCA was used to determine the protein concentration. Absorbance measurement was taken. Standard graphs were generated using concentrations and absorbance values of standard protein samples prepared at different concentrations (1-0.1 mg / ml). The protein concentration of the pollen extracts was calculated with the aid of the correct equation obtained for this graph. These crude extracts, which we can use to diagnose allergic diseases, contain many major and minor allergens, the concentration of P. vera is very high. For this reason, it can be used as an allergen kit and allergy test should be done to those living in the region. The results obtained will help both to contribute to systematic studies and to treat allergic diseases caused with pollen.

Keywords: pollen allergy, pollen extract, pistachia vera, pollen morphology
AMOEBCIDIAL POTENTIAL OF AMARANTHUS RETROFLEXUS ON ACANTHAMOEBA CASTELLANII TROPHOZOITES

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Amaranthus retroflexus is widely distributed in the world (Horak and Loughin, 2000) and it is one of ten weed species with the most economical prescription in Europe (Schroeder et al., 1993). Because Amaranthus contains fatty acids, proteins, micronutrients and vitamins, it is used as cereals, dyes, forages, medicinal plants and vegetables (Assad, 2017). A. retroflexus leaves are consumed raw or boiled while their seeds are used as food cereals in Georgia and Azerbaijan. They are used for the treatment of stomach and skin diseases, dysentery, antitumor agent and wound healing remedy (Batsatsashvili et al., 2017). The ethanolic extracts of A. retroflexus collected from Black Sea in Turkey were tested for their antiamoebic activity against Acanthamoeba castellanii trophozoites. A. retroflexus leaves were macerated at room temperature with ethanol three times for 48h. The extract was filtered and concentrated by evaporation and the aliquots of A. retroflexus extract (2.25, 4.5, 9, 18, 36, 72 mg/ml) were made in distilled water. The numbers of the viable A. castellanii trophozoites were counted with 1, 3, 6, 8, 24, 48 and 72 h at 26°C for showing of A. retroflexus amoebicidal activity. The 50% inhibitory concentrations (IC50) of A. retroflexus were found to be approximately 72 mg/ml at 72h. A. retroflexus showed stronger inhibitory effects at the concentrations of 31.4, 15.5, 7.8 mg/ml against A. castellanii trophozoites. The percentages of cell viability in the Acanthamoeba trophozoites when exposed to the concentrations of 36 and 72 mg/ml of A. retroflexus at 72h were 50±1.45, 64±1.50, respectively.

**Keywords:** amaranthus retroflexus, acanthamoeba spp., antiprotozoal activity
ACTIVITY ASSESSMENT OF RUBUS FRUTICOSUS L. (ROSACEAE) LEAVES EXTRACT ON ACANTHAMOEBA CASTELLANII

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Rubus fruticosus L. (Rosaceae) methanolic extract was tested to show various neuropharmacological activities (anxiolytic, muscle relaxant, antidepressant and sedative). There was no muscle relaxing activity or sedative effect while anxiolytic activity was shown tested extracts. The fruit of *R. fruticosus* was the most depressant effect when compare with root, leaves, stem (Riaz et al., 2014). The aim of the study was to investigate in vitro amoebicidal activities of *R. fruticosus* extract on *A. castellanii* trophozoites. The grounded *R. fruticosus* leaves samples (30 g) were placed in 250 ml of the ethanol for 48 h at room temperature in shaking incubator. Then, they were filtered and concentrated as 50mg/ml. The extracts were dissolved in distilled water to obtain a concentration of 1.5, 3, 6, 12, 24, 48 mg/ml. *A. castellanii* trophozoites (ATCC, 30010) were cultured on non-nutrient agar plates (NNA) coated with *Escherichia coli* at 26Â°C. After incubation at 72h, trophozoites in exponential growth were harvested and amoebic activity were assessed with *A. castellanii* trophozoites. The numbers of the viable *A. castellani* trophozoites were counted during the experimental process with 1, 3, 6, 8, 24, 48 and 72 h at 26Â°C. The amoebicidal activity was time and dose-dependent on the trophozoites. The trophozoite growth approximately stopped in *R. fruticosus* extracts with IC₅₀/72 h at 30 mg/ml. *R. fruticosus* showed stronger inhibitory effects at the concentrations of 24 and 48mg/ml against *A. castellani* trophozoites. *R. fruticosus* ethanolic extract reduced cell viability by approximately 47 and 55.33% at the concentrations 24 and 48mg/ml, respectively.

**Keywords:** rubus fruticosus l., acanthamoeba castellani., amoebicidal activity
AMOEBCIDAL EFFECTS OF TARAXACUM OFFICINALE AGAINST ACANTHAMOeba CASTELLANII TROPHOZOITES

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Treatment of Acanthamoeba infections is very difficult. Because medical treatment is usually less effective in cysts than in trophozoites. The two-layered hard wall of the cysts protect highly resistant to anti-amoebic drugs, and the cysts can survive even after successful initial treatment. For this reason, it is important to develop more active and dynamic therapies that make it easier for patients to continue their treatment. In this context, the search for plants used by traditional medicine is a strategy for discovery of alternative treatment (Nagwa ve ark., 2011). Taraxacum officinale, also known as Dandelion, includes different pharmacologically active flavonoids such as quercetin, apigenine, luteolin (Bachmetov, 2012). The objective of this study was to determine the amoebicidal effects of T. officinale against Acanthamoeba castellanii trophozoites. The pathogenic strain of A. castellanii (ATCC 30010) was obtained from the American Type Culture Collection. T. officinale was macerated at room temperature with ethanol three times for 48h. A. castellanii trophozoites were treated with the different concentrations of T. officinale (in the quantity from 3 to 96 mg/ml) and incubated for 72 h at 26°C for the determination of the amoebicidal activity of the plant ethanolic extract. The 50% inhibitory concentration (IC50) of T. officinale was found to be approximately 73 mg/ml at 72h. T. officinale showed stronger inhibitory effects at the concentrations of 48 and 96 mg/ml against A. castellanii trophozoites. The extracts of T. officinale reduced cell viability by approximately 42 and 55 % at the concentrations 48 and 96 mg/ml, respectively.

Keywords: Taraxacum officinale, Acanthamoeba castellanii, amoebicidal effects, weed
AMOEBCIDIAL POTENTIAL OF SOLANUM AMERICANUM MILL. ON ACANTHAMOEBA CASTELLANII TROPHozoITES

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Solanum americanum Mill. (syn Solanum nigrum) fruits which have rich in nutrients contain significant amounts of the trans-resveratrol, total anthocyanins, minerals and total antioxidant activity, and high vitamin C. The trans-resveratrol prevent cancer by protecting the regular cell cycle (Vagula et al., 2016). Acanthamoeba spp. are known to be opportunistic protozoa for humans and other animals. These parasite cause associated with corneal infections (amoebic keratitis, AK), chronic but fatal granulomatous amoebic meningoencephalitis (GAE) (Ertabaklar et al., 2006; Özcel, 2007). In this study, ethanolic extracts of Solanum nigrum from the Black Sea in Turkey were tested for their amoebicidal potential on Acanthamoeba castellanii trophozoites. Briefly, the plant sample was homogenized with a blender and it was dissolved in ethanol for 48 h at room temperature in shaking incubator. Subsequently, it was filtered and concentrated as 90 mg/ml. A. castellanii trophozoites (ATCC, 30010), were treated with different concentrations of ethanolic extracts of S. nigrum (2.8, 5.6, 11.25, 22.5, 45, 90 mg/mL) and incubated for 1, 3, 6, 8, 24, 48 and 72 h at 26°C. The 50% inhibitory concentration (IC50) of S. nigrum was found approximately 11.2 mg/ml at 72 h. S. nigrum showed stronger inhibitory effects at the concentrations of 90, 45, 22.5 and 11.25 mg/ml on A. castellanii trophozoites. The percentages of cell viability in the Acanthamoeba trophozoites when exposed to the concentrations of 11.25, 22.5 and 45 of S. nigrum at 72h were while 50.67, 33, 18.67 %, respectively, there was not observed alive trophozoites in 90 mg/ml.

Keywords: solanum americanum mill, bioactive compounds, amoebicidal activity
DETERMINATION OF THE MORPHOLOGICAL CHARACTERISTICS OF SCANDAROON PIGEON (COLUMBA LIVIA DOMESTICA) GROWN IN THE CENTRAL OF HATAY PROVINCE

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Scandaroon pigeon known to the southeast and Hatay region in Turkey and is commonly known as a pet. This race, which has different color varieties, has been cultivated by local people for centuries. This research was carried out in order to determine some morphological characteristics of scandaroon pigeons grown in the central of Hatay province. The study was conducted on a total of 124 pigeons (122 males and 102 females) reared in six different enterprises in 2016. Some morphological characteristics of pigeons were examined as coat color, marking, eye color, the number of wing and tail flight feathers. However, as a body morphometric characteristic; body weight and length, trunk length, wing span and length, tail length, thoracic perimeter, chest width and depth, head length and width, beak length and depth and tarsus diameter were measured. In conclusion, in this study body weight and body morphometric characteristics were found to be high in males and gender and age were effective on body characteristics (P<0,05).

**Keywords:** body morphometric characteristics, morphological characteristics, scandaroon pigeon
A CRITICAL ANALYSIS ON INTERNET OF THINGS: FEATURES AND VULNERABILITIES

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Smart devices have completely changed how society functions. A major concern is the Internet of Things (IoT), and the lack of awareness by the public of the limited data security built around IoT devices (Raggett, 2016). The purpose of this research is to investigate how a reliance on IoT devices within the home can come at the expense of personal privacy. This research focused upon data privacy and security concerns, privacy laws, law enforcement capabilities and legal precedents pertaining to personal privacy and IoT devices. The storage, transmission, sharing and retention of personal information through connected devices were found to pose substantial privacy concerns. There is a deficiency in public knowledge on the subject of IoT because people are putting a greater emphasis on functionality and design with these IoT tools that provide ease of life, but less regard for their own individual privacy. People may have reached a point where they have allowed too many other entities such as government, corporations, and data aggregators access to their personal information but limited knowledge as to what is being transmitted. Companies should be required to provide a baseline explanation in detail exactly what, where, how, who, and anything else relating to the data transmission that contains any personal information about the consumer using the device. For anybody who doesn’t have a working knowledge of what that traffic should look like, it should be explained in reasonable terms so those who are not technical can understand the data capture.

Keywords: cybersecurity, internet of things, iot, privacy, security
CUSTOMER COMPLAINTS ABOUT E-COMMERCE SITES: CONTENT ANALYSIS

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The number of Internet users who are online shopping day by day increases. The development of the Internet has enable a more efficient means for consumers to gather product information, compare prices, and make purchases at any time and from anywhere. Growth in e-commerce volume suggests the need for an increase of investigations into online complaint activity. The Web-based consumer opinion platforms enable customers to share their opinions on and experiences with, goods and services with a other consumers. The purpose of this paper is to identify the dimensions of customers' e-complaints behavior towards e-commerce sites and determine the rate of e-commerce sites' managements respondency to these complaints. The data obtained from one of the most popular Turkish e-complaint sites Sikayetvar.com. In total, 6 e-commerce sites with highest complaint rates were selected as cases of the study. The consumer complaints from these e-commerce sites were analyzed through a qualitative content analysis. 26 January 2018 and 2017 were selected as the timespan for the complaint research. We chose 6 e-commerce sites, and we took 50 complaints from every group, a total of 300 consumer complaints for the analysis. The results indicated that, the subjects that the consumers most complain about have been identified as defective products, product return, refund, and behavior of call center employees. The most prominent problems with regard to order processing are observed as cancellation of order and non-delivery related issues.

Keywords: e-commerce, consumer complaints behavior, content analysis
LEAN INNOVATION APPROACH IN INDUSTRY 5.0

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It's no doubt that industry 4.0 takes a big part in our daily lives. Mobile phones, touch pad, flipped classrooms can be important examples of how we use the digital life. However, in the near future not only the knowledge and digital life but also robots behaving like a human will cover a huge time. Since, people start to get in collaboration with industry 4.0. In other words, this means that industry 5.0 is coming. Within this fact, keeping innovation in a lean form gets more importance. Complex projects make the innovation be far and far away. Thus, lean approach in innovation management makes the applications of industry 5.0 be smooth. Value management is a good solution as a method in this approach. In this paper, r&d projects’ processes in industry 5.0. platform are taken into account with lean innovation approach. Therefore, the sub-processes, which do not carry value into the product, are eliminated. Simplicity is based in the lean innovation logic. Hence, every step should be thought as a bridge whether gaining value or not.

Keywords: industry 5.0., innovation, lean approach, collaboration, value management
THE EFFECT OF INTELLECTUAL PROPERTIES IN INNOVATION MANAGEMENT

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Intellectual properties (IP), an unlimited subject for technological improvement in Turkey, is a part of innovation spiral. Since, the nature of innovation projects makes the IP born as time passes. It’s a well-known fact that innovation means new ideas turning into goods. In that point, IP presents solving models for the optimum results. Especially, IP, an important indicator for a country’s development level, should be increased in the form of either applications or registrations. Therefore, from this point of view, companies must plan their original IP road map and implement the IP procedure depending on companies’ dynamics. The case study of this paper is done in a big-scale company, called A, in automotive field. The pilot study is completed in R&D center in A, where innovation projects born. Thus, IP is a major factor in this department. In the conclusion of this paper, a new IP procedure is defined and the motivation of organizational climate turns the project ideas to be in a higher and more effective level.

Keywords: innovation, intellectual properties, r&d center, improvement
HYGIENE IN MOLECULAR BIOLOGY LABORATORY

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Molecular biology laboratories that need to be very careful about their cleanliness because they have to be studied very sensitively. The reliability of the test results depends largely on the cleanliness of the material and the environment used. Many chemical and biochemical substances are used in milligram or microgram quantities. It significantly influences the experiment or work done by any pollution in the environment, on the pipette or in the used test tube. For this reason, first of all, the basic cleaning and proper hygiene rules must be provided in the laboratory. The main rules for protecting laboratories and employees are listed as follows: General cleanliness of laboratory areas such as workbenches, storage areas and utility areas must be ensured. Inside and around weighing balances are cleared. Ample free space on workbenches through proper planning and execution of tasks are provided. Adoption of recommended practices for disposal of laboratory waste and samples must be cleaned after analysis. UV lamps must be present in each room of the laboratory. For some sensitive experiments there must be a separate room and the door must be closed. The most important safeguards for laboratory staff are aprons and gloves. It must be absolutely clean. Laboratory staff often wash their hands frequently. Laboratory staff should not wear sandals, slippers, etc. Because a harmful chemical can be poured. As there are some pathogens in laboratories, we have to attention to cleanliness and work very carefully.

Keywords: molecular biology, hygiene, rules
INVESTIGATION THE PERFORMANCE OF STREAM WATER WHEEL TURBINES USING CFD TECHNIQUES

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A stream water wheel is a machine for converting the energy of moving water into power. It consists of a large metal wheel, with a number of blades arranged on the outer rim which allows the wheel to be rotated by the water striking the blades. Water wheels were used since ancient times as a primary source of power. It was used for irrigation, grain milling and supplying villages with water. In the present study, a stream water wheel turbine of 5 m in diameter is numerically simulated using ANSYS-CFX package under different flow conditions. The wake region behind the turbine is monitored where it influences on other turbines next to it. The simulation results have shown that in case of constructing a farm of wheel turbines, the streamwise span should not be less than 6 m. The stream wheel turbines work normally at a tip speed ratio TSR less than unity.

**Keywords:** water wheel, renewable energy, cfd, wake region, hydrokinetic turbines
EVALUATION OF FLOW BEHAVIOR OVER BROAD-CRESTED WEIRS OF A TRIANGULAR CROSS-SECTION USING CFD TECHNIQUES

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Weirs are barriers placed across a river and designed to control the flowing water in order to prevent floods, make waterways operable for inland navigation and measure flow discharge. Although there are many types of weirs, mainly used ones are sharp-crested, circular-crested (cylindrical), broad crested and ogee weirs. In the present study, broad-crested weirs of a triangular cross-section are numerically investigated under different flow conditions. Different interior angles of 90°, 100°, 110° and 120° are included for the opening of weirs. The flowing water over weirs is simulated using CFD techniques and evaluated at different Froude numbers of 0.13, 0.25 and 0.48. The simulation results have shown that the flow behavior slightly changes with the change of flow regime. In addition, at high flow velocity, the weir of larger opening accommodates the increment of water level at the upstream and reduces the pressure exerted by the dropping water on the bed downstream the weir.

Keywords: broad-crested weirs, cfd, flow simulation, velocity distribution, v-notch weirs
ARAB CHILDREN'S NARRATIVE DEVELOPMENT MEASURING NARRATIVE INTERACTION & NARRATIVE INTERVENTION IN ARAB-SPEAKING CHILDREN BY DO-BINE AND DO-FINE

Nabeela Kateeb-Samara
Al-Qasemi

This research represents a pioneering study in the Arab world, in which scientific data on children's language is still lacking, and this holds especially true for the development of narrative competence in early childhood. The goal of the present research was to measure the development of Arab children's narrative competence and to investigate whether its acquisition can be speeded up through the implementation of an intervention program based on the principles of the interactive approach. We assumed that the narrative competence of all children would increase with age, and further that improvements would take place in the research group due to the intervention programme. The research form is an experiment; the experimental group was exposed to the intervention and another, control group was not. Measurements of narrative competence were taken in both groups before and after the intervention. The sample consisted of 124 children of the two ages 3-4 and 5-6 years. The sample was divided randomly into 60 children in the research and 64 in the control group. We used the "DO-BINE" program which assesses narrative competence, and "DO-FINE" intervention. The results show that the 5-6 year olds achieved higher scores than the 3-4 year olds in all three narrative competences. The findings of this study can help administrators and education-policy makers with the treatment of children in the development of spoken language skills and their emerging literacy in kindergarten. Moreover, serve for professionals in kindergarten for diagnosis, assessment and treatment of young children, including those with special needs.

Keywords: narrative, play, language acquisition, narrative measuring
IMPACT OF SOCIAL MEDIA ON COGNITION AND LEARNING

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At time of forcing technology into learning techniques for effective learning, a strong competitive network developed and became worldwide spread not only for learning, but as an open space for social connections and sharing different kinds of information. In addition, smartphones companies present new generations of technology in a very competitive way to public. These smartphones and the technology that the producers worked on were very attractive among youth. These are the multitasking generation and might be the less focused learners. Sparrow, Liu, & Wegner (2011) experimentally tested a common concern about how Internet use might affect memory, specifically how having access to information stored in an external source could render individuals less likely to store information in their own. They found that when students expected to have future access to information, they were less likely to remember specific information but more likely to remember where to find the specific information. This result would suggest that near-constant access to the Internet could influence the kind of information an individual chooses to remember. This kind of cognitive change could be considered an adaptation to the present environment, as trying to remember many pieces of specific information is less efficient than remembering how to access these pieces of information when access is easily obtainable.

Keywords: learning, cognition, social media
TEACHERS VIEWS ABOUT PRE-SERVICE EDUCATION COURSES

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Pre-service education courses at Faculties of Education in Turkey were determined by the Higher Education Council (YÖK-Yüksek Öğretim Kurulu). The last program for the programs updated in 2006-2007 education year. The programs are usually 50% content knowledge and skills, 30% pedagogical teaching profession and skills, 20% general culture courses. These rates and class times differ according to the teaching profession. YÖK authorize the faculty directories to determine the elective courses of the 25% of the total courses credits. We can see in many studies teachers express that their education at faculty was insufficient. The main aim of this study was to determine the views of the teachers about the courses that they had at university education. To achieve this aim two questions were asked to the teachers: Can you tell me the most useful courses you had at university for your profession? (Not the best teacher, we mean course content) Can you tell me that according to your experience which courses would be useful at faculty of education? This study was carried out in the state schools and 50 teachers were participated to this research. The data analyzed with content analysis method by two independent researchers. The data coded firstly, then the codes were compiled the themes. The results of the study will help to the educational politicians to determine the needs of the current teachers in their educational programs.

Keywords: in-service education, pre-service education, faculty of education
THE ANALYSIS OF 1869 GENERAL EDUCATION REGULATION IN TERMS OF CURRICULUM AND INSTRUCTION

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1869 General Education Regulation was seen a fundamental regulation for uniting the education system in Ottoman Empire. This regulation was composed from 5 chapters with 198 items. This regulation includes many decisions about the general education system, curriculum, instruction and school types. This general education regulation had regulations about courses, admission procedures to school, monthly fees for teachers from elementary school to university. For the curriculum and instruction this regulation could be analyzed for the courses. In this research, the book titled Ottoman revolutionary movements in education published by the State Archives will be analyzed. The courses written in this regulation will be analyzed according to their contents. The research will be carried out by qualitative research method using document analysis method. In this study, changes in educational curriculum development and teaching will be determined by this regulation. The school types, curriculum and courses for the secondary and high schools will be analyzed and compared with the existing education system.

**Keywords:** general education regulation, curriculum and instruction, ottoman education system
THE RELATIONSHIP BETWEEN SOCIAL MEDIA ADDICTION AND SELF-EFFICACY BELIEFS OF STUDENTS ON SCHOOL SUCCESS

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Social media addiction has been one of the most spectacular subjects lately. The vast majority of university students have at least one social media account. As time goes on, people are increasingly taking social media into their attention, especially through students. While the time allocated to social media increased, the amount of time devoted to other tasks decreased. Therefore, it can be said that social media addiction reduces the chances of students being successful. In this research, it will be tried to determine the social media addiction levels of university students. We will also try to determine whether there is a relationship between students' social media addiction levels and school achievement self-efficacy beliefs. Education faculty students of a medium-sized university participated in the research. 100 students from different departments and classes participated in the research. The data will be analyzed by SPSS statistical program. Descriptive statistics and predictive statistics will be made in the research and answers will be sought for the research question.

Keywords: social media addiction, self-efficacy, teacher education
THE PREPARATION OF CONTROLLED RELEASE FERTILIZER BASED ON GELATIN HYDROGEL INCLUDING AMMONIUM NITRATE AND INVESTIGATION OF ITS INFLUENCE ON VEGETABLE GROWTH

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Neşe Yoltay Sağlam
*Yozgat High School*

A controlled release fertilizer (CRF) systems based on gelatin hydrogel was prepared to improve fertilizer use efficiency and minimize its negative impact on environment. Gelatin hydrogel was synthesized by using glutaraldehyde (GA) as crosslinker and its swelling/degradation behaviors were investigated. Ammonium nitrate (AN) was loaded into the gelatin hydrogel and its releasing was followed. Release of AN from gelatin beads versus time was followed, and it is found that the release gently increased at first and then complied between 40-50 h. The releasing date shows that the prepared AN/gelatin hydrogel system could be named as a CRF. The efficiency of gelatin hydrogel beads including AN were examined on the vegetable growing using cucumber seeds. Plant growth and stem elongations measurements presents the formed hydrogel beads could be successfully used as a CRF system. It can be concluded that the CRF system produced in this study is much promising in utilizing a natural resource like gelatin in the production of matrix material, which could significantly reduce the production costs and offer a quite environmental friendly alternative technique.

