BACS2042 Research Methods

Introduction & Overview

Lecturer

- Name: Dr. Sandy, Lim Siew Mooi
- Office room: A103
- Email: siewmooi@tarc.edu.my

- Google Classroom: https://classroom.google.com

How are university rankings determined?

	QS World University Rankings 2018	Shanghai Ranking 2017	Times Higher Education World University Ranking 2018
1	Massachusetts Institute of Technology (MIT)	Harvard University	University of Oxford
2	Stanford University	Stanford University	University of Cambridge
3	Harvard University	University of Cambridge	California Institute of Technology (Caltech) / Stanford University


THE
Times
Higher
Education
WORLD
UNIVERSITY
RANKINGS
POWERED BY
THOMSON REUTERS


QS
WORLD
UNIVERSITY
RANKINGS


RANKING WEB
OF UNIVERSITIES


ACADEMIC RANKING OF WORLD UNIVERSITIES
ACADEMIC
RANKING OF
WORLD
UNIVERSITIES
SINCE
2003

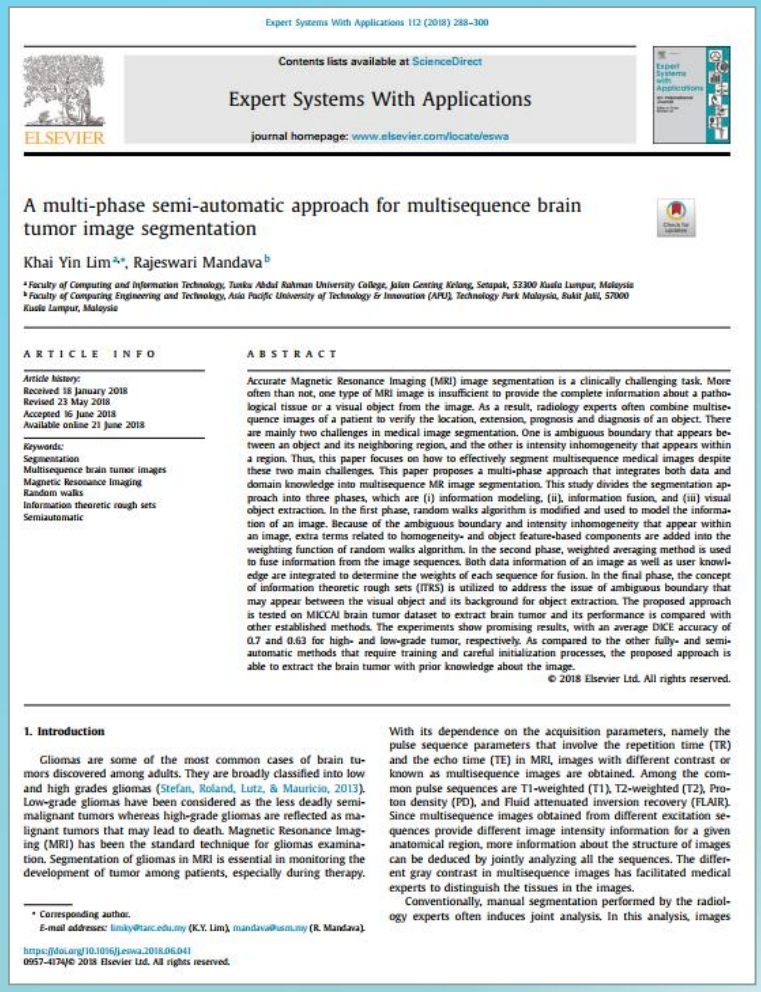
Criteria	Weight
Teaching - the learning environment	30%
Research - volume, income and reputation	30%
Citations - research influence	30%
Industry income - innovation	2.5%
International outlook - staff, students and research	7.5%

Criteria	Weight
Academic reputation from Global Survey	40%
Employer reputation from Global Survey	10%
Citations per faculty from Scopus	20%
Faculty student ratio	20%
Proportion of international students	5%
Proportion of international faculty	5%

https://libguides.library.cityu.edu.hk/researchimpact/university-ranking-lists

Research Paper

- Honest **description** of your **work**
  - Tells the importance of your work
  - What people have done before?
  - How's your work different?
  - How did you do?
  - How is your work perform compared to what exists?



