**Title:** The Impact of Laptop Computers on Student Learning Behaviors as Perceived by Classroom Teachers

**Abstract:** The purpose of this study was to determine the impact of laptop computers on

student learning behaviors. Each student and teacher were equipped with a laptop

computer in which they had 24/7 access. Qualitative research methodology was used in

this study and the data consisted of classroom observations, a review of the teachers’

lesson plans, and in-depth interviews with five classroom teachers. The results of this

study revealed that laptop computers had a positive impact on student learning behaviors.

Students were engaged in the learning process, produced higher quality work, and had

improved communication with their teachers when they had access to laptop computers.

Through analysis of the data, the researcher suggested that the changes in student

behavior occurred because of personalized learning for each student, access to multiple

materials and media, and the laptop computer serving as assistive technology.

**Authors:** Rebecca Righi

**Publishing Date:** May 2012

**Title:** ON PREDICTING STOPPING TIME OF HUMAN SEQUENTIAL DECISION-MAKING USING DISCOUNTED SATISFICING HEURISTIC

**Abstract:** Human sequential decision-making involves two essential questions: (i) "what to choose next?", and (ii) "when to stop?". Assuming that the human agents choose an alternative according to their preference order, our goal is to model and learn how human agents choose their stopping time while making sequential decisions. In contrary to traditional assumptions in the literature regarding how humans exhibit satisficing behavior on instantaneous utilities, we assume that humans employ a discounted satisficing heuristic to compute their stopping time, i.e., the human agent stops working if the total accumulated utility goes beyond a dynamic threshold that gets discounted with time. In this thesis, we model the stopping time in 3 scenarios where the payoff of the human worker is assumed as (i) single-attribute utility, (ii) multi-attribute utility with known weights, and (iii) multi-attribute utility with unknown weights. We propose algorithms to estimate the model parameters followed by predicting the stopping time in all three scenarios and present the simulation results to demonstrate the error performance. Simulation results are presented to demonstrate the convergence of prediction error of stopping time, in spite of the fact that model parameters converge to biased estimates. This observation is later justified using an illustrative example to show that there are multiple discounted satisficing models that explain the same stopping time decision. A novel web application is also developed to emulate a crowd-sourcing platform in our lab to capture multi-attribute information regarding the task in order to perform validations of the proposed algorithms on real data.

**Authors:** Mounica Devaguptapu

**Publishing Date:** April 14, 2020

**Title:** The Effects of Technology on Student Motivation and Engagement In Classroom-Based Learning

**Abstract:** Technology has seen a recent widespread integration into daily life, where access to vast amounts of information is now available with ease. Today’s generation of students has grown up with technology all around them in an ever-increasing manner. To create an effective 21st century classroom that meets the needs of the students, a modern teacher must factor a student’s motivation to learn and the effects technology has on inclusionary education. A technology implementation was devised to address this rising need. Research was completed at an urban charter school on a population of 348 at the time of technology intervention through data analysis. Student surveys were administered to gauge student perception and motivation, student individualized education plans were reviewed, and classroom observations were made. The results showed that students feel motivated through the specific use of technology in the classroom, whether it be for pedagogical purposes or for accommodations as required by an Individual Education Plan (IEP) or 504 plan. Further study can aid in updating teaching techniques to better support inclusionary education as well as enhancing student motivation.

**Authors:** James Francis

**Publishing Date:** June 2017

**Title:** Powerplant technology

**Abstract:** This book covers the treatment and synthesis of electric-generating power plant technology and engineering, with a balance between the analytical and technological aspects of powerplant design, systems and effects. The chapters are on the following topics: thermodynamics; the Rankine cycle; fossil-fuel steam generators; fuels and combustion; turbines; the condensate-feedwater system; the circulating water system; gas turbine and combined cycles; principles of nuclear energy; thermal fission reactors and powerplants; fast-breeder reactors and powerplants; geothermal energy; solar energy; wind energy; energy from the oceans; energy storage; and the environmental aspects of power generation. 194 refs.

**Author:** El-Wakil, M M

**Publishing Date:** Jan 01, 1984

**Title:** Cyber-physical security of a chemical plant

**Abstract:** The increasing number of cyber-attacks on industries demands immediate attention for providing more secure mechanisms to safeguard industries and minimize risks. A supervisory control and data acquisition (SCADA) system employing the distributed networks of sensors and actuators that interact with the physical environment is vulnerable to attacks that target the interface between the cyber and physical subsystems. These cyber-attacks are typically malicious actions that cause undesired results in the cyber physical world, for example, the Stuxnet attack that targeted Iran’s nuclear centrifuges. An attack that hijacks the sensors in an attempt to provide false readings to the controller can be used to feign normal system operation for the control system, while the attacker can hijack the actuators to send the system beyond its safety range. Cyber physical systems (CPS) being used in industries such as oil and gas, chemical process plants and the like are termed Industrial Control Systems (ICS). Control system security is aimed at preventing intentional or unintentional interference with the proper operation of ICS. This thesis proposes a process-aware approach with the use of invariant equations based on the physical and chemical properties of the process and a Multiple Security Domain Nondeducibility (MSDND) framework to detect when a sensor signal is being maliciously manipulated. We have taken a benzene production plant as case study to illustrate our approach and its effectiveness in determining the state of the system. A system without any MSDND secure information flows between the CPS and cyber monitors has fewer weaknesses that can be exploited.

**Author:** PRAKASH RAO DUNAKA

**Publishing Date:** Spring 2017