**Keywords:** gelatin, controlled release fertilizer, ammonium nitrate, plant growth, stem elongation
PREPARATION OF SODIUM CARBOXYMETHYL CELLULOSE HYDROGELS FOR
CONTROLLED RELEASE OF COPPER MICRONUTRIENT

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Aksaray University

Mehlika Pulat
Gazi University

In this study, a series of nanoporous sodium carboxymethyl cellulose (NaCMC) hydrogels were synthesized using FeCl₃ ionic-crosslinker by changing the amounts of the components. Hydrogel formation percentages of the samples were determined and the highest value was obtained as 96% for the hydrogel containing the most amounts of polymer and crosslinker. Swelling/degradation behaviors of the hydrogels were studied by changing time, temperature and pH and it was determined that the swelling percentages regularly decreased with increasing the amounts of polymer and crosslinker. S% values were determined to be 102% for the least swollen hydrogel. In general, NaCMC hydrogels much more swelled in basic medium than acidic medium. Releasing of copper micronutrient from NaCMC hydrogels were investigated by Atomic Absorption Spectrometer measurements. Kinetic in vitro release parameters, the release rate factor K and the release exponent n of micronutrients in hydrogel system were calculated. It can be concluded that the produced hydrogel system having controllable release values is useful for agricultural applications.

Keywords: hydrogel, sodium carboxymethyl cellulose, micronutrient, controlled release
ANTIPROLIFERATIVE AND IMMUNOMODULATORY EFFECTS OF SOME LACTIC ACID BACTERIA ISOLATED FROM BREAST-FED HUMAN FECES AND THEIR EXOPOLYSACCHARIDES

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Exopolysaccharides (EPSs) and metabolites produced by Lactic Acid Bacteria have been found to have an important role in probiotic activity; however, there is limited knowledge concerning their impact on colorectal adenocarcinoma (Caco-2). The objective of this study is to evaluate the high EPS producing Lactobacillus spp., isolated from breast-fed human feces for their capability to antiproliferative effect on Caco-2 cell growth and modulate immune response. The EPS production capacities of strains were determined by phenol sulfuric acid method. Caco-2 cells were treated with live culture at ~$10^8$ cfu/mL and lyophilized EPSs at 800 µg/mL of three Lactobacillus spp and their abilities to inhibit proliferation, were evaluated with using WST-1 cell proliferation assay kit. Immunomodulator effects of strains were examined by IL-8 and 10 human ELISA kit. According to our results, the highest EPS was obtained from strain E9 (186 mg/L) (p<0,05). Live cultures of strains showed higher anti-proliferative effect against Caco-2 cells than their EPSs. The most effective antiproliferative effect in Caco-2 was obtained from strain LB63 (38% cell death) (p<0,05). The lactobacilli strains more effectively inhibited IL-8 production in TNF-α-induced Caco-2 cells than their EPSs (280 pg/mL from 450 pg/mL) (p<0,05). Furthermore, live cultures were also found to induce a considerable level of IL-10 from Caco-2 cells (56 pg/mL from 36 pg/mL) (p<0,05). The significant differences were not observed at all EPS treatment on Caco-2 cell. This suggests that the EPS producing Lactobacillus spp. and their EPSs might be a new therapeutic agent for cancer treatment and inflammatory diseases.

Keywords: probiotic lactic, acid bacteria, exopolysaccharide, immunomodulator effect
OPTIMIZATION OF EXTRACELLULAR ALKALINE PECTATE LYASE (PEL) FROM FOOD ORIGINATED DEBARYOMYCES HANSENII HANSENII M1

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Pectynolytic enzymes are a group of enzymes that contribute to break down pectic substance and help in decomposition of plant materials in nature. There is a need for novel enzymes which can be used in biotechnology applications and are able to exhibit high activity under various conditions. In this study, different yeasts isolated from food were screened for the specific enzyme activity of Pectate Lyase Enzyme after partial purification. The pectate lyase activity was determined by measuring the increase in the absorbance at 235 nm of polygalacturonic acid. The parameters such as optimal incubation period (min.), pH, temperature, CaCl₂ and substrate concentrations were examined at purified PEL and then the relative enzyme activity was calculated. These isolates revealed pectate lyase activity between 5.1±0.02-54.7±0.01 U/mg. Among 5 yeasts, only Debaryomyces hansenii hansenii M1 showed highest PEL specific activity with 54.7 U/mg. The best optimization parameters for the maximum PEL activity of D. hansenii hansenii M1 was determined as pH 8.0, 0.25% apple pectin, 25 °C and 1.0 mM of CaCl₂. Ca+2 ion does not require for D. hansenii hansenii M1 PEL with an optimum activity (100% relative enzyme activity) in the non-presence of CaCl₂. Also, the optimization results showed thermotolerant characteristics and alkaline or acidic pH stabilities of a novel fungal pectate lyase enzyme. The protein band of D. hansenii hansenii M1 PEL was observed as 140 kDa. This enzyme may be used more successfully in biotechnological applications under different conditions than other enzymes.

Keywords: pectate lyase, debaryomyces hansenii hansenii, enzyme optimization
SPECTROPHOTOMETRIC DETERMINATION OF SOME DRUGS VIA CHARGE TRANSFER COMPLEX FORMATION REACTION

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A spectrophotometric method is proposed for the determination of methyl dopa, isoniazid, terbutaline sulphate, and codeine sulphate drugs in their pure forms and in pharmaceutical formulations, based on the charge-transfer (CT) complex formation reaction with 2,3-dicyano-1,4-naphthoquinone as π-acceptor. Linear calibration graphs were obtained in the concentration range 10-200 μg ml$^{-1}$ for methyl dopa at 448.5 nm, 5-150 μg ml$^{-1}$ for isoniazid at 425 and 563 nm, 10-300 μg ml$^{-1}$ for terbutaline sulphate at 415.5 nm and 10-150 μg ml$^{-1}$ for codeine sulphate at 425 nm. The molar absorptivity values are in the range $0.549 \times 10^3$ and $1.585 \times 10^3$ l.mol$^{-1}$.cm$^{-1}$, the lower limits of detection are in the range 0.721-0.942 μg ml$^{-1}$ and lower limits of quantitation are in the range 2.404-3.154 μg ml$^{-1}$ for all the studied drugs. The stoichiometry of the complexes was found to be 1:1. No interference was observed from common pharmaceutical excipients. The proposed method was applied successfully for the determination of the drugs in their pharmaceutical formulations.

**Keywords:** charge transfer, spectrophotometry, dcnq, drugs
INVESTIGATION THE RELATIONSHIP BETWEEN HIGH SCHOOL STUDENTS THE VALUE PREFERENCES AND ATTITUDES TOWARDS TEACHING PROFESSION

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Values have a motivating structure that leads people to do a job. Values, in fact, represent people's goals and goals while revealing the gaze of life on the one hand. It is a job that is expected to have values such as social status, self-esteem, success, self-direction and others, besides knowledge of teaching profession, knowledge of field education and general culture. They must be aware of their cognitive, psychological and social characteristics in order to be aware of their values and, depending on them, shape their lives. For this reason, students should be aware of what values they have and should be encouraged to develop positive attitudes about the teaching profession by recognizing themselves. The aim of the research, they have the value of students studying in schools in Turkey constitute the discovery of the relationship between attitudes towards the teaching profession. The data of the study were collected using the Schwartz value preferences scale and profession of teaching attitude scale. Relational survey model was used in the study. As a result of the research, it was determined that female students' attitudes towards the teaching profession were higher than male students and it was determined that female students significantly differed in terms of benevolence, conformity and security dimensions from male students. It has also been determined that there is a significant positive relationship between students' universalism, benevolence and conformity value preferences and attitudes towards teaching profession.

Keywords: schwartz value, teaching profession, high school students
THE EVALUATION OF TEACHING PRACTICE WITH REFLECTIVE DIARIES

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Reflective thinking is important for teacher education and the continuity of prospective teacher’s professional growth. The reflective thinking abilities of prospective teachers can be determined through reflective diaries. By writing up reflective diaries, prospective teachers have opportunities to reflect on the basis of their own personalized experiences. The aim of this study is to evaluate School Experience and Teaching Practice courses according to reflective diaries that prospective teachers have written. The sampling consisted of 12 prospective teachers who have studied in faculty of education at Hacettepe University. The data were collected from reflective diaries of prospective teachers who kept diaries on a regular base which involved their personal thoughts and interpretations of their experience and practices and prospective teachers’ views about the classes of school experience and teaching practice scale. The data was analyzed in terms of frequencies, percentages and chi-square. It was found that prospective teachers have problems in the instruction process, and in classroom management. In addition, they experienced contradictions between what they learned at the university and what they practiced in the schools. In the study, prospective teachers reported that they were able to make self-evaluation regarding the teaching profession and developed themselves in the field of effort for their own development.

Keywords: teaching practice, school experience, reflective diaries, prospective teacher’s
THE EFFECT OF EMPLOYING “SLOWMATION” IN TEACHING GEOMETRY TO SEVEN GRADE STUDENTS’ ON THEIR ACHIEVEMENT

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The purpose of this study was to explore the impact of teaching 7th grade Geometry unit (According to Palestinian Curriculum) that have been richnessed by Slowmation videos (Slow Motion Animation) on the achievement of learners and their acquisition the main concepts in this unit. The research was configured around the following research questions: What is the effect of teaching geometry and measurement unit to 7th grade based on the slow-motion videos on the achievement of learners and acquisition concepts? To achieve the research goals, a quantitative approach was employed with a quasi-experimental design, where experimental group and control group were selected to measure the effect of using slow-motion videos on achievement of learners and their acquisition the main concepts. To achieve the objectives of the study, slowmation relevant videos were designed based on previous literature, and the experience of exemplary well-known mathematics teachers. An achievement test was designed and offered to both groups at the end of the intervention. The results revealed a positive significant effect of employing slowmation videos as a teaching aid in teaching geometry and measurement unit on learners’ achievement and on their acquisition the main concepts. Based on these results, the study ended up with some recommendations for school teachers and decision makers in the Palestinian Ministry of Education, and for future studies.

Keywords: slowmation
AN ALGORITHM FOR ANALYSIS OF AXIALLY SYMMETRIC SHELL STRUCTURES

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Axially symmetric shell structures consist of combinations of structural components such as spherical parabolic or partial spherical dome, axially symmetrical wall, circular beam at the top and/or bottom of the wall, or circular plate. There are many degrees of freedom for such structures in analysis with prevalent Finite Element Method. For this reason, about the solution of the unknowns, the number of equations, that push the limits of computers and software, becomes the subject. In the present study; a computer program which is formulated on the classical shell structure theory is introduced. By means of this program, model modifications can be made in an extremely practical way compared to the Finite Element Method in axially symmetric shell structures; load and load combinations, boundary conditions and so on. In addition to all these conveniences, more detailed and more accurate analysis results can be obtained than the Finite Element Method, which can only analyze with a limited number of unknowns with the capacity of computers. The program is formulated with four integral constants and independent from the long wall criteria, gives accurate results regardless of the wall height.

Keywords: axially symmetric shell structure, orbicular dome, axially symmetric wall, circular beam, circular plate, classic shell structure theory, finite element method, post tensioning, structural optimization, structural analysis
ANALYSIS OF STUDIES CARRIED OUT WITH MATHEMATICS TEACHERS

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'Teacher' constitutes the main components of the educational system, besides students and knowledge. Accordingly, there are many studies carried out on/with teachers. In order to summarize the current situation of the studies with teachers, it is important to investigate them. Based on these considerations, the aim of this research is to examine, in various dimensions, studies carried out with mathematics teachers. For this purpose, 40 articles randomly selected were examined with meta-synthesis method under different headings (main area of the study, type of the sample, data collection tools, and main results of the study). The results of this research showed that the studies on teachers were mostly focused on the affective dimension (teachers' self-efficacy, belief, decision making, value, opinion, perception), that these studies preferred other branch teachers when a second sample was needed besides mathematics teachers, that the most emphasized result in these studies was that the quality of in- and pre-service teacher education should be increased.

Keywords: mathematics teacher, research, sample
A GENERAL MISCONCEPTION OF PROSPECTIVE CLASSROOM TEACHERS: FAULTY GENERALIZATION

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cK is a model set out by Balacheff in order to help determining students' conceptions and misconceptions. According to this model a conception is defined by a quadruplet (P, R, L, Σ) in which: P is a set of problems; R is a set of operators; L is a representation system and Σ is a control structure. Reviewing the literature, one can notice that this model is used in several studies with the aim to determine students' conceptions and misconceptions related to specific concept of mathematics such as orthogonal symmetry, function. In this study we used it to determine global conceptions and misconceptions which is not related to a specific topic of mathematics. For this purpose, 61 preservice classroom teachers were administered an examination on Sets, Equations, Functions and Numbers topic and interviewed in case of necessity. A general misconception called Faulty Generalization is determined according to the quadruplet (P, R, L, Σ). In this study we aim to talk about determining process and elements of this general misconception.

Keywords: cK, conception, faulty generalization
COMPARATIVE ANALYSIS OF MENTAL MODELS PROSPECTIVE TEACHERS FROM VARIOUS BRANCHES HAVE WITH RESPECT TO THE CONCEPT OF WORK

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The concept of work is closely related with the concepts of power, force, and energy. As is the case with other concepts closely related to daily life, the concept of work can, at times, be used outside the scope of its scientific reference. Studies on various concepts and issues revealed that such a state of affairs had an impact on learning by the learners, and often paved the way for conceptual confusions and/or the development of alternative concepts. The present study aims to identify the mental models from various branches have with respect to the concept of work, and to assess the impact the daily-life connotations of the concept have on the development of mental models on part of the learners. The study is carried out with a total of 177 prospective teachers enrolled in Physics, Chemistry, Biology, and Science Teacher Training Programs. The result show that an important number of the participants had a synthesis mental model regarding the concept of work, and that the mental models observed varied from one branch to another.

**Keywords:** mental models prospective teachers concept of work
ANALYSIS OF PROSPECTIVE TEACHERS’ SKILLS TO IMPLEMENT VARIOUS FORMS OF MULTIPLE REPRESENTATION

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Multiple representations play an important role among the basic variables influencing the teaching and learning of concepts. A number of studies revealed how multiple representations of a given concept had a positive impact on the learning of the concepts. It is crucial to investigate the prospective teachers’ competence levels on this front, as a means to inform further development of teacher training policies. In this context, the present study intends to analyze to what extent the prospective teachers use multiple representations. The research is based on case study method, registering three prospective teachers’ in-class practices over semi-structured observation forms, followed by the analysis of the data using content analysis. The preliminary analysis of data reveals that prospective teachers specifically employ symbolic and verbal representation among various forms of multiple representation but fail to make use of other forms of representation (graphs, diagrams etc.) even when the topic discussed makes their use convenient. These observations lead to the conclusions that prospective teachers employ forms of representation comparable to those used by existing teachers, and that next-generation perspectives employed in teacher training programs do not have a positive impact on the introduction of these applications in class settings.

Keywords: multiple representation, prospective teachers
WHY DO INTELLECTUALLY ABLED WOMEN MARRY WITH INTELLECTUALLY DISABLED MEN

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This study explores a 'weird' phenomenon in the Arab society in Israel. Arab women with normal intelligent decide to marry with a man with mental retardation (intellectually disabled). This study focuses on the reasons and circumstances that lead women with normal intelligent to marry with an intellectually disabled man. A sample of 30 Arab women participated in this research. Their ages are between 20-35 years. Data were collected by opened interviews with the participants. A qualitative method using the Grounded Theory was used to analyze data. The findings of the study highlight four factors as a reason of why choosing to marry with intellectually disabled man. These factors are: Economic status- a woman chooses to leave her family because of the difficult economic situation. Patriarchic family system- She chooses to leave her family in order to escape the 'injustice family' Stigma 'Anes'-non-married women- She chooses to leave her family in order not to be 'Anes' Religious beliefs- She believes that it is her destiny to marry with this intellectually disable man. All the factors above lead the researcher to the conclusion (theory) that: The main reason of marrying with intellectually disabled man is escaping from bad and difficult reality and a hope of finding something better. Further analysis will have presented at the conference.

Keywords: intellectually disable, marriage, mental retardation, family injustice, women
ATTITUDES OF EFL TEACHERS’ AND LD STUDENTS’ TOWARDS DIRECT AND INDIRECT CORRECTIVE FEEDBACK AND ERROR CORRECTION TYPES IN ENGLISH WRITING.

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This study aims to investigate the attitudes of teachers’ and students with learning Difficulties towards the types of error correction and corrective feedback in English writing. The study involved 10 experienced EFL teachers (more than 10 years of teaching), and 250 students (range between the seventh and the ninth grades) from the Arab community in Israel. A questionnaire was used for data collection. Data were analyzed quantitatively by the SPSS. Results indicated common positive agreement between teachers and students on the important role of error correction and corrective feedback in improving English writing skills. All participants expressed strong opinions on the importance of error correction. However, more than 70% of teachers and 90% of LD students expressed a clear preference for direct type of corrective feedback as the most useful and effective type of corrective feedback for improving English writing. These results confirm the importance of direct error correction type and its significant role for LD students in learning English. Further information will be presented at the conference.

Keywords: efl, ld students, teacher attitudes, learner attitudes, corrective feedback, error correction, language accuracy, writing.
A STUDY ON UNIVERSITY STUDENTS' MEDIA LITERACY SKILLS AND COMMUNICATION SKILLS

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With rapid developments in information and communication technologies today, new literacies of different types and qualities have arisen. Media literacy, which is one of these new types of literacy, is generally defined as the ability to access, analyze, evaluate and convey messages of various forms and numerous academic studies are being conducted especially in the context of technology literacy. In this regard, this study, too, aims to determine university students’ media literacy skills and communication skills and investigate the relationships among media literacy skills, communication skills and perceived internet use levels. In addition, university students’ media literacy skills and communication skills were investigated within the scope of the study in terms of their class levels and accommodation type. A total of 301 university students attending different departments of a university located in a city in central Turkey, of whom 136 were female and 165 were male, participated on a voluntary basis in this study, which was conducted in accordance with the procedures of relational survey model and causal-comparative research. The research data were collected using “Media Literacy Skills Scale” and “Communication Skills Scale”. On the other hand, descriptive statistics, correlation analysis, independent samples t test analysis and one-way variance analysis were used to analyze the data obtained from the scales. According to the findings obtained from the study, media literacy skills (in all of the access, analyze, evaluate and communicate factors) and communication skills of university students were found to be above average. Moreover, all correlations among university students’ media literacy skills, communication skills and perceived internet use levels were statistically significant and positive. Also, it was found that freshman students’ media literacy skills (in all of the access, analyze, evaluate and communicate factors) and communication skills were significantly higher compared with the sophomore students. Lastly, media literacy skills (except for the analyze factor) and communication skills of the students staying with their families or friends were significantly higher than those of the students staying in a dormitory.

Keywords: university students, media literacy skills, communication skills, perceived internet use level
MOBILE TECHNOLOGIES USED FOR THE DEVELOPMENT AND EDUCATION OF INDIVIDUALS WITH SPECIAL EDUCATIONAL NEEDS

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Individuals have different physical, mental, social and affective development progresses. Some of them may experience developmental disabilities which result in difficulties in communication, performing daily activities, learning, and adaptation to their environments. One of the missions of special education field is to provide such students with suitable educational experiences in order to improve their behaviors and lives. Fortunately, technology encourages individual learning and offer great opportunities to struggling and disabled students with different needs. This study aims to explore available mobile technology devices and applications and how they are used for the development and education of individuals with special needs through the examination of published studies in this area. A literature review was conducted in academic database and search engines including Science Direct, Springer Link, Scopus and Google Scholar to reach the related studies. Online searches were facilitated by using appropriate keyword phrases such as “technology in special education”, “assistive technologies”, “individuals with special needs”, “disabled persons” and so on. The review was limited to empirical studies. The collected articles were summarized using the 4N1K technique into a Microsoft Excel spreadsheet. They were categorized under two main themes as mobile devices and applications, which were then separated into sub-themes according to the type and use of devices (e.g., iPad, iPod) and applications (e.g., Proloquo2Go, Picaa).

Keywords: special education, disabled individuals, mobile technologies, literature review
AN ONLINE ENVIRONMENT FOR ICT TEACHERS TO SHARE INSTRUCTIONAL EXPERIENCES

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As in the case of teaching all subjects, students’ achievement and satisfaction in information and communication technology (ICT) courses depend on ICT teachers’ implementation of instructional methods, techniques, materials, and so on. The proper selection and use of such applications requires a know-how accumulation of related knowledge and experience. Teachers can constitute this accumulation through professional development activities, their own teaching experiences or colleague sharing and support. Internet technologies provide great opportunities to create sharing environments in which individuals can share their knowledge and experiences with others. The purpose of this presentation is to introduce an ongoing web programming project that includes the design and development of an online platform for ICT teachers to share their instructional observations and experiences. The interface of individual each web page was designed using Adobe Photoshop CS6 and then coded through HTML and CSS languages. The platform was developed according to the current curriculum of Information Technologies and Software course that is thought in fifth or sixth grades in Turkey. It allows teachers to select a course subject and enter the instructional methods, techniques, materials, evaluation tools etc. they have used and their observational comments related to effective implementation of these applications. They can search and read other users’ prior entries as well. It is hoped that implementation of such an environment will become a useful reflection and guidance tool for teachers’ professional development.

Keywords: ict teachers, instructional experiences, online platform, web development, sharing
VIEWS OF MIDDLE SCHOOL TEACHERS AND STUDENTS ABOUT MINECRAFT

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Minecraft, a digital “sandbox” and pixilated video game, allows individuals to freely create and manipulate their own simulated worlds, which enables them to have full control to design these worlds in intentional ways. Minecraft is not simply a video game that allows players to build and create virtual worlds. At its core, Minecraft is about placing and mining blocks. Minecraft consists of 3D objects—mainly cubes—that represent materials such as dirt, stone, various ores, water and tree trunks. Players gather these material blocks and use them to form various constructions.

Millions of children are already playing Minecraft at home, whether on computers, consoles or mobile devices. The purpose of this pilot study was to explore middle school teachers’ and students’ view about Minecraft as a game tool in educational setting. Qualitative research method was used in this descriptive study. The sample of the study included 3 middle school teachers and 10 middle school students from 6th to 8th grades. The data was collected by a semi-structured interview form. According to the results 25 percent of the students reported that Minecraft is a useful game. 66 percent of teachers thought that Minecraft game should be used in education, while the rest of them thought it was difficult to use.