Expert Systems With Applications 112 (2018) 288–300

Contents lists available at ScienceDirect

Expert Systems With Applications

journal homepage: www.elsevier.com/locate/eswa

A multi-phase semi-automatic approach for multisequence brain tumor image segmentation

Khai Yin Lim[a,*], Rajeswari Mandava[b]

[a] Faculty of Computing and Information Technology, Tunku Abdul Rahman University College, Jalan Genting Kelang, Setapak, 53300 Kuala Lumpur, Malaysia
[b] Faculty of Computing Engineering and Technology, Asia Pacific University of Technology & Innovation (APU), Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur, Malaysia

ARTICLE INFO

Article history:
Received 18 January 2018
Revised 23 May 2018
Accepted 16 June 2018
Available online 21 June 2018

Keywords:
Segmentation
Multisequence brain tumor images
Magnetic Resonance Imaging
Random walks
Information theoretic rough sets
Semiautomatic

ABSTRACT

Accurate Magnetic Resonance Imaging (MRI) image segmentation is a clinically challenging task. More often than not, one type of MRI image is insufficient to provide the complete information about a pathological tissue or a visual object from the image. As a result, radiology experts often combine multisequence images of a patient to verify the location, extension, prognosis and diagnosis of an object. There are mainly two challenges in medical image segmentation. One is ambiguous boundary that appears between an object and its neighboring region, and the other is intensity inhomogeneity that appears within a region. Thus, this paper focuses on how to effectively segment multisequence medical images despite these two main challenges. This paper proposes a multi-phase approach that integrates both data and domain knowledge into multisequence MR image segmentation. This study divides the segmentation approach into three phases, which are (i) information modeling, (ii), information fusion, and (iii) visual object extraction. In the first phase, random walks algorithm is modified and used to model the information of an image. Because of the ambiguous boundary and intensity inhomogeneity that appear within an image, extra terms related to homogeneity- and object feature-based components are added into the weighting function of random walks algorithm. In the second phase, weighted averaging method is used to fuse information from the image sequences. Both data information of an image as well as user knowledge are integrated to determine the weights of each sequence for fusion. In the final phase, the concept of information theoretic rough sets (ITRS) is utilized to address the issue of ambiguous boundary that may appear between the visual object and its background for object extraction. The proposed approach is tested on MICCAI brain tumor dataset to extract brain tumor and its performance is compared with other established methods. The experiments show promising results, with an average DICE accuracy of 0.7 and 0.63 for high- and low-grade tumor, respectively. As compared to the other fully- and semi-automatic methods that require training and careful initialization processes, the proposed approach is able to extract the brain tumor with prior knowledge about the image.

1. Introduction

Gliomas are some of the most common cases of brain tumors discovered among adults. They are broadly classified into low and high grades gliomas (Stefan, Roland, Lutz, & Mauricio, 2013). Low-grade gliomas have been considered as the less deadly semi-malignant tumors whereas high-grade gliomas are reflected as malignant tumors that may lead to death. Magnetic Resonance Imaging (MRI) has been the standard technique for gliomas examination. Segmentation of gliomas in MRI is essential in monitoring the development of tumor among patients, especially during therapy. With its dependence on the acquisition parameters, namely the pulse sequence parameters that involve the repetition time (TR) and the echo time (TE) in MRI, images with different contrast or known as multisequence images are obtained. Among the common pulse sequences are T1-weighted (T1), T2-weighted (T2), Proton density (PD), and Fluid attenuated inversion recovery (FLAIR). Since multisequence images obtained from different excitation sequences provide different image intensity information for a given anatomical region, more information about the structure of images can be deduced by jointly analyzing all the sequences. The different gray contrast in multisequence images has facilitated medical experts to distinguish the tissues in the images.