Keywords: minecraft, game, video game, ict, technology
THE CONTRIBUTION OF ICT TEACHERS TO TECHNOLOGY INTEGRATION: WHAT DO TEACHERS THINK?

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The advent of the digital technologies has dramatically transformed every aspect of our life such as the way we work, the way we play, the way we live and the way we learn. Furthermore, the integration of Information Communication Technology (ICT) into educational setting has the potential to dramatically transform the teaching and learning process. Technology integration can be defined as the use of technology resources such as computers, mobile devices, digital cameras, smart boards, social media, software applications, in daily classroom teaching practices, and in the management of classroom. This study sought to explore ICT teachers’ tasks and responsibilities they have undertaken in order to identify and evaluate what teachers from other branches expect from ICT teachers to contribute to solving problems originated from integrating technology in their classroom practices. An explorative, qualitative approach was used by means of semi-structured interviews. Prompts were used to enhance a participant’s exploration and to develop rich data. The participants of this study consisted of 10 ICT teachers and 10 other branch teachers from both secondary and high schools. Participants were selected on the volunteer basis. The findings revealed that most of the teachers reported that they expected to receive help and support from ICT teachers. Furthermore, the majority of participants reported that they received support from ICT teacher when they asked help from them.

Keywords: ict integration, ict teachers, technology integration, teacher collaboration
A COMPARISON STUDY OF VERB’MOODS IN ALBANIAN AND ENGLISH LANGUAGE

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It’s generally known that English and Albanian language share similarities as well as differences in different part of speech. Such differences cause problems especially while we try to translate from English language to Albanian language or vice versa. Verb as one of the most important part of speech, it is seen as very elaborative and complicated one. The formation and features of verbs differ in English and Albanian languages especially in the high number of verb moods that Albanian language has and English language does not have. The aim of this comparative study is to elaborate the differences among the types of verb moods in Albanian and in English language. The comparison will be elaborated based on different examples, given for each of verb moods in Albanian language and in English language. As well as there will be elaborated some of the Albanian verb moods which do not exist in English language and their translation sometimes takes different structure for the matter of textual coherence.

Keywords: verb moods, english language, albanian language, differences of verb moods, coherent translation of verb moods in albanian and english language.
TEACHER CANDIDATES' OPINIONS TOWARD MONEY AND PURCHASE BEHAVIORS BASED ON THEODOR LUDWIG WIESENGRUND ADORNO'S THEORY OF LEISURE INDUSTRY AND MASS CULTURE: A QUALITATIVE RESEARCH

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The identity we have about ourselves, including opinions, information and imagery, is an expression of one's self-understanding. Awareness of self-consciousness is not a constant insight that has emerged or is genetically inherited from ancestors. On the contrary, the formation of identity and the development of self-awareness as a result of this, the interaction with the family and its immediate surroundings during the development of the person is a learned and constantly developing structure. It is our identity that makes us and it is the result of our experiences. The great Russian writer Gorki says that the way to be ourselves is to reduce our desires. So, we have to buy less. According to Gorki, money has a very important role in our identity formation and if it is not controlled, it makes us a slave. The aim of this research is to put forward the thoughts of the prospective teachers about terms such as money, consumption and purchasing attitudes that affect people's life a lot. Qualitative research approach has identified as the method and the case study was used as design of research. Through objective sampling, 55 teacher candidates have formed study group of research. Teacher candidates generally stated that money is the main means of change, that it must exist in our lives, that they must earn and spend money, that it is imperative to purchase goods to meet their needs, and that they adopt and recommend a minimalist philosophy of life.

Keywords: teacher candidates, money, adorno, theory of leisure industry, mass culture
FOUR VIEWS OF TEACHERS DISCUSSING CONTROVERSIAL ISSUES

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The nature of social reality and the role of a good society in this debate and the role of the school are at the center of social research. Depending on this situation, teachers were criticized, are being criticized and will be criticized for values that they convey or do not convey from all sources of ideology. This issue, which can be described as the misfortune of the teachers, is both an incentive and an obstacle for them. Teachers are accused of racist, sexist, and cultural and economic dominance norms on the one hand, while expressing a malicious secular humanism that is charged with instilling the superiority of capitalism and its democracy on the other. In this context, the roles teachers should take in discussing controversial topics in daily lessons is a very controversial subject. This paper presents and discusses four critical approaches to the controversial issues that teachers presume to have. Such approaches are characterized as exclusive neutrality, exclusive partiality, neutral impartiality and committed impartiality. Research suggests committed impartiality as the most defensible teacher role.

Keywords: controversial issues, exclusive neutrality, exclusive partiality, neutral impartiality, committed impartiality
AN INVESTIGATION ON THE RELATIONSHIP BETWEEN EDUCATION FACULTY STUDENTS' THINKING STYLES AND THEIR NEED FOR COGNITION

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The present study aims to investigate the relationship between students' thinking styles and need for cognition at education faculty by also investigating the effects of gender, department, study year, financial status of the family, city of residence on this relationship. The research data was collected with the selection of the sample which consists of 820 students studying at Gaziantep Education Faculty in 2014-2015, Fall Term. "Thinking Styles Scale" (Sternberg & Wagner, 1992), adapted to Turkish by Bulus (2005), was used to measure thinking styles of teacher candidates. The data related to the need for cognition were collected by "Need For Cognition Scale (NFCS)" (Cacioppo & Petty, 1982; adapted to Turkish by Gulgoz & Sadowski, 1996), and lastly, the data related to the personal information of the students were gathered by "Personal Information Form" which was designed by the researcher. The raw data obtained from the scales were analysed by using SPSS 20. Major analyses conducted include Pearson Product Moment Correlation, t-test, and one-way ANOVA. According to the results, teacher candidates mostly take the role of judicator while they do not prefer the role of conservative in terms of thinking styles. It was also found that there is a positive relationship between their thinking styles and need for cognition, and there are significant differences in terms of gender and department. However, there is no significant difference in terms of study year, income, and residence.

Keywords: thinking styles, need for cognition
AN INVESTIGATION OF MARRIED INDIVIDUALS' PROBLEMATIC INTERNET USE, MARITAL ADJUSTMENT, COUPLE BURNOUT AND SATISFACTION LEVEL OF PSYCHOLOGICAL NEEDS

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In this study which was investigated relationship between married individuals' problematic internet usage, marital adjustment, couple burnout and satisfaction level of basic psychological needs and these variables was analyzed in terms of some variables. Additionally, the mediator role of marital adjustment on the relationship between satisfaction level of basic psychological needs and couple burnout was investigated, too. The study group that designed according to relational screening model as a descriptive study is composed of 348 married individuals residing in Osmaniye. In the study; Problematic Internet Use Scale (Ceyhan, Ceyhan and Gurcan, 2007), Marital Adjustment Test (Locke and Wallace, 1959; Tutarel-Kislak, 1999), Couple Burnout Scale (Pines, 1996; Capri, 2008), Basic Psychological Needs Scale (Deci and Ryan, 2000; Kesici et al., 2003) was used as data collection tools. And also, the data about some socio-demographic variables of married individuals has been obtained by using Personal Information Form which has been designed by the researcher. As a result of the research; problematic internet usage is positively associated with couple burnout; marital adjustment is positively associated with satisfaction level of basic psychological needs. Marital adjustment is negatively associated with couple burnout; couple burnout is negatively associated with satisfaction level of basic psychological needs. Moreover, marital adjustment has partial mediating role in the relationship between satisfaction level of basic psychological needs and couple burnout. The findings of the research were discussed and interpreted in the light of the related literature. In addition, some suggestions have been put forward based on the results for further studies.

Keywords: problematic internet use, marital adjustment, couple burnout, basic psychological needs
THE STUDY OF THE MOBBING BEHAVIOURS AND THE LEVEL OF BURNOUT THAT PSYCHOLOGICAL COUNSELORS PERCEIVE AND THEIR SELF-EFFICACY IN PSYCHOLOGICAL CONSULTANCY

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This study through which the mobbing behaviours and the level of burnout that psychological counselors perceive and their self-efficacy in psychological consultancy have been examined with regard to some parameters is a descriptive research figured in terms of the relational screening model. Psychological counselors who worked in (primary, secondary, high schools and counseling and research center) in Gaziantep during 2015-2016 School Year consisted of the population of the study. In the study, the sample was formed by working with 286 psychological counselors. In order to gather data in the study, Mobbing Scale for Teachers (Tanhan and team, 2009). Maslach Burnout Inventory (Maslach and Jackson, 1986; Girgin, 1995). Psychological Consultancy Self-Efficacy Scale (Lent et al., 2003). Demographic Information Form which is developed by the researcher were used. As a result of data analysis; it has been observed that there is a significant relationship between the scores with regard to the mobbing behaviours and the level of burnout that psychological counselors perceive and their self-efficacy in psychological consultancy, the total number of multiple regression analysis related to the fact that psychological counselors predict the level of self-efficacy in psychological consultancy accounts for 22 per cent of the total variation but these scores do not significantly differ in terms of the variables of gender and undergraduate program which was graduated from. The findings obtained have been discussed in the considerate of related literature and recommendations have been offered.

Keywords: psychological counselor, mobbing, burnout, self-efficacy
INVESTIGATION OF THE INSTALLATION LEVELS OF MUSIC COURSE IN MIDDLE SCHOOL STUDENTS

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In this research which was conducted to investigate the determinants of the success levels of music students in secondary school students, Burak (2013) developed musical instruction loading scale was used to determine students' beliefs about the reasons for their successes and failures in music class. This scale consisting of 44 items consists of 5 sub-dimensions as attitude, environment, out-of-School, Instrument and ability. It is understood that the higher the scores obtained from the subscales of the scale, the more the student uploads the music lesson in the related subscale. The research was conducted with a total of 176 students, 99 girls and 77 boys, who are taking music lessons in different secondary schools in the city center of Gaziantep. The findings obtained as a result of the statistical analysis on the data obtained in the study have been interpreted taking into consideration the related literature. According to the research findings, there was a significant difference in the subscale of the scale in favor of female students according to sex, but no significant difference was found in the instrument attitude, environment and ability subscales according to sex. In the study, it was observed that there was a significant difference in the ability and instrument sub-dimensions of the scale, although there were significant differences in terms of the points obtained from Attitude, environment and out-of-course subscales and the sum of the scale as a result of the analysis of the characteristics of the secondary schools.

Keywords: musical perception, musical proficiency, music education, loading.
TEACHERS' VALUES AND EXPECTATIONS OF TECHNOLOGY IN AUSTRALIA'S NORTHERN TERRITORY PRIMARY SCHOOLS

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Educational outcomes are particularly poor for the 43 percent of Australia’s Northern Territory students who are Indigenous, many of whom lag significantly behind their non-Indigenous peers (see ACARA, 2011.) The heavy investment by many NT schools in computers, interactive whiteboards and other educational technologies can be seen in part as an attempt to ameliorate their inherent disadvantage, thus equalising the learning opportunities in remote locations. Technology is a response to the need to better engage students and improve educational outcomes. This research examined motivational, pedagogical and systemic factors that affect the way technology is used in the classroom. Expectancy-value theory was used as a framework to organise and understand motivations when attempting to integrate technology into their teaching and how their expectation of the technology influenced their pedagogical goals. This research investigated what factors impact teachers’ perceptions of ICT integration in their classes by looking at skills, practices, attitudes and ability to confidently integrate technology as a teaching tool. Data were gathered through observations of technology-based lessons and semi-structured interviews with teachers in Australia’s Northern Territory schools. Results showed teachers placed high value on using technology for education; however, the expectancy of its success was frequently diminished when teachers perceived barriers beyond their immediate control such as the lack of human resources to support the technology, and a lack of effective professional development resulting in teachers lacking confidence to successfully deliver a technology-based lesson.

Keywords: technology, primary school, remote teaching, teacher efficacy
AN INVESTIGATION OF THE RELATIONSHIP BETWEEN HIGH SCHOOL STUDENTS' UNCERTAINTY LEVELS AND FAMILY INFLUENCE ON CAREER DECISION MAKING

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This study investigates the relationship between high school students' levels of uncertainty in career decision making and family influence on career decision making in terms of some variables. The participants of this study were totally 270 students attending different types of high schools. The research was conducted during 2017-2018 academic year in four state high schools in Gaziantep; two Anatolian religious high schools, an Anatolian high school and an Anatolian vocational high school. To measure the professional uncertainty levels of students "Career Decision Inventory" developed by Çakır (2004); to measure the family effect on students' career decision making "Family Influence Scale" developed by Fouad, Cotter, Fitzpatrick, Kantamneni, Carter and Bernfeld (2010), and adapted into Turkish by Akın, Usta and Satici (2012), and a "Demographic Information Form" prepared by the researchers were used to collect the data. According to the results, when examined in terms of gender; it was observed that the level of professional uncertainty was significantly different in favor of the male students. Correlation analysis showed that the scores of Informational Support and Family Expectations subscales of the Family Influence Scale were inversely correlated to the scores of the Lack of self-knowledge, Internal Conflicts, Vocational Recognition and Irrational Beliefs subscales of the Career Decision Inventory; and also, there was a direct correlation with the scores from the External conflicts subscale. As a result of regression analysis; it was found out that the effect of the family on career development is a significant predictor of uncertainty in career decision making.

Keywords: uncertainty, family influence on career development, career decision
EMPLOYING VIRTUAL REALITY IN TRAINING & EDUCATION IN THE MARITIME WORLD CASE STUDY - AVA360

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*Dunarea De Jos University*

More and more industries are streamlining their business by looking for more and more qualified engineers with little resources and time to train graduates and junior engineers. In order to support this trend, the education environment needs to keep up with the industry and produce more and more capable engineers over the same timeframes, whilst also keeping costs down. The maritime world, specifically, requires versatile engineers, with a great exposure over a vast array of subjects, in order to offer employers, the flexibility that they require reduces the training costs.

This scientific paper dwelves into the new field of virtual reality software introducing 3d photography management systems into educational environments. AVA360 is a visual asset management software designed to assist universities with offering their students the immersive experience of being on board a vessel without leaving the classroom. On board inspections, vessel layouts, interior designs, real structural defects, welding seams, inside of tanks (which otherwise are inaccessible) can be experienced and felt through real 3D images, thus speeding up the learning process and putting the academic concepts into context. AVA360 is a collection of high resolution spherical photos (scenes). The teacher/professor can define hotspot links directly into scenes to provide access to supporting documentation (text, drawings, spreadsheets etc) and media (photo, video and audio files). The software will combine the challenging side of the classroom study with a user-friendly interface to ensure all students can comfortably familiarise themselves with the concept of a ship before entering the industry.

**Keywords:** virtual reality, modern education, 3d photography, ship
DIETARY MIRNAS AND THEIR POTENTIAL AS DISEASE BIOMARKERS

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MicroRNAs (miRNAs) are a class of single-stranded non-coding RNA molecules of approximately 22 nucleotides that play crucial roles in gene expression through target mRNA translation inhibition or degradation. They generally bind to complementary sequences in the 3'untranslated region (UTR) of specific protein-coding genes, inducing mRNA cleavage or translational repression. It was reported that dietary miRNAs are present and stable in human blood and can function as active signaling molecules to regulate mammalian genes. It was specifically shown that bovine miRNAs regulate genes that play roles in human health and development. For this reason, dietary miRNAs are recently considered as potential candidates for disease biomarkers. To date, over 500 miRNA genes were linked with 378 diseases in humans. In this study, we have intensively reviewed publications on dietary miRNA to provide a detailed summary of their potential use as a disease biomarker. In addition, some miRNA examples for different areas that pose important health threats to humans were given.

Keywords: mirna, gene regulation, diet
ACADEMY-CLASS PRACTICAL WORK AS A CATALYST FOR IN-SERVICE TEACHERS' PROFESSIONAL DEVELOPMENT

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The "Academy-grade" is a new practical work model for training pre-service teacher in Israel. The model is based on tightening the partnership between the academic institutions and schools in order to improve the quality of training processes to overcome the problems of adaptation of graduates in schools, to improve the in-service teachers' professional development and to promote the meaningful learning in schools. According to Academy-Class model the pre-service teacher go to schools three days a week, they are considered as teachers and required to co-teach with the school. The pre-service teachers, their college supervisors and their school mentors meet weekly and have together a continuing professional development. This study was carried out using quantitative research and included fifty Arab in-service teacher mentors in Israel. The study examined the effect of Academy-Class on the in-service teachers in their adoption of new meaningful learning methods, specifically when this method is practiced by the pre-service teachers in the training school. The findings show a significant increase of the in-service teachers' beliefs and practices regarding meaningful learning methods. Academy-Class programme helped create a learning community that encouraged certain teaching behaviors and substantiated beliefs regarding these behaviors.

Keywords: in-service teachers, professional development, learning community
DEVELOPMENT OF A DIAGNOSTIC EXPERT SYSTEM (FDD-EXPERT) FOR WOVEN FABRIC DEFECTS

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A variety of computer aided techniques have been proposed to help solving diagnostic problems in different disciplines. Commonly known as expert systems, approaches, undertaking distinct formalisms for modelling domain knowledge, include: rule-based and frame-based systems or semantic and neural networks. Explanatory mechanisms are more easily implemented with rule-based systems and graphical models making these preferred solutions to the diagnostic problem. Since the pioneering work by Feigenbaum (DENDRAL, 1971) theory and utility of expert systems have progressively evolved and accompanied by the appearance of various expert systems development tools. In textile industry, expert systems are generally used to increase production, improve quality and reduce costs. This paper describes Fabric Defect Diagnosing System (FDD-EXPERT), an expert system in the domain of fabric defects. Fabric defect is known as an undesirable fault in the fabric which deteriorates the quality fabric and makes it inferior. FDD-EXPERT contains 173 different defects based on TS471 ISO8498 Woven Fabric Description of defects with additional 47 defects. Defects depicted in this domain are classified based upon their similarity of appearance, multiple attributes relevant to effect upon visual quality and sources of defects. Possible reasons for each defect and remedial solutions are also included. A rule-based knowledge domain and interference engine is generated in PROLOG. User friendly interface of the system is developed through Visual Basic (VB.Net). It is a combination of logic and declarative programming. This diagnostic system may be utilised as problem solving and training tool by novice operators or as a supplementary knowledge for expert operators.

Keywords: fabric defect, diagnostic expert system, prolog
EDUCATION OUTSIDE THE CLASSROOM: A MUSEUM VISIT AS AN OUTDOOR LEARNING STRATEGY IN ENGLISH FOR TOURISM COURSE

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Learning outside the classroom in authentic natural and social environments is very different from traditional learning in the classroom. It provides opportunities for using various learning strategies, enables integration of knowledge and enhances students' motivation. Natural and social (cultural) objects in a local environment become the venue, means and object of teaching and learning. In this paper, an outdoor learning strategy in English for tourism course is presented a visit to a museum by Students of Tourism department at the Faculty of Geography, University of Belgrade. Before their visit to the Museum of African Art in Belgrade the students were assigned a task to find information on the web about an African country of their choice and prepare a five-minute presentation on its culture, tradition and customs. Also, they were assigned to study the most popular tourist destinations in the country and present their accommodation facilities and attractions. A constructivist approach to university teaching implies connection between content (tourism geography) and context (museum) in which the content will be used, whereas a holistic, integrated approach to foreign language learning helps students develop a comprehensive view of the world and improve their foreign language skills. Furthermore, learning outside the classroom promotes conditions for improving the quality of learning and results in more functional and lasting knowledge.

Keywords: outdoor education, constructivist approach, english for special purposes, tourism geography
EFFECT OF CoQ_{10} AND BORIC ACID ON TISSUE VITAMIN LEVELS IN A RAT MODEL OF BLEOMYCIN-INDUCED LUNG INJURY

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This study aimed to investigate protective role of coenzyme Q_{10} and boric acid on the level of vitamins (A, E, D) against bleomycin-induced lung injury in rats. The experimental period was performed with 32 female wistar albino rats. The rats were randomly divided into four groups of eight rats each. Group I: Control, untreated animals were given % 0,9 NaCl. Group II: The bleomycin (BLM)-treated animals were intratracheal administered of BLM (7.5 mg/kg). Group III: It was determined as BLM (7.5 mg/kg) + BA 10 mg/kg. Group IV: It was determined as BLM (7.5 mg/kg) + BA 10 mg/kg + CoQ_{10} 4 mg/kg. In the study, tissue vitamin analysis was carried out using HPLC method. Vitamin analysis was performed with a C_{18} reverse phase column. The chromatogram was monitored with PDA array detection at 325, 290 and 265 nm (α-tocopherol, retinol and cholecalciferol). Statistical analysis showed that the BLM group was significantly lower than the control group with regards to vitamin E, A and D levels (p<0.001, p<0.05 and p<0.001). On the other hand, the BLM+BA and BLM+BA+CoQ_{10} groups were also significantly lower than the control group regarding vitamin E level (p<0.05, p<0.05). Whereas, The BLM+BA+CoQ_{10} group had increased level of vitamin D according to BLM group (p<0.01). The data clearly shows that both coenzyme Q_{10} and boric acid are effective in normalizes levels of vitamins in lung tissue. However, BA+CoQ_{10} was found to be chemoprotective effect with regards to Vit D against bleomycin-induced lung injury.

**Keywords:** tissue vitamin, bleomycin, boric acid, CoQ10
A STUDY OF THE MECHANISM OF THE HANTZSCH PYRROLE SYNTHESIS

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The idea of coupling two keto-esters together with a nitrogen atom also works for pyridines except that an extra carbon atom is needed. This is provided as an aldehyde and another important difference is that the nitrogen atom is added as a nucleophile rather than an electrophile. These are features of the Hantzsch pyridine synthesis. This is a four-component reaction. The product of the reaction is actually the dihydropyridine. The reaction carried out by mixing the components in the right proportions in ethanol. Any aldehyde can be used and yields of the crystalline dihydropyridine. This reaction is an impressive piece of molecular recognition by small molecules and writing a detailed mechanism is a bold venture. The ammonia has to attack the ketone groups, but it would prefer to attack the more electrophilic aldehyde so this is probably not the first step. The enol or enolate of the keto-ester has to attack the aldehyde so let us start there. This adduct is in equilibrium with the stable enolate from the keto-ester and elimination now gives an unsaturated carbonyl compound. The new enone has two carbonyl groups at one end of the double bond and is therefore a very good Michael acceptor. A second molecule of enolate does a conjugate addition to complete the carbon skeleton of the molecule. Now the ammonia attacks either of the ketones and cyclizes on to the other. As ketones are more electrophilic than esters it is to be expected that ammonia will prefer to react there.

Keywords: hantzsch pyrrole synthesis, mechanism
THE MOLECULAR STRUCTURE, NON-LINEAR OPTIC PROPERTY, VIBRATIONAL, HOMO AND LUMO ANALYSIS OF 2-THIOHYDANTION BY HF AND DFT METHODS

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2-Thiohydantion and its derivatives provide beneficial synthetic intermediates with a great variety of employment like therapeutics, fungicides and herbicides. In this study, molecular structure, electronic and non-linear optic properties of 2-Thiohydantion are studied theoretically. Ogawa, et al. experimentally determined the crystal structure of 2-Thiohydantion molecules. To the best of our knowledge, there is no theoretical and experimental study on title molecules except for molecular structure. The structural, vibrational analysis, electronic, and non-linear optical properties of 2-Thiohydantion molecule have been examined theoretically using ab initio Hartree-Fock (HF) and Density Functional Theory (DFT/B3LYP) methods applying the standard 6-311++G (d,p) basis set. The results of vibrational parameters were analyzed by VEDA 4 software. $^1$H- and $^{13}$C-nuclear magnetic shielding constants of the molecule were calculated by employing the direct implementation of the Gauge Including-Atomic-Orbital (GIAO) method at the B3LYP/6-311+G (2d,p) and HF /6-31G(d) levels of the theory. In addition, using the calculated the highest occupied molecular orbital energies ($E_{HOMO}$) and the lowest unoccupied molecular orbital energies ($E_{LUMO}$), electronic properties of the studied molecules such as energy gap ($\Delta E = E_{LUMO} - E_{HOMO}$), chemical potential $\mu$, electrophilic index $\omega$, ionization potential $IP$, electron affinity $EA$, electronegativity $\chi$, molecular softness $S$, molecular hardness $\eta$ were obtained. The $\Delta E$ for title molecule are calculated at 4.865 eV, with DFT/B3LYP at 10.125 eV, with HF level of theory using the 6-311++G (d, p) basis set, respectively. Structural parameters such as bond lengths; bond angles and dihedral angles of title molecules were compared with the experimental data in the literature.

Keywords: 2-thiohydantion, hf, dft, nmr, non-linear optic
THEORETICAL INVESTIGATION ON MOLECULAR STRUCTURE, VIBRATIONAL ANALYSIS AND NON-LINEAR OPTIC PROPERTY OF METABORIC ACID

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Boric acid and borax play an important role in the industry because they are used as enzyme stabilizers, detergents and in cosmetic. They are also used as a micronutrient fertilizer for plans in the agricultural applications. In this study, the Potential Energy Curve (PESs) as a bond angle (B1-O1-H1) of the studied molecule is investigated computationally by using DFT with the B3LYP functional with 6-311++G(d,p) basis set. As a result of this calculation, two possible conformers (CI and CII) of title molecule are determined. The molecular structure, vibrational analysis, electronic and non-linear optic properties for two conformers of metaboric acid are studied theoretically using ab initio Hartree-Fock (HF) and Density Functional Theory (DFT/B3LYP) methods applying the standard 6-311++G(d,p) basis set. The results of vibrational parameters were analyzed by VEDA 4 software. $^1$H-nuclear magnetic shielding constants of the molecule were calculated by employing the direct implementation of the Gauge Including-Atomic-Orbital (GIAO) method at the B3LYP/6-311+G (d,p) and HF/6-31G(d) levels of the theory. Also, The highest occupied molecular orbital (HOMO) and lowest unoccupied molecular orbital (LUMO) energies are calculated with both B3LYP/6-311+G (d, p) and HF/6-311++G (d,p) level. The conformer CII is predicted to be form 0.771 kcal/mol more stable than the conformer CI. The energy gap $\Delta E$ between $E_{\text{LUMO}}$ and $E_{\text{HOMO}}$ orbitals energy, electronegativity ($\chi$) and electron affinity (A) were calculated. All calculations were performed using the Gaussian 09 software.

Keywords: metaboric acid, elumo, ehomo, 1h- nmr, vibrational analysis.
FINANCIAL DEEPENING AND BLOCKCHAIN IN GLOBAL SOUTH COUNTRIES

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The block chain technology provides high rate of transparency in case of its deployment in financial sector. The rate of financial access of the public represents the visibility of total financial activities conducted by the individuals through financial channels such as banks in the economy. There is a direct relationship exist between the financial access and financial deepening since financial deepening provides in depth details about financial status of those individuals who have financial access. The transparency of the public ledger in blockchain technology provides public trust which triggers financial access and leads high rate of financial deepening within the country thus it has the potential to decrease rate of corruption and unemployment while increase economic efficiency. This study examines the impact of possible deployment of blockchain technology in Global South countries to overcome variety of problems such as poverty, unemployment, corruption and variety of economic barriers that rise due to lack of financial access.

Keywords: blockchain, global south, economic growth, financial access, poverty
Tomato cultivation was in the first place with 619,877 tons in the glass greenhouse in the Mediterranean region. Tomato production was ranked first with 437 tons while cucumber production ranked second with 48 tons in Kahramanmaras (TUIK, 2015). Many problems such as diseases, weeds and pests are encountered in greenhouse tomato cultivation. One of the most important of these problems is the weeds. One of the foreign weeds, Dodder (Cuscuta spp.) is a parasite plant and the most difficult to control. When you do not control with Dodder (Cuscuta spp.), economic loss occurs 100% in tomato yield and quality. It has been diagnosed that it is a dodder (Cuscuta campestris Yunck.) in tomato growing in the glass greenhouse of the Agriculture Faculties. Since the dodder seeds have dormancy, various attempts have been made to break this dormancy. Methods of breaking dormancy on dodder seeds; low temperature application was carried out at 3.5°C for 80 days, in deep freezer at -200°C for 24 hours, in pure water for 72 hours, kept at room temperature (26°C) for 284 days and 1% Sulfuric acid (H₂SO₄) was applied to the seeds of the dodder for 3 minutes. From these applications dodder seed germinations was observed only in sulfuric acid applications.

**Keywords:** greenhouse tomato (f1 yaren tomato), dodder, dormancy and breaking methods
A NEW ENVIRONMENTAL HERBISIT IN PEACH ORCHARDS IN THE BLACK SEA REGION, INVESTIGATIONS ON INJURIES TO DIALOG DIPROMITE 200 G / L

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In this study, Diquat dipromide (200 g/l) herbicide was tested against to weeds causing damages in peach orchards of Samsun province in the Black Sea Region in 2017. Weed density in peach gardens in Samsun region; Capsella bursa-pastoris, Poa annua, Sonchus oleraceus, Stellaria media, Bromus spp., Lamium amplexicaule, Calendula arvensis and Anagallis arvensis was evaluated as being very intensive because it is more than 10 in m². In Post-emergence in peach gardens, Diquat dipromide active ingredient herbicide was applied at the doses of 300, 400, 500, 600 and 1200 ml/da while Roundup Star Glyphosate Potassium Salt was applied at the doses of 300ml/da, against to post-emergence weeds in peach orchards. Diquat dipromide application at the dose of 300, 400, 500 ml/da was found ineffective against to both broad and narrow leaf weeds. At doses of only 600 and 1200 ml/da, the killing efficacy of herbicide was found at 90-100% both narrow and broad leaf weeds. Diquat dipromide was recommended as herbicide after discharge at a dose of 600 ml/da, which was found to be effective at 91.71% for eight weeds in the garden. Phytotoxic effect on peach trees was not observed at the dose of diquat dipromide 1200 ml/da.

Keywords: peach, weeds, density, post-emergence, herbicide, diquat dipromide
EFFECTS OF AEROBIC EXERCISE PERFORMED ON DIFFERENT TIME OF DAYS ON GLUTATHIONE LEVELS

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The glutathione (GSH) is an important antioxidant agent that has play important role in the maintenance of oxidant/antioxidant status in the body. We aimed to investigate effects of aerobic exercise performed in morning and at night time on serum GSH levels in sedentary subjects. Total of 20 sedentary male (21.8±1.2 yr) performed an aerobic running exercise at their anaerobic threshold for 30 mins in morning and at night. Ethical approvement has been obtained before study. Blood samples were taken before and after the exercise. GSH analysed using ELISA method. Paired t –test used to analyse data and p<0.05 was accepted as significant. GSH decreased significantly (p<0.05) from 3.733±0.38 μM to 1.828±0.61 μM (51% decrease) in morning and 3.826±0.39 μM to 1.829±0.14 μM (52% decrease) but it did not change significantly at night exercise 1.652±0.19 μM to 2.02±0.19 μM. Aerobic exercise performed in morning may cause significant decreases in GSH levels, reflecting high antioxidant requirements. Interestingly, night time aerobic exercise caused a small but non-significant increase in GSH levels, reflecting other antioxidant system contributions. However, considering marked decreases in basal GSH levels in night time exercise (57%) may be indicator of weakness in antioxidant defence system against exercise induced oxidative stress increases. Thus, sedentary subjects should be avoided to perform higher intensity exercise in night time.

**Keywords:** aerobic exercise, anaerobic threshold, gsh, antioxidant
POTENTIAL APPLICATION OF SOME PHENANTHRENE DERIVATES AS OLED COMPOUNDS

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Potential organic electroluminescent compounds that have attracted the interest of scientists in recent years will be discussed. Organic electronic devices are quite remarkable due to their optoelectronic features. These devices can be examined under three main headings. These are; organic light emitting diode (OLED), organic thin-film transistors (OTFT) and organic solar cells. These devices are usually structured in the form of anode-organic material-cathode layers placed on top of each other. OLEDs are devices that can generate light via organic molecules in a thin membrane layer when an electric current is applied. They are prepared by placing one or more organic semiconductor layers between two metals. Both the anode and the cathode can be semi-permeable. The device that emits light during electroluminescence is called (OLED) Organic electroluminescent molecules, due to the application of full color monitor, flexibility and light source, became a widespread research topic both scientifically and industrially. In recent researches, it is planned to produce and implement structures that includes both electron donor and acceptor groups in structure and therefore can make electronic transitions at intramolecular level. Once the geometries of the molecules were drawn using the Gaussview 5.0 computer program, theoretical calculations were made using the Gaussian09 program. Then, the HOMO-LUMO orbital schemes of the optimized molecules obtained from the theoretical calculations and HOMO-LUMO energy difference (ΔE) calculated as eV. Lastly, potential use of these compounds as OLED devices have been discussed.

Keywords: oled, dft, phenanthrene, donor, acceptor
AROMATICITY OF MONOAZAPHENANTHERENE DERIVATIVES

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Each year many articles have been published on aromaticity. It is important to determine the aromaticity of a molecule. Because it provides important information on which reactions the molecule can be used and which properties it can display. Although there are several methods for determining the aromaticity of a structure, NICS (Nucleus-Independent Chemical Shifts) method which has the simplest application and offers the right approach. Phenanthrene, an aromatic compound, is one of the most searched chemical substances from polycyclic aromatic hydrocarbons with over 100 different combinations. There are many different types of organic compounds, which consist of carbon and hydrogen. Centric substitution on one of the rings of phenanthrene will effect its aromaticity due to disturbance of the perfect ring current. By substituting carbon with an electronegative atom such as nitrogen, it will reduce the aromaticity of the phenanthrene rings. As the positions of the substitute nitrogen change, the aromaticity must also be affected. For this purpose, aromaticities of the rings of phenanthrene were calculated after replacing one of the carbons with one nitrogen on positions 1, 2, 3, 4 and 10. To recover the aromaticity lost as a result of the nitrogen substitution, the ring hydrogens were substituted with nitro groups. The electrons on the electronegative nitrogen were transfered back to the ring. The ground state energies and the aromaticity of the compounds have been obtained by the application of B3LYP/6-31G(d,p) method. NICS data have been computed at the ring centers.

Keywords: aromaticity, phenanthrene, nics
FEMINIST DISCOURSE SPECIFIC TO ULVIYE MITHAT (U.) BETWEEN 1935-37 IN CYPRUS

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Although Cyprus was under control of United Kingdom from 1878 to 1960 movements which affects Turkey were also affect Turkish Cypriots who were living in Cyprus. 5th of December is a meaningful day in our calendars because the Turkish women earn their right to vote and stand for the election in 1935. Ulviye Mithat (U.) was born in 1906 at Kastamonu, Turkey; married with a Turkish Cypriot then moved to island in 1923. She lived in Cyprus till 1940. Between 1935-37 she wrote articles in local newspapers called Ses and Embros about women's rights. She was the most of best knowledge of author-criticized columnist because of her modernist, egalitarian and reformist ideas of her. In this paper Discourse-Historical Approach from Reisigl and Wodak was used in order to find discourses specific to Ulviye Mithat between 1935-37 in Cyprus. As a result, although Ulviye Mithat was write in 1930’s her ideas about women’s rights and gender equality is far beyond of her era.

Keywords: cyprus, ulviye mithat, women's rights, feminism, discourse-historical approach
NOTES TO THE QUESTION OF PRESENTING THE THEME OF SPECIAL SOLUTIONS OF ORDINARY DIFFERENTIAL EQUATIONS IN A UNIVERSITY COURSE

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As Sir Isaac Newton has said, laws of the Nature have been written in the language of Differential Equations. In particular, the classical theory of normal systems of Ordinary Differential Equations, supported by Caushy theorems of existence and uniqueness of solutions, describes determined processes taking place in the Nature, technics and even in the society, i.e. such processes, for which a condition of a described system in an arbitrary fixed moment depends on its condition in any other moment. Solutions, describing such processes, are called the ordinary. But when the conditions of the Caushy theorem are not satisfied, a situation totally changes. A point, in any neighbourhood of which such conditions are not satisfied, may become for a system under consideration a point of nonuniqueness, a point of bifurcation. A solution of a system, each point of which appears to be a point of nonuniqueness, is called a special solution. A task of a full integration of a system demands finding of all its solutions, special solutions as well as ordinary ones. But this item shows us some gap in a special literature. This paper presents materials with the aim to fill this gap.

Keywords: differential equations, ordinary solution, special solution, bifurcations
IMPACT OF FACULTY INVOLVEMENT IN A TUTORING PROGRAM ON STUDENT SUCCESS

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First semester engineering students at Al Akhawayn University in Ifrane (AUI) emanate from different backgrounds namely the Moroccan system or the French one. AUI students do not only face difficulties adjusting to the transition from high school to college but adapting to a student-centered system. Center for Learning Excellence’s (CLE) aim is to render students’ independent learners. Failure to adapt to the new environment and the lack of support services result in high failure rates in introductory courses namely computer science and mathematics. A multitude of carefully designed (unique in our context) tutoring services, were implemented to assist with the transition. First, this paper focuses on the impact that tutoring had on students’ success and excellence based on the extent of faculty involvement. Then, it describes the challenges that first semester students face and the services created to overcome them. Based on the statistics conducted, a clear correlation exists between the use of the CLE tutoring services and the students’ grades. Light will be shed on the development phases of the CLE and its current structure (also achieved through CRLA certification). The statistical approach will be explained and the results obtained by taking introduction to programming as an example are shared showing the significant impact that tutoring had on students’ success and excellence. Statistics on CLE Students’ performance in more advanced courses are also presented, showing that students who attended the CLE perform better than students who did not use the CLE tutoring services in more advanced courses and that faculty involvement directly impacts attendance in tutoring services.

Keywords: education, developmental education, tutoring
DEVELOPMENT OF NUMBER LINE ACUITY IN PRIMARY SCHOOL CHILDREN: A LONGITUDINAL STUDY

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A number of studies confirmed that there is a strong relationship between estimating the positions of numbers and mathematical success. However, the number of longitudinal studies on how the estimation skills of children develop is relatively fewer. The aim of this study was to examine elementary school students' development of number acuity by using mental number line measurements. The participant of the study consists of 69 primary school children. Measurements were made at the end of the 2nd and 3rd grade elementary school. Children touched the number line on the computer screen for determining place of the number was asked. Mathematical achievement tests were used for determining relation between number line estimation and math success. In the result of analysis data a significant difference was found between the annual measurements in both of the number line measurements (0-10, 0-100). There was no significant difference between the mean of the number line acuity in terms of sex. In addition, the relations between number line acuity and mathematical achievement was found higher in second grade than third grade. These results indicate that the sensitivity of the number line increases as the age progresses.

Keywords: mental number line, estimation, longitudinal study
DEVELOPMENT OF PRESERVICE MATHEMATICS TEACHERS’ TPACK THROUGH MICRO TEACHING: TEACHING THE VUSTAT PROGRAM

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The purpose of this study is to examine the effects of micro-teaching applications which prepared by using the VUSTAT program on the techno-pedagogical content knowledge of mathematics teacher candidates. Participants of the study consisted of ten mathematics teacher candidates who continued to the fourth grade. Teacher candidates are taught about the features and use of the VUSTAT program through samples over 10 lesson hours (two weeks). During this period, prospective teachers investigated the statistical topics given to them in middle school mathematics textbooks. Then they used the Vustat program to organize worksheets for the selected statistical topics. After the presentation of the lecturer on the interacting board using the VUSTAT program, each teacher candidate made their first presentations regarding the lesson plan prepared by them. Two different observation forms were used for assessment teacher candidates' presentation by their peers. All assessments were sent to prospective teachers. In the light of the assessment second tour presentations and evaluations will be made next weeks. So the findings and results to be obtained in the study will be shared later.

**Keywords:** vustat program, tpack, mathematics teacher candidates
AN INVESTIGATION OF THE EFFECT OF ENTREPRENEURSHIP COURSE ON SOCIAL STUDIES TEACHER CANDIDATES

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The purpose of this research is to determine the reflections of the social studies teacher candidates’ perceptions of entrepreneurship course integrated with the social studies curriculum in terms of understanding and application. For this purpose, it has been tried to determine the perceptions of entrepreneurship perceptions, out-of-school reflections, proficiency perceptions and entrepreneurship perceptions of the prospective teachers. Within this scope, candidate teachers who have trained in entrepreneurship course have benefited from the lessons they have taken over a period of time. This research is designed according to the phenomenological research design. Participants of the study were 18 (8 female-10 male) prospective teachers. Analyzes of the data were obtained by semi-structured interview form conducted with the teacher candidates at the end of the semester. The data were analyzed by content analysis. As a result, it is seen that the social studies teacher candidates reflect positively on the perceptions of entrepreneurship. There were also positive changes in classroom out-of-class educational perceptions. It has also been found that entrepreneurship is perceived as being brave, taking risks, earning money and being determined. Depending on these results, it can be said that the entrepreneurship lesson should be taught in different sections without interruption.

Keywords: entrepreneurship, social studies, teacher candidates
THE PROBLEMS ENCOUNTERED IN THE TEACHING OF SOCIAL STUDIES IN TURKEY

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The aim of social studies education is to improve the knowledge, attitudes and skills that the individual can use in solving the problems he / she may encounter and to be in harmony with the society with age. In addition, citizenship and responsibilities, the Turkish nation, to give love, respect and confidence to the flag and the Turkish army, to develop the skills of democratic life rules, to live together, to take responsibility, to help and to make decision-making skills, to rights and responsibilities against each other, The development of the technique is to train individuals who know that human beings will affect life. However, when we look at the studies conducted together, it seems that social studies are inadequate. The purpose of this study is; social studies in Turkey between the years 2014-2017 is to reveal the problems encountered in teaching. This study was prepared by qualitative research methods using document analysis technique. For this purpose, the relevant document was examined in the field. Document review involves the reorganization, synthesis and interpretation of subdivisions for the purpose of evaluating research based on a specific field and developing an information base. At the beginning of the research, it is seen that the most important problems are caused by the problems caused by the application of the curriculum and the lack of extracurricular activities. Suggestions are presented in the light of the obtained data.

Keywords: social studies instruction, problem, education
INVESTIGATION OF PROBLEM SOLVING BEHAVIORS OF SOCIAL STUDIES TEACHER CANDIDATES

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One of the important goals of contemporary education is to educate people who are able to solve the problems they are confronted with by themselves, that is, the difficulties that people face in their life and society. In this context, only information is not enough to solve the problem. Problem solving abilities can effectively use advanced human knowledge and solve the problems they are facing more easily. The aim of this study is to determine what methods of social studies teacher candidates use to solve social problems and what is the problem-solving behavior in this process. The research was prepared using qualitative techniques. The data were obtained through focus group interview and analyzed by descriptive analysis. According to the results of the research, it is seen that 1st and 2nd grade students are in a superficial approach to problem solving. However, it is observed that the teacher candidates who continue to the 4th grade have a deeper approach and use more problem-solving methods. In addition, the results show that the problem-solving strategies they use when solving social problems differ according to the class level and the use of the strategy belonging to experienced problem solvers as the class level increases. On the basis of the results obtained, suggestions such as the development of strategy teaching programs aimed at teaching students to solve problem-solving skills should be included in the lessons and to provide problem solving strategies for students.

Keywords: social studies teacher candidates, problem solving methods.
RE-SCALING OF ATTITUDE SCALE TOWARDS SCIENTIFIC RESEARCH METHODS COURSE TO ITEM RESPONSE THEORY

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The aim of the research is to determine which item response theory model or models are fit to the Attitude Scale towards Scientific Research Methods developed by Yasar (2014) and to predict the item parameters according to these models. To this end, a research group was formed with 250 students who had previously taken course in scientific research methods. The attitude scale for the scientific research method course used as a data collection tool consists of 20 items and is rated five points Likert type. The data were collected but was not analyzed as of the date of submission. semTools and ltm packages will be used on R software for data analysis. With the semTools package, unidimensionality and local independence assumptions of the item response theory will be tested. In the ltm package, item - model fit will be tested and item parameters will be estimated. The results of the research will be interpreted in the direction of the findings.

Keywords: polytomous item response theory, scale development, scientific research methods
Teucrium leucophyllum (Lamiaceae) is endemic plant species having considerable narrow distribution in Erzincan (Turkey) Region. According to the IUCN criteria, this species was evaluated as EX (Extinct), however, it has been rediscovered from its original localities. Teucrium species have a long history of use as medicinal herbs. The aim of this study was to isolate essential oil of T. leucophyllum and identify its main constituents. The essential oil was isolated by hydrodistillation from the aerial parts of the plant which was collected in Kemaliye-Erzincan, were analysed by gas chromatography (GC) and gas chromatography-mass spectrometry (GC-MS) techniques. In total 36 compounds were identified in the oil of T. leucophyllum. The major components were characterized as germacrene D (35.0%), Î²-bourbonene (7.7%), Î²-caryophyllene (7.1%), caryophyllene oxide (7.1%) and bicyclogermacrene (6.6%). The main components in the essential oil of the aerial part of T. leucophyllum were similar to that of some other Teucrium species, namely Teucrium cavernarum and Teucrium paederotoides.

Keywords: endemic, essential oil, teucrium leucophyllum
IN VIVO MODULATION OF PRO AND ANTI-INFLAMMATORY GENE EXPRESSION PROFILES IN CUTANEOUS WOUND OF RATS TREATED WITH ZERUMBONE-LOADED NANOSTRUCTURED LIPID GEL

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Zerumbone, a natural lipophilic compound from Zingeber zerumbet, has a variety of pharmacological activities. In the current study, Zerumbone-loaded nanostructured lipid Gel (ZER-NLCG) using the Carbapal 940 as a gelling agent was prepared. The in vivo anti-inflammatory activities of ZER-NLCG were investigated to determine their role in wound healing using enzyme-linked immunosorbent assay (ELISA). In addition, a change in inflammatory releated genes (COX-2) was investigated using Western blotting. The results showed that the ZER-NLCG stimulated anti-inflammatory response through enhanced production of anti-inflammatory cytokine IL-10 and reduced the secretion of pro-inflammatory cytokines TNF-α and IL-6. It was also shown that ZER-NLCG down regulated COX-2 gene expression. The results of the study showed that ZER-NLCG modulates anti-inflammatory and pro-inflammatory cytokines expression which ultimately improves the systemic immune pathways associated with inflammation, allowing for faster tissue repair. This data supports the use of ZER-NLCG as a promising formula for wound healing.

Keywords: zerumbone, topical gel, anti-inflammatory, gene expression, cytokines
ANTAGONISTIC OF SOME TRICHODERMA AGAINST FUSARIUM OXYSPORUM SP. F. CUBENSE TROPICAL RACE 4(FOCTR4)

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Fusarium wilt of banana is a very important fungus that caused the destruction of banana trees in the tropical countries. Biological control is an alternative method to control fusarium wilt diseases such as Trichoderma has been known to be particularly active in the control of the plant pathogens. This study aimed to evaluate the ability Trichoderma isolates from suppressive soils in Malaysia to suppress Fusarium wilt of banana in vitro. Thirty-nine Trichoderma strains were tested their ability to inhibit the growth of FocTR4. The isolates were first screened in vitro by dual culture test. Then second was volatile compounds tested of Trichoderma isolates against FocTR4. The results of the study showed that all Trichoderma isolates did show inhibition zone against FocTR4 between one to seven mm, but only T. brevicompactum (TL7) did not show any inhibition zone. T. harzianum (Tveg1), T. erinaceum (TL3), and T. atroviride (TR10) could inhibit the mycelia growth by 100%. Then eight Trichoderma spp. strains (TR10, T10v1, T1, Tveg2, TR102, TL5, Tveg1, T26) was produced the high toxic metabolites with strong activity against FocTR4, inhibiting the mycelia growth by 50.33%, 51.33%, 51.67%, 69%, 70.67%, 71.33%, 78%, 96% respectively. In addition, Tveg1, TR10, and TL3 were showed the ability for penetrating the host cell by the infection tubes and produce enzymatic hydrolysis of the cell wall. The volatile and diffusible antibiotics together are produced for the inhibiting of developing of FocTR4 in vitro.

Keywords: trichoderma, fusarium, biocontrol
ISOLATION AND IDENTIFICATION OF SERRATIA ISOLATED FROM SOIL AND ROLE OF BACTERIA IN HERBICIDE DEGRADATION GLYPHOSATE

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Glyphosate (N-phosphonomethylglycine) is the most commonly used herbicide worldwide. Due to the concern regarding its toxicity for non-targeted species in soil, finding glyphosate-degrading microorganisms in soil is of interest. The success of this will depend on isolating bacteria with the ability to grow in presence of gluphosate. Two species of bacteria were isolated from soils of Baghdad. Morphological characteristic and biochemical reaction indicated that these species designated as Serratiamarcescens and Bacillus. These bacterial isolates exhibited the ability to utilize glyphosate as sole carbon source and energy at 20 mM concentration, the growth of bacteria in the minimal media containing glyphosate was determined after one and two days of incubation at 30c by measuring turbidity at (680)nm, the maximum growth was (0.3836)nm in Bacillus after two days of incubation compared with control was(0.0170)nm, while the minimum growth was (0.06)nm in Serratiamarcescens after one day of incubationcompared with control was(0.03).The maximum chloride ion release(dehalogenase enzyme activity) was(1.3199)u/ml in Bacillus after two days of incubationcompared with control was(0.0491)u/ml, while the minimum activity was (0.3)u/ml in Serratiamarcescens after one day of incubationcompared with control was(0.04)u/ml. This result suggests that the dehalogenase enzyme present in the bacteria has high affinity towards the substrate. A better understanding of dehalogenase enzyme produce by these two bacterial species will be useful to be used as bioremediation tools for environmental management.

**Keywords:** glyphosate, degredation, seratia
INVITRO MACROPHAGE INTERLEUKIN-1 BETA AND NITRIC OXIDE SUPPRESSION BY MORINGA PEREGRINA SEED

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Moringa peregrina have long been used in folk medicine to treat diseases including fever, headache, burns, constipation, gut pains and inflammatory. Nitric oxide (NO) and interleukin-1 beta (IL-1β) play an important role in the pathophysiology of inflammation. In the present study, we investigated the inhibitory effects of Moringa peregrina seed ethanolic extract (MPSE) on nitric oxide and interleukin-1 beta (IL-1β) production in lipopolysaccharide (LPS) activated macrophage cell line (J774A.1) as well as the in vitro cytotoxicity of the extract. The 3-(4,5-dimethylthiazol-2-yl)-2,5 diphenyltetrazolium bromide (MTT) assay was used to determine the cytotoxicity effects of the extract. The level of nitrit was detected using Griess assay, and IL-1β proinflammatory cytokine level was measured by enzyme-linked immunosorbent assay (ELISA) in the macrophage culture supernatants. The results showed that the MPSE was not toxic to the J774A.1 cells at 1000 μg/mL. The extract also significantly inhibited nitric oxide and IL-1beta production by the LPS-activated J774A.1 cells. These findings indicate that the Moringa peregrina seed extract inhibited NO and IL-1beta production may be useful in treating and preventing inflammatory diseases accompanying excessive production of NO.

**Keywords:** moringa peregrina, nitric oxide, interleukin-1 beta, macrophage
MOLECULAR EFFECT OF MULTIDRUG-RESISTANCE ASSOCIATED GENES ON SPREADING NOSOCOMIAL GRAM NEGATIVE BACTERIA IN IRAQI CLINICAL CENTERS

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Augmented multidrug-resistance among gram negative pathogenic bacteria is currently considered as dreadful medical problem in Iraqi clinical centers. Most of injured patients with infected wounds or burns as well as post-operable wounds are administrated with intensive courses of different antibiotics of new generations. However, a number of those patients ended up with bacteremia or eventually septicemia. This study aims to uncover the association of multidrug-resistance related members with increasing the rate of acquired hospital infections. The RT-qPCR analysis showed that the isolated bacteria from infected wounds and burns (n=57) harbour plasmids carrying genes express multi-resistant factors to antibiotics; aminoglycosides, β-lactams and quinolones. The mRNA transcripts are significantly (p< 0.005) higher in the most gram negative bacterial isolates (n=30) in comparison to that in counterparts of gram positive ones (n=27) isolated from the same samples. It can be concluded that the higher copy numbers of multi drug resistance transcripts is the main reason of dominating resistance strains of gram negative pathogens and thus spreading nosocomial infection. However, further molecular investigation is needed to overcome this resistance on molecular bases when treating.

**Keywords:** nosocomial infection, wounds, antibiotics
A PROTOTYPE SYSTEM FOR MEASURING AND MONITORING ELECTRICAL ENERGY IN PUBLIC FACILITIES IN ALBANIA

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Public facilities in Albanian do not fulfill the National Energy Building Code conditions resulting with great electrical energy losses. In this paper we present an approach to control electrical energy consumption through a system in base of which is a prototype measuring instrument realized in the laboratories of the Faculty of Electrical Engineering and which have the ability to be controlled remotely as part of an intelligent energy managing system. The proposed prototype instrument measures continuously the instantaneous values of voltage and current through an algorithm based on a two-stage, first order, low-pass Butterworth filter. The application of algorithm was implemented in a low-cost microcontroller ARM Cortex MO, PSoC4. The performance of the prototype is tested comparing the values generated from it with the values generated from a standard FLUKE metering unit, measuring the same circuit. Based on these results of measurements, the accuracy order of the prototype results to be less than 1% which satisfies the requirements of EN50470-1 and EN50470-3 for electronic metering systems, class B. The implementation of the proposed prototype as part of an intelligent energy managing system in public facilities is expected to change the existing management energy culture and increasing electrical energy consumption efficiency by reducing electrical energy losses at least 30% and detecting immediately illegal connections. The structure and tasks of the proposed system to be installed in public facilities is presented and the strategy for keeping the system secure is defined. Cost and savings evaluations for 10 target facilities shown that the system is cost-effective (including investment and running costs).

**Keywords:** electrical energy, efficiency, metering, monitoring, public facilities
THE RELATIONSHIPS BETWEEN FISH SIZE AND OTOLITH WEIGHT OF PIKE, ESOX LUCIUS, LINNAEUS 1758 INHABITING SİDDİKLİ KÜÇÜKBOĞAZ DAM LAKE

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A total of 120 sagittal otolith belonging to pike, Esox lucius was obtained from Siddıklı Küçükboğaz Dam Lake between September 2015 and August 2016. Relationships between fish total length (TL) and otolith weight (OW), fish weight (W) and otolith weight (OW) were determined using linear and nonlinear regression models. The model with the highest coefficient of determination ($r^2$) was chosen to describe these relationships. Difference between left and right otolith weight were tested by Paired t-test. The t-test was used to compare otolith weight between sexes. No significant differences were observed between left OW and right OW (P=0.734). Therefore, right otoliths were chosen for analyses. Differences between sexes were not significant (P=0.259). For this reason, the relationships were established on the right otoliths of all samples. The relationship between OW and W was linear, while the relationship between OW and TL was exponential. Consequently, there was a high correlation in both relationships. These relationships can be useful for palaeoichthyology and paleofauna. Note: This work was financially supported by Ahi Evran University (Project No: TBY.A4.17.003).

Keywords: biometry, pike, total length, sagittal otolith, esox lucius
SOME REPRODUCTION CHARACTERISTICS OF WELS CATFISH SILURUS GLANIS, LINNAEUS 1758 INHABITING SIDDIKLİ KÜÇÜKBOĞAZ DAM LAKE

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In this study, some reproduction characteristics such as sex ratio, spawning season egg diameter and fecundity of Wels Catfish, Silurus glanis from Siddikli Dam Lake were investigated between September 2015 and August 2016. Sex ratio was determined by macroscopically from gonads. The overall sex ratio (F:M) was 0.88:1.00, which did not deviate from 1:1 ($\chi^2= 0.841, p >0.05$). The values of gonadosomatic index (GSI) ranged from 0.033 to 11.80 in females and 0.008 to 0.451 in males. According to GSI values, reproduction season of the Wels Catfish population in Siddikli Dam Lake is between April and June. The data of fecundity and egg diameter were obtained from 8 female individuals. The fecundity of Silurus glanis varied between 9018 and 75938. The average number of eggs in this population was found as $46342.5 \pm 25012.42939$ egg/individual. Also, average eggs diameter was determined as $1.758 \pm 0.604$ mm. Note: This work was financially supported by Ahi Evran University (Project No: PYO.MYO.4001.15.001).

Keywords: wels catfish, eggs diameter, reproduction season, siddikli küçükboğaz dam lake
RELATIONSHIPS BETWEEN TOTAL LENGTH AND CLEITHRUM LENGTH OF PIKE, ESOX LUCIUS IN SIDDIKLI KÜÇÜKBOĞAZ DAM LAKE

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In this study, a total of 131 pike, Esox lucius individuals captured from Siddıklı Küçükboğaz Dam Lake between September 2015 and August 2016 was examined. The relationships between total length (TL) and cleithrum length (CL) of pike captured from Siddıklı Küçükboğaz Dam Lake were determined using linear regression model. There was a significant difference between right and left cleithrum measurements. Also, the variations in cleithrum lengths of females and males were statistically significant. Therefore, the regressions were generated separately according to female and male. All relationships were highly significant (P < 0.001, $r^2 > 0.876$). Linear regression model provided the good fit for above 90% and 80% of female and male, respectively. The coefficients of regression ($r^2$) in females were higher than males. The data of this study can be useful back-calculating fish length from these structures found in the stomachs of piscivorous animals and sizes of these fishes in archaeological samples. Acknowledgements: This work was financially supported by Ahi Evran University (Project No: TBY.A4.17.003).

Keywords: biometry, cleithrum size, pike, siddikli küçükboğaz dam lake
THE FOOD COMPOSITION OF PRUSSIAN CARP, CARASSIUS GIBELIO (BLOCH, 1782) INHABITING LAKE LADIK, TURKEY

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Food composition of Prussian carp, Carassius gibelio specimens captured from Lake Ladik between November 2009 and October 2010 was investigated. General diet composition was described by percent by number (N%), percent frequency of occurrence (FO%), and relative importance index (RII%). Of the 155 specimens examined, 5 (3.2%) were empty stomachs. The diet of this species showed a wide spectrum, ranging from animal origin to plant origin food. The food composition of Prussian carp in Lake Ladik consisted of 29 different prey items belonging to 8 major groups: Aquatic insects, Copepoda, Cladocera, Rotifera, Bacillariophyta, Chlorophyta, Cyanobacteria and Fish egg. Bosmina and Chydorus were the most abundant food items by numerical and occurrence methods in the stomach of this species, followed by Keratella and Microcystis. According to the relative importance index (RII%), Cladocera was the most important dietary component of Prussian carp in terms of major food groups. The secondary major food groups were Rotifera and Cyanobacteria, respectively.

**Keywords:** food composition, diet, prussian carp, carassius gibelio, lake ladik
A CASE STUDY ON THE REASON ANALYSIS TOWARDS THE EFFECTIVE FOREST FIRE PREVENTION IN TURKISH REPUBLIC OF NORTHERN CYPRUS

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The Turkish Republic of Northern Cyprus covers a surface area of 3,555 square kilometers which includes about 23% of forest area. The forest fires in Northern Cyprus have a very significant role in the loss of forest areas; the information obtained after examining the actual cases of deforestation indicates that 90% of the forest fires are caused by humans. Among the factors that are effective in the protection of forest within the scope of realization of sustainable forestry activities are fires, animal crush, soil erosion and pestilential. Throughout this study, the causes of forest fires (967 fires) in the Northern Cyprus between the years 2000 and 2016, the proportional distribution of forests and private land fires and the distribution of forests and private land fires according to the year and the months have been searched. Based on the results of the analysis, the negligence and carelessness among the causes of the forest fire are ranked in the first place as 62.04%. In terms of the total number of the forest fires, it was observed that the greatest number of forest fires occurred in 2003 between the years 2000 and 2016. It was also observed that the number of forest fire reached to the maximum level in June whereas it went down to the minimum level between December and March. It is noteworthy that the number of the forest fires and the total burning area in private land between 2000 and 2016 is higher than that of forest land.

Keywords: forest, forest fire, sustainable forestry, the north cyprus directorate of forestry
PRESCHOOL CURRICULUM IN TURKEY AND IN THE STATE OF CALIFORNIA IN THE US IN THE CONTEXT OF READING AND WRITING STANDARDS

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The Turkish language curriculum which was tested in Turkey in 2004 and made official in 2005 required special sound practices in the preschool period in terms of the new early reading and writing method it brought. However, the existing preschool curriculum did not even have any trace of sound practices. In time, when this significant need made itself felt more noticeably, a preschool curriculum that contained targeted outcomes and activities of preschool education was prepared in 2013. The preschool curriculum included language development in children who are 36-48, 48-60 and 60-72 months old and targeted outcomes, indicators and explanations related to this. In the US, the Federal Government published a framework curriculum with the name of Common Core State Standards primarily concerning English Language Arts in 2010 to achieve unification of curricula among the states. The states were allowed to modify this core curriculum by up to thirty percent as long as the presented strands (learning fields) and standards (learning outcomes) are preserved. The State of California, which started the trial implementation of the core curriculum in 2010, made the curriculum official after the standards it added onto it as a result of three years of implementation with the name California Common Core State Standards. The program in question has a continuity along the K-12 spectrum which starts from preschool and extends up to the 12th grade. Reading and writing standards gained a very broad role in California’s curriculum with their indicators and explanations under four main categories as Reading Standards for Information, Reading Standards for Foundational Skills, Writing Standards and Language Standards. This study aims to compare these two curricula in terms of reading and writing standards for the preschool period.

**Keywords:** preschool reading and writing standards, preschool curriculum in Turkey, california common state standard
ASSESSMENT OF THE OUTCOMES OF THE PRESCHOOL CURRICULUM IN TURKEY THAT ARE RELATED TO LANGUAGE DEVELOPMENT

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In addition to the interactions among components of curriculum such as objectives, content, learning-teaching process and measurement-assessment, consideration of developmental characteristics that appear in different contexts such as the mental development of the child is a must in clarifying curriculum assessment studies. If some outcomes related to the development of the native language were determined in the curriculum, language development criteria become prominent in a way that is related to mental development. The preschool curriculum in Turkey has included some targeted outcomes that are related to language development. We may list these under titles as phonetics, syntax, listening skills, observation skills, speech skills, reading skills and writing. When the content of the outcomes is examined, it is seen that prominent linguistic phenomena include distinguishing sound, sound awareness, syntax rules, usage of language for communication, improvement of vocabulary, understanding the meaning of what is listened to and observed, expression of what is listened to and what is observed in various ways, usage of grammar structures in speech, reading awareness and text awareness. In addition to these, it was aimed to determine some indicators regarding the outcomes included in the preschool curriculum, and explanations were made about each outcome. The main purpose of this study was to individually investigate and analyze the contents of targeted outcomes in the preschool curriculum in Turkey with their indicators that were aimed to be determined and the explanations for these indicators through elements of curriculum and language development criteria in the context of mental development.

Keywords: mental development of preschool children, language development of preschool children, outcomes of the preschool curriculum in Turkey that are related to language development, contents of outcome
INVESTIGATION OF TEACHERS' MATHEMATICAL LITERACY AND PROBLEM-BASED LEARNING SELF-EFFICACY BELIEFS

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The aim of this research is to examine the self-efficacy beliefs of middle school mathematics teachers towards mathematical literacy (ML) and problem-based learning (PBL) approach and to determine the self-efficacy beliefs of teachers’ according to their gender and professional experience variables. Moreover, it was examined whether teachers' ML self-efficacy beliefs were a significant predictor of PBL self-efficacy beliefs. Survey model which is one of the descriptive research methods was used in the research. The study group was formed by 156 middle school mathematics teachers. ML self-efficacy scale, PBL self-efficacy scale and personal information form were used as data collection tools in this research. In the analysis of the data, t test, one-way variance analysis and simple regression analysis were used. It was found that ML and PBL self-efficacy beliefs of mathematics teachers were at the level of "I agree". As a result of the analysis of the obtained data, it was determined that the teachers' ML self-efficacy beliefs according to gender were significantly different. Furthermore, it was determined that mathematics teachers' PBL self-efficacy beliefs didn’t differ significantly in terms of gender and professional experience. Also, it was found that the ML self-efficacy beliefs of mathematics teachers were a significant predictor of PBL self-efficacy beliefs. It was determined that 45% of the total variance for PBL self-efficacy beliefs was explained by ML self-efficacy beliefs.

**Keywords:** mathematical literacy, mathematics teachers, problem-based learning, self-efficacy beliefs
A RESEARCH ON THE EPISTEMOLOGICAL BELIEFS AND ATTITUDES TOWARD PROBLEM SOLVING OF MIDDLE SCHOOL STUDENTS IN RURAL AREAS

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The purpose of this study was to examine the epistemological beliefs of middle school students in rural areas and their attitudes towards solving mathematical problems according to gender and class level variables. It was also necessary to determine whether the epistemological beliefs of middle school pupils in rural areas have predicted their attitudes toward mathematical problem solving. The research was carried out using the survey model, which is one of the descriptive research methods. The participants of the survey consisted of 435 middle school students in three state schools in a large provincial rural area. Personal data form, mathematics problem solving attitude scale and epistemological beliefs scale were used as data collection tools. When the data were analyzed, nonparametric tests were used because they did not show normal distribution. According to the results, mathematical problem-solving attitude and epistemological beliefs did not differ according to gender. Also, as the class level of the students increased, the mathematical problem-solving attitude and epistemological beliefs of the students decreased. According to the results of the regression analysis conducted in order to predict the mathematical problem-solving attitudes of the epistemological beliefs of the students, epistemological belief was found to be a significant predictor for mathematical problem solving.

**Keywords:** attitude, epistemological belief, middle school students, problem solving, rural area
PREPARATION AND CHARACTERIZATION OF BIOCOMPOSITE POLYLACTIC ACID/COCONUT FIBRE

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In this research, biocomposite was prepared by using coconut fiber as filler and polylactic acid (PLA) as matrix. Coconut fiber undergo three different treatments which are sodium hydroxide, bleaching and maleic anhydride. Biocomposit was produced by varied composition of coconut fiber into 2%, 4% and 6% to be added into PLA. Characterization of coconut fiber was carried out by using infrared spectroscopy analysis (FTIR) and X-ray diffraction analysis in order to study the changes in functional groups and degree of crystallinity of coconut fiber after treatment. Characterization of the biocomposite produced was carried out by using mechanical test and variable pressure scanning electron microscope (VPSEM) to study the mechanical properties and the morphology of biocomposites. Based on the results from FTIR analysis, certain functional group in original coconut fibre structure disappeared after chemical treatment. XRD analysis also showed that bleached coconut fibre has the highest crystallinity. Overall, the result from tensile test showed that maximum load and the modulus Young of biocomposite increase with increase composition of coconut fiber until an optimum point which is at 2% coconut fiber. While elongation at break decreased with increasing composition of coconut fiber.

Keywords: biocomposite
PREPARATION AND CHARACTERIZATION OF SOLID POLYMER ELECTROLYTE BASED ON CARBOXYMETHYL CHITOSAN, AMMONIA NITRATE AND ETHYLENE CARBONATE

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Ministry of Higher Education

Research conducted is related to the preparation and characterization of solid polymer electrolyte based on carboxymethyl chitosan, ammonia nitrate and ethylene carbonate. The potential of carboxymethyl chitosan as a green polymer electrolyte has been explored. Chitosan is a natural biopolymer which can be obtained from the partially deacetylated derivative of chitin. Chitosan reacts with monochloroacetic acid to form carboxymethyl chitosan. The solid films were prepared by solution casting technique with ammonia nitrate and ethylene carbonate. Characterization of carboxymethyl chitosan was carried out by using infrared spectroscopy analysis (FTIR) and nuclear magnetic resonance (NMR) analysis in order to study the changes in functional groups and structural of carboxymethyl chitosan. The changes in a shifting of wavenumbers confirmed that the interaction between the ion of ammonia nitrate and ethylene carbonate. Elemental analysis was carried out to determine the element content and the degrees of substitution in chitosan derivatives. Scanning electron microscope is used to study the morphology of the film samples. Morphological observation determines whether the blends were homogenous and no phase separation occurred. The presence of amorphous and crystalline structure of the film samples can be determined by X-ray diffraction. The conductivity of the film samples can be calculated through EIS.

Keywords: polymer
ADSORPTION OF HEAVY METALS USING BANANA PEELS IN WASTEWATER TREATMENT

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Heavy metal contaminants are present in wastewater from many industries such as metal manufacturing, dye and paint, chemicals and fertilizer. Heavy metal removal has become the main priority for the environmental concern due to the toxic. Banana peels are a low-cost agriculture waste which could be used for the adsorption of heavy metals in wastewater. Hence, this study focused on the adsorption capabilities of dried banana peels powder under various conditions such as the effect of agitation speed, temperature and contact time for efficient adsorption rate by using agricultural waste adsorbents which is banana peel (treated by acid and alkali). Although banana is one of the most important commercial crops in the world, most of the edible parts are consumed for its nutrients purpose only rather than using adsorption properties. In that case, the banana peels are used in adsorption of heavy metals where it extracts out the Cu and Pb from the waste water from the industries. The findings of this study will contribute to bridging up the gap in knowledge on the potential of using banana peels for promoting in the adsorption process and minimize the effect on the living things caused by the waste water released by the heavy industries.

Keywords: wastewater
EXTRACTION HEAVY METALS USING DITHIZON METHOD ON SEAWATER

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Research conducted is related to the preparation and characterization of dithizon method based on extraction of cadmium, lead and zinc trace metals from seawater samples. Inorganic metals or ions can act back with dithizon to produce colourful coordination. The dithizon reagent is highly sensitive to the presence of heavy metals such as plumbum (Pb), cadmium (Cd) and zinc (Zn) as designated in this study. Inorganic metals or ionic can react with dithizon to produce colored coordination compounds. The resulting dithizonate may be extracted with an organic solvent such as carbon tetrachloride (CCl₄). This study also involves steps such as adjusting the pH value in order to produce the dithizonate metal product we need. In this study, metal powders were dissolved in seawater samples and extracted with dithizon to enhance the detection and extraction facilities. We analyze trace metals carried out by plasma atomic emission spectroscopy (ICP-OES), and atomic absorption spectroscopy (AAS) to see the efficiency of dithizon extraction methods into seawater samples used.

Keywords: dithizon
In this work, we investigate the order of growth of the modulus of an arbitrary algebraic polynomials in the weighted Bergman space, where the contour and the weight functions have some singularities. In particular, we obtain pointwise Berstein-Walsh-type estimation for algebraic polynomials in the unbounded regions with piecewise Dini-smooth boundary having exterior zero angles. We continue the study the exact estimates were obtained for polynomials orthonormal on the curve with respect to the weight function with zeros on the same curve. Especially, we studied for more general curves of the complex plane and we obtained some inequalities corresponding to general case. This inequalities change depending on weight function and common properties of the curve. Additonally, we studied properties of dini-smooth boundary curves and exterior zero angles. But, this curve has not interior zero angles only exterior zero angles. Also, in this work, we worked properties of weight function. Finally, we showed interference of the weight.

**Keywords:** algebraic polynomials
CRYPTOCURRENCY FLUCTUATIONS AND NEW GENERATION MALWARE VARIANT INSTANCES IN CYBERSPACE

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Cryptocurrency concepts are mostly known with Bitcoin (BTC), Ethereum (ETH) and Ripple (XRP) concepts, but there are lots of varieties in exchange market like Bitcoin Cash (BCH/BCC), Bitcoin Gold (BTG), Litecoin (LTC), Tezos (XTZ) and other currencies along with ICO’s. Cryptocurrency concept raised from bottom to top in several years in terms of price, people's and companies interest, varieties and new malware variants. Trading, exchanging and mining bitcoin varieties are still popular concept but there is one new aspect arising; automated mining tools and services. Due to extraordinary changes in rate of BTC’s financial value, these automated and simplified services draw attention and became trendy more than before. During all these financial and interest-based changes, malware variants started to innovate BTC based new generation malware evolution which focused on BTC mining rather than ransoming and spying on users. This paper focused on cryptocurrency fluctuations and mining based new generation malware varieties along with the affiliation between these concepts in BTC timeline.

Keywords: cyber security, cryptocurrency, mining malware, crypto currency malware, new generation malwares bitcoin-btc
SYRIAN WOMAN’S VIEW OF POLYGAMY

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As in all social events the among reasons that affect also polygamy, it is known that there are of the many factors such as social structure’s social, economical, cultural structures, belief systems which are thought to significantly affect the lifestyles of the societies. The aim of this study is to find out how women from different ethnic origins who came to the world in the same culture and lived within the same geographical boundaries point of view about polygamy and whether there is a difference in the direction of affirmation or negativity. The basic questions appropriate for the purpose of study were prepared in advance and new questions were also generated according to the response given by each participant to the questions the researcher asked during the interview. Face-to-face interviews were conducted with 26 Syrian women of four different ethnic origins who lived in the same geographical borders as Arab, Turkmen, Circassian and Kurdish between the ages of 18-45 and who were trained in the same or similar culture. As a result, it has been found that women have a negative attitude towards polygamy, which is known to exist in the cultural structure in Syria.

Keywords: culture, ethnic origins, polygamy
Communication has an important place in the teaching profession as well as in all professions. The aim of this research is to examine the communication skills of the teacher candidates according to some demographic variables. The universe of the research is the teacher candidates in Gaziantep province and the sample is the teacher candidates in Gaziantep University. 112 female and 114 male teacher candidates participated in the research. Communication skills assessment scale developed by Korkut (1996) was used to collect research data. In the analysis of the data, the SPSS 22 packet program was used. As a result, no statistically significant difference was found according to gender and age variables. There was a significant difference in the expression skill sub-dimension according to the department variable. According to this, which the classroom teachers' ability to express themselves is less than the other parts. The consequence of which can be attributed to the fact that classroom teachers take lessons in the development of communication in school life. The fact that also classroom teachers will communicate with younger children as an age group may have provided a basis for the development of this skill. It is suggested that all teacher candidates should participate in communication development training and activities.

**Keywords:** teacher candidates, communication, skill
MALE GAZE AND FEMALE SEXUALITY IN CINEMA

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In philosophical narrative, masculine characters direct their looks to feminine characters. In the movie theatre the audience automatically becomes identical to this masculine view, often unconsciously. Because the camera immediately attracts the masculine character not only from the optical point of view but also from the libidinal point of view. Therefore, the cinematic view has three planes (camera, character, and audience) that objectify the females and transform it into a spectacle. Classical cinema has defined female myth, feminine characters as a structure, code or compromise. Thus, masculine characters are always presented as strong, ideal ego, while feminine characters are distorted, presented in need of need, incapacity and masculine dominance. So, the identification is always the golden of the masculine character. The main aim of that article is to critically examine Turkish Cinema films of 1990-2010 period. Using the groundwork of 'Male Gaze', formulated by Laura Mulve. In order to analyze the male view of female in cinema, films directed by males were selected.

Keywords: male gaze, cinema, visual pleasure, Turkish cinema, feminism
MIDDLE GRADE STUDENTS’ RELATIONAL THINKING ABOUT ORDERING TWO NEGATIVE INTEGERS WITHIN THE CONTEXT OF MONEY

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The purpose of the study was to examine how middle-grade students interpret ordering of two negative integers within the context of money. The study was conducted in two schools in Ankara with one hundred and thirty-eight students. In order to collect data, statements related to ordering integers dealing with a non-mathematical and a mathematical statement explaining ordering two negative integers in money context were given to the students. In this statement, students were asked to find out whether they agree the given statements in general. The following questions were used: "(1) Because the person who has 5 lira debts is happier than the person who has 10 lira debt, -10 is less than -5." and "(2) Because when we have 5 liras debt, we have more money rather than the situation that we have 10 liras debt; -10 is less than -5." An open-ended question 'Why do you think so?' was asked to further elaborate their reason of agreement. The findings of the study showed that fifty-one percent of and forty-two percent of middle-grade students agree on the sentences given to them. However, their interpretations of the agreement had a potential for misinterpretation of mathematical concepts while transferring them into real-life contexts. Findings of the study revealed the importance of the need to use real-life situations in classroom teaching with caution. Further research could be conducted with in-depth interviews to question why middle-grade students think in that way supported with varied real-life contexts.

Keywords: middle grade students, ordering integers, relational thinking
INVESTIGATION OF UNIVERSITY STUDENTS' ATTITUDES ABOUT STEM EDUCATION

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STEM is an innovative educational approach consisting of science, technology, engineering and mathematics. STEM education has been described by many researchers as one of the most striking educational movements in recent years. Stem emphasizing the three main titles (problem solving, innovation and design) that have an important place in the agenda of the countries, STEM has a strategic pre-emption so that the countries can have an international rekord vocabulary. The purpose of this study is to examine the attitudes of university students towards STEM education according to various variables. In this context, quantitative research has been used. Data of the study were collected by "STEM Attitude Scale". Descriptive statistical values such as arithmetic mean and standard deviation were used in the analysis of the data, independent samples t-test.

**Keywords:** stem, attitudes, stem education
WEB 2.0 TOOLS IN EDUCATIONAL ENVIRONMENTS

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Web 2.0 was first introduced by O'Reilly Media in 2004 and describes a second-generation web-based service, in other words, a system in which Internet users share and create. Web 2.0 technologies based on the participation of users are created with the contributions of users and their contents are improved through the cooperation and sharing between users. This sharing and business association provides interaction and content dynamism among people. Web 2.0 tools allow users to comment and share ideas in this way. Technologies and social software tools based on Web 2.0 are: Social networking sites, blogs, wikis, RSS feeds, instant messaging, podcasts and videocasts etc... The purpose of this research is to provide information on various web 2.0 tools used in educational environments. In this context, various web 2.0 tools including Classdojo, Plickers, Kahoot, Prezi, and Kizoa have been examined in detail.

Keywords: web 2.0 tools, web 2.0, internet
WOODS-SAXON POTENTIAL ENERGY VERSUS ITS GENERALIZATION FORM WITHIN RELATIVISTIC AND NONRELATIVISTIC SOLUTIONS COMPARISON

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In this work we compare the famous Woods-Saxon potential energy with its generalized form that has extra terms to describe surface interactions. Analytical bound state solutions of Schrodinger and Klein-Gordon equations are used to discuss the comparison via the thermodynamic functions such as entropy, internal energy, Helmholtz free energy and the specific heat. More precisely, arbitrary parameters are assigned for a nucleon that is confined in the well in order to obtain the energy spectra of both cases in both equations. By using the canonical partition in statistical mechanics, the effects of the surface interactions to the thermodynamic functions are discussed. The results are very interesting. The change of the structure of the well modifies the energy spectra as expected. We conclude instead of the Woods-Saxon potential, the generalized Woods-Saxon potential is a better candidate potential energy to describe the physical processes. Note that this work is done in one dimension.

Keywords: woods-saxon potential, schrödinger equation, klein-gordon equation, bound state solutions, thermodynamic functions
ON THE SOLUTION OF THE GENERALIZED SYMMETRIC WOODS-SAXON POTENTIAL IN THE DIRAC EQUATION

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Akdeniz University

In this work, the two-component approach to the one-dimensional Dirac equation is applied to the Generalized Symmetric Woods-Saxon Potential Energy (GSWSPE). GSWPSE is the generalization of the Woods-Saxon potential energy via including surface effects. These surface effects can be repulsive or attractive, depend on the problem under investigation. A Woods-Saxon potential energy barrier with attractive surface effects has an extra barrier height near the surface whereas with repulsive effects has a pocket in the neighborhood of the effective radius. On the other hand, a Woods-Saxon potential energy well with attractive surface effects has a pocket while with repulsive effects a barrier near the effective radius. Therefore, the solutions of the GSWSPE in Dirac equation enlight various problems in Physics. In this work, the two-component approach to the one-dimensional Dirac equation is applied to the Generalized Symmetric Woods-Saxon Potential Energy (GSWSPE). GSWPSE is the generalization of the Woods-Saxon potential energy via including surface effects. These surface effects can be repulsive or attractive, depend on the problem under investigation. A Woods-Saxon potential energy barrier with attractive surface effects has an extra barrier height near the surface whereas with repulsive effects has a pocket in the neighborhood of the effective radius. On the other hand, a Woods-Saxon potential energy well with attractive surface effects has a pocket while with repulsive effects a barrier near the effective radius. Therefore, the solution of the GSWSPE in Dirac equation is a good candidate to enlight various problems in Physics.

Keywords: dirac equation, generalized woods-saxon potential, analytical solution
INVESTIGATIONS OF TEACHERS WITH FOREIGN-NATIONAL (SYRIA) STUDENTS IN THE EDUCATION-TEACHING PERSPECTIVE

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In March 2011, it is time to try to recreate the conditions and conditions of the interest rate increase. One of them is education. In order to meet this need, Syrian students under protection began to be enrolled in Turkish schools starting from the 2016-2017 academic year. The integration of the Syrian students into the Turkish education system has important tasks and responsibilities for the teachers. In this study, it was aimed to identify the problems faced by the teachers who have Syrian students in their class and present solutions to these problems in the direction of the teachers' views. This study is a case study of qualitative research patterns. As a result of the research, the problems that the teachers lived in the classroom; communication, reading comprehension, violent behavior, and compliance. If teachers have problems outside the classroom, that is, they live in school; violence and fighting tendencies are the problem of socialization and grouping. The problems experienced by teachers with the Syrians are respectively; communication, education and teaching support at home, indifference and economic support.

Keywords: syrian students, teacher
EVALUATION OF VARIOUS VARIABLES OF THE VIOLENCE IN THE MEDIATED DELIVERABLE SCHOOL

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In recent years, school violence has become more frequent and much talked about. Violence in schools is one of the important issues that affect administrators and teachers' time and energy as well as negatively affecting the education and training process in the school. School cultures, violence that affects their climate and image adversely affect the school's unwanted behaviors, and it is unfortunately not enough discipline and sanctions. Identifying the sources that trigger and cause violence in schools will contribute to the process of taking measures to reduce incidents of violence. For this purpose, violence incidents were tried to be explained by variables such as school type, place of occurrence, person applying violence, person exposed to violence, gender, outcome and number of participants. In the survey, 10 newspapers with the highest circulation in the months covering the education and training period of 2016-2017 were determined at the national level. The violence in the school was detected by examining the archives of the newspapers in the electronic environment. As a result of the research, violence incidents were found to be mostly in high school and middle school. The most violent victim is the teacher and the victim is the student. Violent school violence cases are also exposed to the most male teachers and students. The research has reached the conclusion that the majority of cases of violence have been individualized and resulted in a criminal complaint to the prosecutor's office.

Keywords: school, violent events
ENGINEERING SUSTAINABLE EDUCATION BY SELECTION THE MOST COMPREHENSIVE TOPICS

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The rapid developments of society in all areas, their reconciliation with each other in a scale that did not exist before, increasing the degree of integration, adding new knowledge exponentially, have increased the need to find new ways to make learning process more attractive, in full compliance with practice, in order to create concepts and skills that will allow the students to get orientated towards the labor market. Nowadays, different school subjects cannot be taught separately from each other. Topics should be comprehensive and treated in a way in order to complete the requirements to achieve the objectives. In the area of electrical engineering the newest model engine BLDC [Brush Less Direct Current Motor] has been taught by integrating designing, electronics, microcontrollers and by different methods of automatic control. Through complex assignments and projects, the intertwining of knowledge in different fields is achieved, leading to the increase of teamwork skills, in order for the students to view it in a more critical way. The lesson is focused in the role that this engine plays in environmental protection, which is analyzed in different ways like effectively managing the usage of different resources while constructing it, in the absence of harsh sounds and frequencies, and in a higher efficiency. In other words, using less energy to complete the task. This complies well with the flexibility and adaption concept that this engine possesses and helps in problem solving. The assimilation of knowledge, is shown with higher results in understanding and achieving different concepts and requirements.

**Keywords:** education, comprehensive topics, electrical engineering, bldc motor
DEVELOPMENT OF ADDITIVITY PARAMETERS FOR THE PREDICTION OF ADSORPTION ISOTHERMS CONSTANT OF A NUMBER OF AZO DYES, EXPERIMENTAL AND THEORETICAL APPLICATION

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This work is concerned with studying the adsorption of a number of azo dyes on commercial activated carbon. The dyes were synthesized by considering the resorcinol as constant part in their structure which is reacted with a number of para substituted aniline viadizonium ions and used as adsorbate for achieving this study. These dyes were identified by a number of physical tests and the available spectroscopic methods. Three models of adsorption isotherms namely, Freundlich, Langmuir, and Tempken are applied to fit the experimented data of adsorption at equilibrium in the range of concentration \((1*10^{-4}-5*10^{-4})\) M at various temperatures \((292-328)\) K. The results showed that, the Freundlich isotherm is better fitted to the experimental data of the studied systems, although Langmuir isotherm exhibited good fit. This work included performing thermodynamic, depending on calculating the equilibrium constants by different methods, which represented by Freundlich constant \(K_f\), Langmuir constant \(K_L\) and finally is described by Tempkin constant \(T_K\). The results showed good consistency among the four sets of functions in terms of their values and physical meaning. This consistency gives good indication for the accuracy of such kind of calculation.

**Keywords:** adsorption, azo dye, adsorption isotherms, thermodynamic study, theoretical study
STUDY OF THE PHYSICAL AND STRUCTURAL PROPERTIES OF SOME LOCAL MINERAL CLAYS AND EFFECT OF DOPING WITH CHROMIUM OXIDE

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Chemical composition, physical properties and structural characterization of local natural clays which have been collected from Aski Mosul village, area around Mosul city/ Iraq, were studied. The study approach is based on using x-ray diffraction, x-ray fluorescence, atomic absorption, thermal gravimetric analysis, differential scanning calorimetry, infrared spectroscopy, instrumental and classical chemical analysis techniques. Chemical composition studies of the natural sample clearly indicating the presence of large amounts of silica and calcium oxide in addition to aluminum oxide and other minor oxides. Moreover, it is shown that such sample yields (5%) amorphous silica on treating with a basic medium. The results were compared with those obtained from acidically treated and chromium oxide doped clay samples. On comparison the physical properties (e.g. density, porosity, water absorption, pore size, and capillary action), it seems that the treated clay sample has low density and high porosity and permeability. Moreover, the doped samples are more dense than others. Such variation because of the elimination of carbonate compounds on treating and doping processes. Four samples were prepared in order to be more active and selective adsorbent materials. Soxhlate fractionating techniques were set for all the above types of adsorbents using four eluants gradually increased in polarity. The fractionation results showed significant variations in the fractions isolated according to their polarities as indicated by percentage results.

Keywords: soxhlate, mineral clays
THE ATTITUDES OF CLASS TEACHER CANDIDATES TOWARDS MATHEMATICS
CLASSES TAUGHT AT UNDERGRADUATE PROGRAM

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The aim of the present study is to examine the attitudes of the students of the Class Teachers Undergraduate Program of Faculty of Education towards mathematics classes. The study population consisted of Class Teachers Department senior grade students of the educational faculties of the Artvin Coruh University and Adnan Menderes University in 2015 - 2016 Academic Year. The sampling of the study consisted of 350 class teacher candidates who were selected by using the Proper Sampling Technique, which is one of the Non-Random Sampling Techniques. 73.4% of the participants included in the study were female, 26.6% were male; 17.4% were 1st Grade students, 28.9% were 2nd Grade Students; and 45.4% were 3rd Grade Students, 8.3% were 4th Grade Students. The dataset obtained with the questionnaires in the field was analyzed with the SPSS 22.0 Package Program. 28% of the participants said "I definitely do not agree" to the statement “The variety of mathematics classes taught at Class Teachers Program must be increased; 47.4% said “I partly agree”, 24% said “I completely agree”. 10.9% of the participants said “I definitely do not agree” to the statement “The subjects of the Basic Mathematics Class taught at Class Teaching Program must be in line with the Mathematics Program of the Primary School Mathematics Program of the 1-4th Grades”; 13.4 “I partly agree”, and 75.5% said “I completely agree”. The agreement to the statement “There must be more mathematics classes in Class Teachers Department” was as “I definitely do not agree” with a rate of 32.9%, "I partly agree " with a rate of 46.6%, and “I completely agree” with a rate of 20.6%. Note: This study was supported with the scientific research project with the number of 2015.S30.02.02 by Artvin Coruh University.

Keywords: class teacher candidate, mathematics classes, attitude
EXAMINING THE ATTITUDES AND COMPETENCE PERCEPTIONS OF CLASS TEACHERS TOWARDS MATHEMATICS CLASSES ACCORDING TO PROFESSIONAL SENIORITY

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In this study, the purpose was to examine the attitudes of class teachers towards mathematics classes in terms of professional seniority. The study was a descriptive study designed in the Literature Review Model. The sampling of the study consisted of 315 class teachers working in Artvin and Aydın. Questionnaires were used in the study conducted in 2015-2016 Academic Year as data collection tool. The dataset was analyzed in the SPSS 22.0 Package Program. It was determined that there is a significant relation between the duration of experience and educational level. When the educational levels of those who had 3 and lower years of experience were examined, it was determined that most of them had undergraduate education; while 60% of the group that had 31 and above experience were graduated from foundation-degree departments, and 40% were graduated from undergraduate levels. As a result of the Tukey Test, it was determined that the efforts spent on preparing class materials and the frequency of applying measurement process were lower in the group with an experience of at and above 31 years compared with the group with experience below 10 years. It was also determined that the frequency of giving assignments to students was lower in the group with experience at and above 31 years compared with the group with experience at and below 30 years. There is a significant relation between the duration of experience and education need. The participants with experience at and below 20 years and those with at and above 31 years stated that they used technology in classes; while, those with experience between 21-30 years stated that there was no need for education.

Note: This study was supported with the scientific research project with the number of 2015.S30.02.02 by Artvin Coruh University.

Keywords: class teachers, professional seniority, mathematics, attitude, competence
EFL LISTENING ‘GO’ES FURTHER

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Teaching listening in EFL contexts has been considerably put into the background. However, this language skill forms the basis for a further understanding of the language in addition to an excelsior oral production. To this end, miscellaneous research studies have been made so as to explore the effectuality of various EFL listening strategies (Vandergrift, 2002). At this juncture, note-taking as a while-listening strategy was anticipated as a potential utility to teach EFL listening throughout this research study. In this manner, note-taking was practiced and applied by EFL learners at preparatory classes at a state university in Turkey. Sixty participants at pre-intermediate level were provided with nine treatment sessions during which they were trained to take notes while listening – specifically with the help of graphic organizers (GO). The answers to these research questions were sought in particular: 1) In which note-taking session did learners obtain better scores? 2) What are learners’ views and perceptions about each of the nine note-taking session and each graphic organizer? 3) What are learners’ general views and perceptions about the use of note-taking while listening? Data obtained from learners were analyzed both qualitatively and quantitatively. Findings constitutively exerted data by learners which signify their views on both listening and note-taking, additionally the results of each listening comprehension session.

Keywords: listening comprehension, graphic organizers, note-taking
THE EFFECT OF SHADOWING AS A WHILE-LISTENING STRATEGY ON BEGINNER LEVEL LEARNERS

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Foreign language learners at language classes experience a variety of adversities while trying to comprehend what they hear in the target language (Smidt, 2004). They face this entanglement not only trying to penetrate their lectures, but also during any communication they have outside the class. Despite this arduousness, listening is an essential skill which ameliorates the other three skills (Barker, 1971). This skill could be defined as the fundamental means through which learners have contact with the target language (Curtain & Pesola, 1988). However, several elements such as the speaker, context, speech rate and visuals have a significant effect on learners’ listening comprehension performance (Dozer, 1997). In other words, progress in various applications which could be generated by the language teacher is required. To this end, a wide range of activities, strategies, techniques and materials have been generated so far; and this research study took a similar step so as to raise awareness on learners about their own listening process and carry their listening comprehension performance further. This aim was generated through the application of shadowing as a while-listening strategy. Participants were 48 beginner level university students at the first grade and had no English language instruction before. A shadowing treatment of four sessions was applied during listening classes which specifically comprised full shadowing and silent shadowing subtypes. Learners’ level of listening anxiety before and after the treatment, additionally their listening comprehension scores were identified by means of this study. Furthermore, learners’ perception and interest in listening comprehension demonstrated significant findings.

Keywords: listening comprehension, while-listening, shadowing strategy
In this paper we deal with the factors which are related to student satisfaction concerning their needs, satisfaction of learning outcomes and motivation factors. The analyses show that the academic quality of teaching is very important factor of the student satisfaction. Except the quality of teaching methods, one can conclude that the social climate, social conditions offered from the University should be taken into the consideration as very important factor of their motivation for study. We analyze the relationship between student satisfaction factors with student performance and student persistence. We examined how the variables as personality, cognitive and achievement-related variables (academic achievement), as well as various motivational constructs were associated with different forms of satisfaction (satisfaction with study program, satisfaction with the conditions of the academic program, satisfaction with the environment, satisfaction with the stress factors, etc.). The research involved both qualitative and quantitative methodologies. The results are obtained from a survey realized with students of the SEE-University in. The results were analyzed using the Statistical Package for the Social Sciences.

**Keywords:** student satisfaction, satisfaction with academic studies, teacher quality, achievement, motivation, university environment
THE IMPACT OF THE FULL STUDIO MODEL ON THE CONCEPTUAL UNDERSTANDINGS OF SCIENCE TEACHER CANDIDATES ABOUT BERNOULLI'S PRINCIPLE

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The aim of this study is to examine the impact of the full studio model in which active learning techniques are used on the conceptual understandings of teacher candidates about the concept of "Bernoulli’s principle". The sample for this study consisted of 53 teacher candidates who were enrolled in Science Teaching Program of Necatibey Education Faculty at Balıkesir University in the academic year of 2015-2016. In this study, single group pre-test post-test weak experimental design in which two open-ended questions were used to reveal pre-service teacher candidates’ ideas about Bernoulli’s principle. In addition, semi-structured interviews were conducted with 11 prospective teachers so that the answers could be examined in depth. In the light of the findings, it was found that pre-service teacher candidates had no idea about the Bernoulli principle and types of pressure before the instruction. Scientifically acceptable response rates of prospective teachers increased from 7.55% (N = 4) to 69.81% (N = 37) in the first question and from 1.88% (N = 1) to 77.36% (N = 41) in the second question after teaching. Interview data also show that most of the misconceptions encountered before the instruction were replaced with its scientifically acceptable explanations after the teaching.

**Keywords:** full studio, conceptual learning, bernoulli’s principle
IMPACT OF EDUCATION TECHNOLOGIES ON SPECIAL EDUCATION INSTRUCTION: TECHNOLOGY USAGE IN DYSLEXIA CLASSROOM

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Usage of technology in education advanced by vaulting acceleration of technology evolution from engineering to education area and so it gained its current shape. Now the concept which is identified as an “Education Technology” is more than integrating the technological hardware and software products into education, it is using for increase attention of students and enhance the learning concepts which are difficult to understand. In this context, education technologies have an important place in special education instruction due to their time and location nondependence characteristics. Special education instruction actions are improved in terms of efficiency and quality with support and design of the education technologies. There are many resources in the existing literature which highlight and emphasize the importance of education technologies. This paper focuses on impact of the education technologies on special education instruction in dyslexia classroom. Furthermore, article covers a sample instruction design sample for dyslexia classroom with usage of digital activity developing methods.

Keywords: education technology, special education, dyslexia, usage of education technologies in special education.
ISBN USAGE OF INTERNET SERVICES AND HIDDEN GAPS IN PERSONAL PRIVACY IN CYBERSPACE: THE PROTECTION OF PERSONAL DATA RULES IN TURKEY

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Internet services and applications are one of the vital needs of the computer world, since the World Wide Web (WWW) is invented in 1990’s, these products and services kept evolving in terms of capability, flexibility, productivity and availability in order to have their current shape. Early on the cyberspace, computers were the key of the computing concept, but now they are interface/tool (terminal) of the major services and applications. Cloud and remote platform application fusion allow users to have scalable interactive and responsive platforms such as social media and private communication channels. Majority of these platforms are served as free of charge in terms of monetary while there are some unnoticed concepts and hidden gaps in personal privacy and data processing actions of them. In this context, security and privacy issues obtain significant importance in the cyber world and especially for the aforementioned platforms. This paper focused on internet services and applications security and privacy issues in terms of tracing, investigating and logging users based on classified or unclassified data. Furthermore, the paper exposes the terms of usage of aforementioned platforms in contrasts to protecting personal data rules and regulations of Turkey.

Keywords: internet security and privacy, internet services, personal data protection law, data abuse, logging and spying data.
INVESTIGATION OF UNIVERSITY STUDENT'S FOMO LEVELS REGARDING PATTERNS OF USAGE OF SOCIAL NETWORKS SITES

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Nowadays, the use of Social networks sites (SNS) has significantly increased among young adults. Moreover, a link has been established between the uncontrolled use of SNS to the development of undesirable habits and behaviors including addictions. One such behaviour, namely, fear of missing out (FOMO) is a particular interest and concern especially because of the widespread use of smartphones, and thereby extensive use of SNS by the younger generation. This study establishes the relationships between FOMO and various usage of SNS patterns in an attempt to identify the problematic use of social media in Turkey and discover variables relevant to FOMO. The main objective of the study is to examine the prevalence of FOMO in university students. A total number of 538 university students on various academic courses were employed for the purpose of this study. The design was based on a survey method which utilized a standardized questionnaire on FOMO together with a demographic questionnaire to explore the impact of the usage of social networks sites patterns by university students. The data were analyzed using descriptive statistics, independent samples t-tests, and analysis of variance (ANOVA). The findings of the study showed that the prevalence of FOMO amongst university students is at moderate level. In addition, significant differences were found between groups based actively mobile SNS use and daily duration use of SNS. However, there was not a significant difference among groups regarding gender, being online on SNS and duration of SNS ownership. Implications are discussed within the current models.

**Keywords:** fomo, university students, smartphone, social networks
METAPHORICAL PERCEPTIONS OF PROSPECTIVE TEACHERS’ OF NO MOBILE PHONE (NOMO) PHOBIA AND FEAR OF MISSING OUT (FOMO)

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The aim of this study is to determine the level of prospective teachers regarding no mobile phone (nomo) phobia and fear of missing out (FOMO), and to reveal their metaphorical perceptions of these concepts. For this reason, the main goal of this study is "to test new ideas" which is also revealed by Newman et al. (2003; cited by Gokce, 2014) since both the nomophobia and FOMO concepts are new terms that have yet to be examined in Turkish literature. This research is designed with simultaneous transformational mixed method model. The sample of the study constitutes the participants who are determined by the simultaneously mixed pattern sampling method among the prospective teachers who study at Trakya University Faculty of Education in 2016-2017 academic year. For data collecting process, quantitative data are collected through Nomophobia and FOMO scales; on the other hand, qualitative data are gathered through the open-ended questionnaire developed by researchers in order to reveal metaphorical perceptions of the related concepts. Within the scope of this study, the similarities and differences of the nomophobia and FOMO concepts, which are seen as overlapping in the literature, are presented in the light of the findings.

**Keywords:** fear of missing out (fomo), metaphor, mixed method, no mobile phone (nomo) phobia, prospective teacher
WHAT IS HEALTH LITERACY AND HOW DOES IT AFFECT HEALTH OUTCOME

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Health literacy involves not only understanding but also using the health-related information including all aspects ranging from self care to home management. All steps from realizing the illness and self-remediation attempts to decision to go to a doctor and taking prescribed medications are steps of health literacy. It is a multi-factorial concept and nowadays, is probably the most important factor in maintaining a healthy life. Its importance is rising in all government agendas as the influence on health outcomes is clearly stated by statistics and research. Especially in cancer, health literacy has a great role as awareness in screening greatly improves the prognosis. If people are aware of screening protocols and they take these tests in time, cancer could be diagnosed in an early stage, resulting in an easier management protocol and better prognosis. In this study, the theoretical concept of health literacy, the factors influencing it, current government agendas, improvement protocols and the review of research outcomes on correlation between health literacy and disease prognosis are explored.

Keywords: health, literacy, medical
ROLE OF E-LEARNING IN THE UNITED KINGDOM MEDICAL EDUCATION SYSTEM

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In the United Kingdom, e-learning is used very efficiently starting from entry to medicine and medical school and proceeding to the fellowship exams for completion of training. Subject explanations and visual illustrations are only a small part of e-learning systems. It is mostly used for solving a database of questions which, with an algorithm, brings up questions on subjects that the student least answers correctly, and provides subject explanations in the answers, until the student learns the subject sufficiently to answer test questions. Alternatively, subjects could be chosen by the student. E-learning systems are also used to keep a track of subjects in which questions have been studied and the success rates in each subject. In this paper, different e-learning portals used in numerous stages of medical education system (entry into medicine, medical school, USMLE, MRCS/MRCP, FRCS/FRCP) in the United Kingdom is reviewed, stating their properties, unique selling points, advantages and disadvantages.

Keywords: elearning, health, medicine, education
LEARNING FROM THE MULTIDISCIPLINARY APPROACH IN NATIONAL HEALTH SERVICE IN THE UNITED KINGDOM

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Psychological problems of the patients are underestimated; however, depression being the most encountered problem, psychology of patient has a great influence on adherence to therapy and progress in management. The question that arises is: what is the best multidisciplinary team that can be constructed for patients with psychological problems? Purpose of this study is to evaluate current multidisciplinary team approach and investigate the best multidisciplinary team for patients with psychological problems. In this study, evaluation of the current multidisciplinary team settings in the UK National Health System was carried out. It was concluded that multidisciplinary team is at a great importance in National Health System. Apart from doctors from different specialities and nurses, occupational therapists, physiotherapists, speech and language therapists are commonly seen in multidisciplinary team. However, clinical psychologists are not commonly seen in multidisciplinary teams, presence depends on the area, hospital and the team. Lately, involvement of a clinical psychologist in the multidisciplinary team is increasing throughout the UK. Especially chronic illnesses requiring lifetime management and life-threatening conditions like metastasised cancer are accompanied by depression and unavailability of a clinical psychologist in the multidisciplinary team could cause inadherence to therapy and decreased quality of life. Multidisciplinary team approach to treatment is highly beneficial for the patient and involvement of a clinical psychologist is needed for patients not only with psychological problems but also with chronic and life-threatening illnesses.

Keywords: psychology, mdt, health, disease
QUALITY AND TIME IN SURGICAL SKILLS EDUCATION

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This study describes the outcomes of a unique surgical skills course delivered to highschool students. An inexperienced group of students with motivation to study medicine were enrolled into a surgical skills course. Suturing was taught, initial assessments were made and for one group, immediate re-assessment was performed; for the second group, one-week break with no chance of practicing was given. Afterwards, re-assessment was made. All assessments were made according to a standardised medical school final examination mark scheme. Although there was no practising in between, assessment grades significantly increased after the break. Although there was skill reduction in specific sub-headings, especially in tasks requiring precision, confidence was developed in many tasks such as decision on inserting the needle on correct points and correct suture end length. The second group demonstrated a greater overall improvement compared to the first group. To conclude, time could improve the confidence and overall performance of surgical skills therefore surgical skills teaching should be initiated early in medical schools.

Keywords: surgical, education, medicine
ANALYSIS OF THE DIFFERENTIAL ITEM FUNCTIONS IN THE ITEMS TESTING HIGH-ORDER THINKING SKILLS IN TERMS OF META-COGNITIVE MONITORING SKILL

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Metu

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There are numerous studies in the literature which refer to Flavel (1989) claiming the knowledge of knowledge. These studies are carried out via standard techniques such as learning ease/decision or feeling to know. The common end and output of these studies can be said to be gauge in terms of the research done in cognitive skills. In this respect, in the studies of cognitive skills, it is quite important to investigate the performance the meta-cognitive skills resulting from the effects of meta-cognition; and, beyond what students know as right and wrong, to understand the extend they have had in terms of the meta-knowledge and awareness in line with their knowledge. In other words, beyond having the knowledge or not knowing, gauging the level of the accuracy or inaccuracy of this knowledge provide the researchers with deeper insight. In this research, any change was observed in terms of the responses provided by the students regarding to having high or low Meta-Cognitive Monitoring Skill. In order to identify this change, Differential Item Functioning (DIF) method based on Item Response Theory (IRT) was used. DIF analysis is a statistical method which analyzes the change in terms of the possibility of responding the items accurately within the same skill level. The 11-item mathematics test (implemented within the TUBITAK project numbered 115K531 and entitled A Recommended Model to Increase Success Level of Turkey in Mathematics in International Wide Scale Exams. Effectiveness of the Cognitive Diagnosis Based Tracking Model was used and the test was given to 2833 students. The findings showed that the possibility to respond to especially attribute related items, students with high meta-cognitive monitoring skill had a change when compared to low ones.

Keywords: differential item functioning, meta-cognitive monitoring
PROSPECTIVE TEACHERS' EPISTEMOLOGICAL VIEWS AND THOUGHTS ON SCIENCE

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The purpose of the study was to investigate prospective teachers’ epistemological views and thoughts on science. The study was conducted with 19 prospective teachers coming from primary education departments; nine participants from early childhood education department, six participants from elementary science education department and four participants from classroom teacher department, during 2017/2018 academic years. Participants’ gender and grade variables were ignored in this study. Researchers developed an interview questionnaire included totally 10 items for data gathering. It consists of three sub-dimensions about science, scientific knowledge and scientists. During the development process of interview questionnaire, it was consulted three specialists to expertise opinion for content validity and then pilot study carried out with four prospective teachers. The interview questionnaire was administered to each prospective teacher individually. Each participant was interviewed by researchers and each interview lasted approximately 10 – 15 minutes. Participants’ responses were coded as independently. According to the overall results of the study, prospective teachers’ thoughts about science were generally positive; however, some participants had dilemma on scientific knowledge. For instance, some participants accepted the most powerful feature of scientific knowledge was scepticism; although they believed the most reliable knowledge type was social or cultural knowledge which was depends on dogmatism. So many participants wanted to be a scientist for having free thoughts, make a discovery, change the world in a good way and also serve a useful purpose for humanity.

Keywords: science education, epistemology, prospective teachers
THE ROLE OF SOFTWARE ENGINEERING EDUCATION ON DIGITAL TRANSFORMATION TO INDUSTRY 4.0

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Design criteria and strategies of software product are fundamental concepts for software engineering students. As the problem world has been more complex, the scale of software problems increases depending on the technology. This issue requires continual updating the syllabus of professional courses. According to the count of Google Scholar, nowadays most of co-occurring topics with software engineering are cloud computing, web services, service oriented, peer to peer, client server, grid computing, restful and block chain. The realization of them is the compulsoriness for students. Model-driven software development has been preferred as primary artifact to reduce the complexity of real world problems in recent years. The perception of problems as high level solution can be resulted as the productivity, portability, maintainability, understanding and separation of concerns. These features are also the fundamental characteristics of digital transformation problems. UML, as the first professional experience of students, is the one option of visualization of complex systems. The nonfunctional properties, in other words qualities are extremely important for market opportunities as new industries and new customers. Industry 4.0 systems are not standalone, most of them are consisted of UI for humans, IOT management, big data and private data, key management, and legacy systems. In addition to non-functional properties which reduce the risks, functional properties must be performed effectively. Moreover, service-based architecture course is an initialization to use smart contracts for business process monitoring and collaborative process execution. Formal specification of smart contracts aims to supply the functional requirements in detail. Formal specification is depicted from user requirements. After the proof of specifications with inference rules, the result is transformed to code, this representation is the strongest evidence that software is correct. All of the summaries above emphasize the importance of contents of software engineering education programs at achieving the transformation to industry 4.0.

Keywords: software engineering education, requirements engineering, model driven development, industry 4.0
THE BIOGRAPHIES OF TWO BUSINESSMEN FROM OTTOMAN EMPIRE TURKISH REPUBLIC: GEORGE ZARIFI AND BASIL ZAHAROF

Ahmet Salih İkiz

Muğla University

Most of the financial transactions and government loan operation were under the strict control of nonmuslim minorities during the regression period of Ottoman Empire. The bankers were located in Galata in Istanbul due to the cosmopolitan neighborhood of the region. George Zarifi a Levant from origin with his close ties had one of the prominent figures around Sultans in those parts providing finance to government bonds. In same neighborhood another Mugla born Greek citizen offered his service as arms dealer and warlord to both Empire and micro nationalist movements in Balkans. He had tremendous success during the WWI awarded by Brittan as Sir Basil. Both were providing channeling western companies with Ottomans for Empire acute demands for monetary financial flows and weaponry. The Sultans needed armament and money for their war-torn empire. In this paper I will comment biographies of both Ottoman citizens in the changing environment in Ottoman borders from Empire to Republic of Young Turks.

Keywords: basil
PANEL DATA ANALYSES FOR TURKISH GOLD PRICE DETERMINATION

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Gold is extremely important investment opportunity for hundreds of ages in world. The name Aurum in Lateen means brilliant. Besides its usage in industrial production it is also a popular means for jewellery. The investors are very keen to understand and predict the future movements of gold price for speculative gains and profits. Gold demand in Turkey is one of the highest in world. Turkish citizens heavily invest in gold as shield against economic crisis. Meantime it is also very popular in jewellery design and production. There are enormous amount of factors effecting Turkish gold price in market. Empirical evidence reveals it has code ties with US Dollar quotation. In this paper we will search historic data for Turkish gold market with an econometric analysis. Panel data analyses method in econometric forecasting enables researchers to combine time series method with different variables in regression analyses. Thus, with historic trends of gold price and affecting factors can have observed via price determination. The conjuncture of gold rice in historic data set would help us to estimate the future trends of gold price which is very crucial for investors.

Keywords: gold, economics
METAPHORICAL ANALYSIS OF THE PERCEPTIONS OF THE PRIMARY SCHOOL STUDENTS ON THE CONCEPTS OF "SCHOOL, TEACHER AND PRINCIPAL"

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The aim of this research is to determine the perception on the concepts of 'school, teacher and principal' in the primary school students by means of metaphors. The research group of the research group consists of 197 third and fourth grade students, 99 of whom are girls and 98 of whom are boys, who are studying in two public schools in Istanbul. In the gathering of research data, the semi-configured question form is used. When determining the number of metaphors, the same metaphor, similar metaphor, and different metaphor are used to extract the Microsoft Excel Office program. Phenomenology research design is applied for the study and the data are analyzed using content analysis technique. The metaphors are coded according to positive, negative, abstract, concrete, vivid and inanimate variables. The finding of the research reveal that the majority of the students produce positive, concrete and inanimate metaphors for the concept of 'school'; positive, concrete and vivid metaphors for the concept of 'teacher'; positive, concrete and vivid metaphors for the concept of 'principal'.

Keywords: school, teacher, principal, metaphor, perception
SCHOOL CLIMATE AS A PREDICTOR OF SECONDARY SCHOOL STUDENTS' ATTACHMENT TO THE SCHOOL

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The purpose of this research is to determine whether the school climate is a predictor of secondary school students' attachment to the school. The universe of the research is composed of Secondary School students who are studying in state schools affiliated to Pendik District Education Directorate in 2017-2018 academic year. The sampling of research is determined by stratified sampling method. In the sample, schools are socio-economically divided into upper, middle and lower groups. A school from each group are selected by random sampling method. From identified Secondary Schools 370 girls and 403 boys, total 773 students have participated. In the research survey is preferred from the quantitative research methods. Data are collected with the questionnaire form, School Attachment Scale and School Climate Scale. Data are analyzed by anova, t-test, correlation and regression tests. As the result of the study, the secondary school students' school climate perceptions and school attachment levels showed a significant difference according to gender and class levels. A positive relationship is found between school climate and secondary school students' level of attachment to school, teacher and friend. According to the research result, school climate is a significant predictor of students' attachment to the school.

Keywords: school engagement, school climate
DECODING THE LANGUAGE IN AND THE LANGUAGE OF MATHEMATICS: IMPLICATIONS FOR ASSESSMENT

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It is often said that “number people” don’t need to be “language people”, yet the impact of low levels of literacy and language proficiency on the teaching of subjects such as mathematics, physics and chemistry has increasingly become a prominent cause for concern. Within the South African context, where the language policy of the education sector is seemingly at odds with the country’s multilingual landscape, addressing this issue is not an easy fix. The way we view the relationship between language and learning needs to be comprehensive and in-depth enough if we are to adequately address this concern. In addition to proficiency in the language of instruction, the level of academic literacy, the semantic complexity of the content and the level of conceptual understanding of subject content are some of the factors that play a part in a student’s academic performance. This study will look at the language in and the language of mathematics and its implications within the context of education. The grade 12 National Senior Certificate examination papers for mathematics – as an artefact representing the academic expectations at exit-level – will be used to examine the interplay of different skill sets in the assessment. In addition to the value of this research to the assessment and instruction of mathematics at high school level, the results of this research may be applicable to various educational contexts.

Keywords: academic literacy, mathematical literacy, semantic complexity, educational assessment, language proficiency
AN EXPLORATION OF PRESERVICE TEACHERS’ EDUCATIONAL VALUES OF MATHEMATICS IN RELATION TO GENDER AND ATTITUDES TOWARD MATHEMATICS IN NIGERIA

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The study investigated educational values of mathematics in relation to gender and attitudes toward mathematics among 480 Nigerian preservice mathematics teachers from four universities in Southwest, Nigeria using the quantitative research method within the blueprint of the descriptive survey design. Data collected were analysed using the descriptive statistics of frequency, percentage, mean, and standard deviation and inferential statistics of independent samples t-test, Pearson moment correlation, and multiple regression analysis. Findings revealed that preservice mathematics teachers showed high level of educational value of mathematics. There were significant possible correlations among preservice mathematics teachers’ practical value, aesthetic value, cultural value, social value, moral value, disciplinary value, recreational value, and attitudes toward mathematics. While gender differences in some dimensions of educational value of mathematics (practical value, disciplinary value, social value, and cultural value) are no longer important and are declining there are subtle gender differences in attitudes toward mathematics and educational values of mathematics in this study. In addition, 73.7% of the variance in preservice teachers’ attitudes toward mathematics was accounted for by the eight predictor variables (gender, practical or utilitarian value, disciplinary value, cultural value, social value, moral value, aesthetic value and recreational value) taken together. Based on this baseline study, it was thus, recommended that future studies in Nigeria should investigate the educational value of mathematics of in-service teachers with varied ethnicity and socio-economic background so as to generalise the results of this study.

Keywords: educational values of mathematics, preservice teachers, gender, attitudes toward mathematics
Education is the pivot upon which national development rests and a means for achieving world peace and overcoming global challenges of hunger, illiteracy, poverty, social exclusion, oppressions and wars to mention but a few. Basic education is the foundation of all educational system and in Nigeria the basic education has been extended to cover nine-years of continuous and compulsory schooling and is an inalienable right for every Nigerian child of school going age. This paper discusses the challenges of universal basic education in the era of global education. It also gives an overview of global education and universal basic education curriculum and changing context of Nigerian universal basic education in the world set-up. More so, the paper highlights the importance, challenges, and structure of the revised new 9-year basic education curriculum within the context of global education. The development of any nation is key to the development of human capital. All developed nation of the world has exposure of their citizen to qualitative education and in Nigeria, education is an instrument for an effective national development.

**Keywords:** keywords: global education, nigerian, universal basic education, curriculum
THE ROLE OF HIGHER EDUCATION AND UNIVERSITIES IN POLICE EDUCATION: THE CASE OF ENGLAND

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Occupational groups, including policing, seek to establish themselves as professions in order to gain professional status. One of the main characteristics of a profession is to develop a body of knowledge through academic education. Although it has long been debated whether the police is a profession or not, there has been a continuing quest for professionalism within the police. In recent years, there have been significant changes in the English police in relation to police education and training. One of them is the proliferation of police-university partnerships. The creation of the Centre for Policing Research and Learning (CPRL) between the Open University and police forces constitutes a good example. At the Centre, the police and academics jointly provide wide-ranging programme of activities involving research, education and knowledge exchange. Another major development is the establishment of College of Policing in 2012 as the professional body for the police service in England. With this new institution, the relationship between the police and academia have become more formalized. As a result, the number of university-based policing programs increased. Today, many universities offer courses in policing studies at different levels. The main aim of these initiatives is to strengthen the professional foundations of policing. The main purpose of this study is to explain recent developments in partnerships between police and universities. Particular attention will be paid to the role of universities in the professionalization of the police in the case of England. Following this, a general assessment will be made for Turkey.

Keywords: police education, professionalism, police-university partnerships
PLACE OF LITHOGRAPHIC WORKS OF HODJA ALI RIZA IN ART EDUCATION

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This paper analyzes the place of lithographic works of Hodja Ali Riza in art education. He was known as 'hodja' among his friends, his students and his colleagues. Hodja Ali Riza has been the chief painter in the Harbiye Printing House as well as being an art educator in Harbiye Mektebi, an important step in the development of Turkish painting art. Because of various reasons, there is no opportunity for the students to work in the model at that time; he reproduced charcoal drawings created by nature views, country houses, fountains and animal figures by converting them into lithographic works and created albums. These albums he has created have been distributed to his students who worked on those and have influenced the students' artistic understanding and practices. This situation is essential in terms of showing the importance of Hodja Ali Riza in art education and the point he reached in the printing picture during his period.

Keywords: hodja ali riza, lithography, painting, harbiye mektebi, arts education
DEVELOPMENT OF PAINTING EDUCATION BEFORE AND AFTER THE REPUBLIC IN TURKEY

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Art education has a very important place in the general education system. Given the history of education of civilized nations, the importance of art education is obvious. For this reason, we have to develop our art education by putting it in the center of our education system. While examining the bases of art education, it cannot be considered as independent of the history of civilization. It is known that civilizations of societies are developed in parallel with the art history of societies although different meanings and roles are imposed in different periods. Harbiye Mektebi which has an important place in the development of Turkish painting art is one of our leading institutions where art education is given first. Today, our art education, which is developing continuously before and after the Republic, is institutionalized and based on solid foundations together with some deficiencies in practice. Through this research, information about the development process of art education in our country is presented which.

Keywords: education, art education, painting education
ELECTRONIC STRUCTURE THEORY OF ALKALI HYDRIDES LIH, NAH AND KH: FIRST-PRINCIPLES STUDIES

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A systematic first-principle study is performed to calculate the electronic and optical properties of alkali hydrides LiH, NaH and KH using the full-potential linear augmented plane wave, and plane wave pseudopotential methods. The calculated band gaps are as usual, underestimated by the generalized gradient approximation with respect to the experimental data and GW calculation. The gap values are improved by inclusion of the modified Becke-Johnson exchange potential (mBJ), given a band gap 5.13 eV for LiH, 6.36 eV for NaH and 6.16 eV for KH. The results match perfectly the measured values of 4.99 eV for LiH, and with the GW calculations of 6.11 eV, 6.35 eV for NaH and KH respectively. Furthermore, we used the mBJ approximation to study the imaginary part of the dielectric function $\varepsilon_2(w)$. It is found that the $\varepsilon_2(w)$ spectrum varies greatly from LiH to NaH to KH. For the dominant peak structures of $\varepsilon_2(w)$ we identify the valence and conduction bands that mainly contribute to the corresponding transition.

**Keywords:** optical, gaps, electronic
GRAPHIC DESIGNER PROFILE AND PROFESSIONAL COMPETENCE ANALYSIS

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Individuals start their education process with great dreams and expectations when choosing their profession. Curriculum programs of educational institutions may not always meet the sectoral demands. Or the student can not be able to complete his / her education process with the target outcomes. Graphic design field is favoured, popular and has high expectations in postgraduate life. In this study, graphic designer profile, who works in the sector, were analyed according to the designers’ views and occupational competences were analyzed according to the views of agency managers and owners. In this context, analysis of the data was done according to the questionnaires applied to 53 designers and 15 agency managers who provide graphic design services in Ankara province. From this point of view, the research is a descriptive study in the general survey model. A questionnaire including of 24 questions to the participatory designers and 15 questions to the managers was applied. According to findings; it has been revealed that a large majority of graphic designers working on the Ankara advertising market are postgraduate designers, their working schedules are very likely to each other, the softwares they use are similar and they don’t have too much problems about payments and work disciplines. But they can’t have time for social and educational activities because of the density of working hours. According to the opinions of agency owners, although the designers have a sufficient level of designing run and workflow, they are not particularly good at the process of printing and post-printing

Keywords: art, graphic design, professional competence
INTERPAINTING AS A CREATING METHOD IN DIGITAL ILLUSTRATION: REINTERPRETATIONS FROM MOVIE SCENES

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Interpainting is used to quote a contemporary artwork or to describe reinterpreted works of art. It is inevitable that the interaction is in every field as well as in the field of art. Photography has changed our art and perception style in the XX Century. As the photography gives birth to the cinema, digital illustrations are a good example of the relationship between technology and art in the meaning that new artistic works will be produced from the cinema. Even though the canvases are not replaced by computer screens yet fully benefit greatly from the computer or technology when designing the work of many artists. In a similar way to artworks that have been re-interpreted dozens or even hundreds of times such as Leonardo da Vinci’s Mona Lisa, it is quite possible today to produce new artworks from cinemas. Besides it is still a matter of debate whether digital arts are art or not today, the intensive use of digital illustrations has contributed positively to the elimination of these debates. In the study, some examples of digital illustrations that worked directly from movie scenes or indirectly referencing to films will be examined.

**Keywords:** interpainting, digital illustration, cinema.
ARTISTIC REFLECTIONS OF URBAN WASTES IN CONTEMPORARY TURKISH PICTURES

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The birth of painting, which draws the technical and plastic bases of contemporary Turkish art from the West, is established on the late Ottoman period and the first years of the Republic. The first examples of modern Turkish painting were photographic works and then impressionism in the style of the period. The late reflections of this trend in the process of development in the western continuation were seen in Turkey. The development of painting in Turkey after the 1940s gained momentum and accelerated the development line to catch the line in the West. The socially realistic paintings reflect the artistry around many different styles, currents and subjects. In this diversity, the artists who are called socially realistic, the society that combines the form and the iconography in art became the language of the world. This idea has been preserved in the art of painting, the shell that we can call the style changed eventually. There are many elements that enable society to connect with art. The laborers who work at the point of raising the awareness of the arts, their heavy working conditions always have a big and important place in the art of social content. One of the important problems brought by the urbanization in the cities that are growing with the increase of the human population together with the modern city life is the household waste, in other words, our garbage. In this work, the pictures about the domestic waste and the environmental change in the city life in social life are examined. As a result, the reflections of these colorful and various squares in art were evaluated.

Keywords: art, artistic reflections, urban wastes, turkish pictures
EXISTING AESTHETIC PROBLEMS BASED ON THE RESTORATIONS OF STONE WORKS OF THE ANCIENT PERIOD IN THE SIDE MUSEUM

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Many archaeological data that have remained daily from ancient periods come from stone works. Many works made of marble, which have an important place in the stone works, are now being exhibited in museums and ruins. It is inevitable to undertake a number of repairing, completing, cleaning and conserving works in the process between the exposition of these works made of marble, which are mostly related to the excavation contents and being exhibited in the museum. The studies on the antique stone artifacts found in the archaeological excavations that have been going on since 1947 in and around the Side Antique City near the town of Manavgat in Antalya province are examined. Preservation and restoration works on ancient Greek and Roman stone artifacts restored by Dietmar Friese, preserved in the museum, were examined and the aesthetic problems of the sculpture display and repair were questioned. This study examines the changes in the existing aesthetic problems over the years as a result of the restoration of the antique stone artifacts found in Side Museum.

Keywords: existing aesthetic problems, restorations of stone works, ancient period, side museum
THE QUALITY AND IMPORTANCE OF PROTECTIVE VARNISH MATERIAL FOR THE CONTRIBUTION TO THE PROTECTION-REPAIR WORKS TO SAVE THE CANVAS PICTURES FOR THE FUTURE GENERATION

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When we look at the history of painting called the canonical painting, it goes back to the Renaissance period in the 15th century. The choice of materials used for such old and priceless works of art should be very attentive and careful. After all, in the works produced today, after a while, it will become a historic commodity. After the production stage, a certain process will be required to clean and repair the works. When the stages of restoration of the painting art are examined, the painting layers are handled one by one. These are four pieces: the chassis, the preparation layer, the paint layer and the varnish layer, respectively. The varnish is the layer that protects these bottom layers and has the most deformation. It can be called as a plate which needs to be cleaned and renewed in certain periods. In order to achieve resilient stabilization, it is necessary to select the highest quality material which is resistant to weather conditions and against the harmful effects of sunlight considering the technological developments. Oil paintings, which are made with acrylic paint and varnish types which can be used in mixed technical drawings made by using both have been researched. The strengths and recycling of the varnishes, i.e. their cleanability and reusability, will be examined. In line with these requirements, the materials that could be found on the market are investigated. In this study, the quality and importance of protective varnish layer will be mentioned in terms of contributing to protection and restoration work in transferring painting to future generations.

Keywords: protective varnish, protection and restoration work
CONTRIBUTIONS OF ARCHAEOLOGICAL SITE FINDINGS TO ART EDUCATION AND ART PRACTICES

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Although the recorded history does not provide a record to let us watch the thousands of years of life’s progress, the meaning of the past may be obtained by following the trails in crafted items. There are many common tracks between the understanding towards production in the ancient era which was created as an ornament and then adopted to life, and the work of today’s artists who have an esthetic concern and a struggle to produce more. Vanishing societies have left their legacies to their successors in the forms of worn out records. These findings not only shape the future, but also bring us the remnants of the life in the past. An artwork cannot express or reflect the texture of the nature or the beliefs belonging to another land. In this study, the objective is to study the form in archaeological findings and use these esthetic marks hidden in the details in the works of these initial life forms in their modern applications during their education. Now Art is able to speak a common language with numerous creations and formations and to transfer the records of past formations to artists’ work and discoveries by adding a diverse selection of samples into their areas and lives.

Keywords: art education, archaeology, site, Çatalhöyük
As it is known, the art phenomenon has been exposed to changes and transformations on the axis of values of "form-content and purpose" from the human history to the day. But despite these changes and transformations, art has maintained the "communication medium" between artist (sender) and viewer (receiver). In particular, the "chaos environment" that has taken its toll during world wars has changed the present structure of the art inevitably. The change and transformation that started with Dadaism led the changes in understanding of art after 1950. In this process, the thesis of "The End of Art and After the End of Art" were suggested. In the post modernism period, which started with the end of Modernism, the appearance of the very ‘contentive (intellectual)’ dimension rather than the ‘form’ dimension of the works of art brings the problems to the point of the meaning of art. Especially during this period, the artists presented the audience by putting codes and cyphers in the artistic forms that they were fed from the socio-cultural textures. Semiotics is key to the emergence of these codes and cyphers and should not be disregarded. Today, it is known that arts education institutions are not making full use of the advantages of ‘semiotics'. In many parts of the Faculty of Fine Arts in our country, the concept of Contemporary Art is taught to students in the theoretical sense. For many years many art educators have pointed out that the institutions of arts education should include semiotics in the curriculum. In this research, it is aimed to determine to what extent semiotics is included in the curricula of the Faculty of Fine Arts in our country.

**Keywords:** art, art education, contemporary art, semiotics
RESEARCHING OF USING KONYA LADIK RED CLAY AS A RAKU GLAZE

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While Glaze is giving esthetic and colour, it makes the surface resistant from the outside effects too. Each oxide which forms glazes gives various properties to the glaze with their structures and quantities. In this study; it is aimed to investigate the use of pure earth in the production of raku glaze by utilizing the present ceramic technology. Starting from this aim, it has been studied on Ladik red clay from around of Konya. The clay has applied on the casted clay which has the low firing degree and white cooking color. At the same time, 30-60% of the ground was added to the red clay to give a certain amount of mossy properties. The plates were cooked by an electric oven and observed for the positive results then the raku firing technique has applied to ones that have positive results. Between the 1-3% coloring oxide added to the clay for creating texture and expanding the color grade, then the same firing conditions were tried.

**Keywords:** ladik, red clay, ceramic, raku firing
THE REPRESENTATIONS OF TURKISH STATUS OF SOCIAL STABILITY AND POLITICAL EVENTS FROM THE REPUBLICAN TODAY

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Through this work, the developmental stages of the contemporary Turkish painting from the foundation of the Republic until the year 2000 and the relation with politics within this development process have been researched. In addition, it was included in the research that the developments in the Turkish official art prior to the publication of the Republic were taken into account in the context of the better understanding of the subject, taking into account the effects on the contemporary Turkish painting art. In the single-party period, various orientations of the artists were searched by the state-sponsored painting exhibitions organized by the State and People's Houses and the State-sponsored painting exhibitions in the multi-party period, and the importance of art was emphasized considering the importance of reflecting government policies and official ideology. Especially after 1980, the laws that art and politics relate to, the search for speculative style, the laws that the state derives from art and art to protect and promote artists are mentioned. In addition, examined next cultural policy from 1980, in this context, established professional association of organizational goals have also been given and ongoing activities today in Turkey thanks to this research, maybe a little bit too art can be defended as necessary / clearance to artist-politics and trying to win.

Keywords: art politics, dormitory visits, yurt exhibitions, art politics after 1980
SUSTAINABLE DEVELOPMENT FROM PAST TO PRESENT: A STUDY OF DOCUMENT ANALYSIS

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In particular, from the second half of the 18th century, ecocide’s rising higher levels because of industrialization, urbanization and rapid population growth under the influence of the unconscious steps taken in the name of development, has brought about concerns regarding human health and the world’s future. In the aftermath of the destruction of natural life and the unconscious use of resources, many parts of the world have begun to suffer from food, water scarcity and, consequently, many deadly problems such as hunger, disease and poverty have appeared. The search for raw materials and markets has resulted in under developed countries’ coming under the domination of the developed ones, and consequently in the under developed countries income deficiency has arisen. Along with these, the rise of glaciers, the changes in the climate, the destruction of the ozone layer, and the global warming reaching to serious dimensions have started to threaten the world’s today and future. With all these problems rising the surface, all the communities became aware of the fact that world’s capacity to renew itself was damaged. After the realisation of the fact that the world will lose its capacity of being a liveable planet in case of this problem’s continuation, solutions have been sought. This situation makes the concept of sustainable development more important. In this study, it will be discussed what it means today and the sub-dimensions that constitute sustainable development, starting from the historical development of the concept of sustainable development. The concept of sustainable development and the dimensions that constitute this concept have been redefined up to date, starting from the documents examined in the research. The results of this work are expected to guide the researchers to work on the concept of sustainable development.

Keywords: sustainable development, sustainable environment, sustainable society, sustainable economy, sustainable development and education
A SCALE DEVELOPMENT STUDY TO IDENTIFY SUSTAINABLE DEVELOPMENT AWARENESS OF PROSPECTIVE TEACHERS

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From the start of man's existence, he has spent his whole life in relation to the environment. It has been understood that all humanity is at risk if the unconscious steps and the rapid increase of the world population are accompanied by a sudden depletion of natural resources unless precautions are taken to prevent thirst, hunger, disease and deaths in many regions. Conferences have been organized with the participation of many governments to produce this major problem solution that threatens all life. The concept of Sustainable Development has come to the fore as a solution in the conferences held. Making sustainable development a lifestyle for all individuals is only possible with qualified education and equipped trainers. For this reason, today's prospective teachers, who are teachers of the future, are individuals who have sustainable development awareness and are very important when they are considered as the individuals who will shape the behaviors and attitudes of many learners in the future. The aim of this study is to develop a sustainable development awareness scale for prospective teachers. In order to determine the conceptual framework, a literature search was made and a draft form with 37 items was prepared. The draft form was sent to 4 science educators and expert opinions were taken and necessary corrections were made in line with the feedbacks. The validity and reliability studies of the sustainable development awareness scale were conducted with 425 science prospective teachers. Confirmatory factor analysis was preferred for construct validity of the scale. The reliability coefficient of the scale was Cronbach alpha: .91. It is believed that the developed scale can contribute to studies which efforts to raise the sustainable development awareness of prospective teachers.

**Keywords:** sustainable development, sustainable development and education, sustainable development awareness
A SCALE DEVELOPMENT STUDY TO IDENTIFY SUSTAINABLE DEVELOPMENT AWARENESS OF PROSPECTIVE TEACHERS

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In our study we have developed and characterized the AlPcCl-based thin films at different rates and thicknesses in order to characterize the morphology and the surface structure of the thin layers obtained to use the good layers in our solar cells. Note that for AlPcCl, when the deposition rate increases, the surface roughness of layers decreases. In contrast, the crystallinity of the layers increases as the deposition rate decreases, thereby increasing the hole mobility value. These effects are opposed: the former effect allows higher open circuit voltages to be obtained as the deposition rate increases, whereas the latter increases the short circuit current as the deposition rate decreases. Thus, a compromise should be obtained between open and short circuit current values, and it is necessary to find the best deposition rate for AlPcCl. Here, it is shown that the highest mobility carriers in layers deposited slowly allow the use of thicker AlPcCl layers, which permits acceptable open circuit voltage values and optimum photovoltaic cell efficiencies to be obtained. These results in an optimum efficiency value of 3.97% for a 26 nm thick AlPcCl film deposited at 0.02-0.03 nm/s.

**Keywords:** aluminium phtalocyanine chloride, organic solar cells, hole mobility, deposition rate
A CRITICAL REVIEW OF MAJOR NATURE-INSPIRED OPTIMIZATION ALGORITHMS

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Nature-inspired Algorithms are getting more and more popular in the past few decades owing to their amazing successes in solving a number of real-world optimization problems in different spheres of human endeavour ranging from the financial, medical and industrial to educational applications etc. Nature-inspired Algorithms (NAs) simulate the harmonious cooperation and competition in nature resulting in amazing solutions to seemingly impossible human problems. This paper examines nine nature-inspired techniques and their applications to different fields of human endeavour and concludes that the Nature-inspired Algorithms has enormous promise in the quest for greater human development through the harnessing of NAs’ potentials for speeding-up of industrial processes, minimization of time, financial and computer resources required to obtain solutions to complex optimization problems etc. However, the study points out certain areas of concern in the development of the NAs, namely, the apparent lack of clear mathematical cum theoretical proofs of convergence of these algorithms, manual tuning of parameters and the recurring issue of experimenting with small-scale problems vi-a-vi the large and complex real-life problems.

Keywords: nature-inspired algorithms, metaheuristics, trajectory-based, population-based, deterministic algorithms
IMPLEMENTATION STRATEGIES FOR THE CUCKOO SEARCH AND THE AFRICAN BUFFALO OPTIMIZATION FOR THE BENCHMARK ROSENBROCK FUNCTION

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The introduction of five benchmark global optimization test functions by De Jong has remained prominent in Mathematics and Computer Science for over three decades now. This paper examines the effect of the search population and the number of iterations of the Cuckoo Search and the African Buffalo Optimization in providing solutions to one of Dejong function, the Rosenbrock function, sometimes called Dejong2 function which is a unimodal non-separable function. The Rosenbrock function because of its deceptive flat landscape has proven to be a good test case for optimization algorithms since the flat surface provides very misleading information to search agents. After a number of experimental investigations using different iteration numbers and population, this study concludes that the CS provides better solutions but at a cost of more computer resources than the ABO. As a result, this study in harmony with the No Free Lunch Theorem concludes that if speed is the main consideration, the ABO is a better algorithm in solving the Rosenbrock (or a similar function), otherwise, the CS is a better choice.

Keywords: African buffalo optimization, cuckoo search, iteration, rosenbrock, search population