Conventionally, manual segmentation performed by the radiology experts often induces joint analysis. In this analysis, images

* Corresponding author.
E-mail addresses: limky@tarc.edu.my (K.Y. Lim), mandava@usm.my (R. Mandava).

https://doi.org/10.1016/j.eswa.2018.06.041
0957-4174/

Game Design Research

Annakaisa Kultima
University of Tampere
Kanslerinrinne 1
FIN-33014 University of Tampere
Annakaisa.Kultima@uta.fi

ABSTRACT

In this paper, notions of game studies, games research, game design, and design research are examined. As a most popular keyword on game research papers 'game design' connects the interdiscipline of game studies. However, it is typical that notions of 'design' and 'design research' are not explicitly reflected on the research papers within the academic field of game research. The lack of reservation between game studies and general design research is visible, yet historically explainable. However, considering the maturity of the field, the presence of the theoretical frameworks of design research should be improved. Understanding game studies as *design research* potentially improves our understanding on game design and alleviates the bridging of the epistemic gap between the practice and academia.

Categories and Subject Descriptors

K.8.0 [Personal Computing]: General – Games.

General Terms

Design, Theory.

Keywords

Game Design Research, Game Studies, Game Research, Game Design.

1. INTRODUCTION

In 2008 Staffan Björk wrote how the "interest in research on game-related topics has grown strongly in recent years following the widespread success of computer games as cultural and commercial phenomena" and how "a certain level of friction has existed regarding what constitute proper methods and research questions". Björk was searching for "an axis mundi" for game research. He suggested that the different research interests within the rising academic field were easily mapped on the three game concepts: *games*, *gamers* and *gaming*. [2]

Also in 2008, Frans Mäyrä conceptualized how the focus of game studies lies in the interaction between *game* and *player*, informed by their various contextual frames. In his introductory book to game studies the intersecting views were grouped into 1) study of games, 2) study of players, and the 3) study of the contexts of the previous two. [26]

Author's copy. AcademicMindTrek '15, September 22 - 24 2015, Tampere, Finland.

The rise of the humanities and social sciences oriented *game studies* has been visible in the growth of the academic communities, such as DiGRA[1] and journals similar to *Game Studies*[2]. In 2001, Espen Aarseth [1], the Editor-in-Chief of *Game Studies* wrote that the year 2001 can be seen as the "Year One of Computer Game Studies as an emerging, viable, international, academic field." With a perhaps provocative hubological tone, Aarseth also declared how game studies should exist as an independent academic structure, because it cannot be reduced to any of the existing fields [1]. Since then, there has been a surge of different kinds of game related studies from various academic perspectives and construction of multitude of game research conferences and other academic venues [23, 24].

It is typical that the notions of *game studies* and *games research* or *game research* are used interchangeably. While constructing his "year one" declaration, Aarseth [1] refers to the important and inevitable multitude of contributing disciplines as "we all enter this field from *somewhere else*". He lists such fields as anthropology, sociology, narratology, semiotics and film studies as few relevant examples of academic origins of game researchers. Among other actors within the game academia (i.e [36]). Mäyrä [26, 25] considers the multi- and interdisciplinary nature of game studies as richness and challenge of the community. In his reflections of multidisciplinary research work, Mäyrä [25] lists combinations of researchers from humanities and social sciences as well as the combination of socio-cultural game studies with technical or engineering-oriented research work as examples. While the research projects were fruitful and the multidisciplinary approach has been proven to be a good "survival tactic", he concludes that the role of interdisciplinarity within and around game studies is somewhat mixed and ambiguous. [25].

Many reflections on game studies are narrow and naturally affected by the personal academic interests of the game researchers themselves. Aarseth's early manifestation on game studies highlighted mostly the perspective of humanistic and social sciences collaboration. The categories and ontologies of game studies by Mäyrä [26] as well as Björk [2] and Juul [15] model the research interests of game researchers around the artefact and the users – leaving the other issues than the direct artefact analysis and user research as "context" (Mäyrä), "world" (Juul) or just the interplay of the two (Björk). Following these early drafts and the most active researchers' disciplinary backgrounds, game studies has an undertone skewed towards the humanistic and social sciences approaches.

With the help of general theories of interdisciplinarity, Sebastian Deterding [8] has been reflecting on the interdiscipline of game studies. He explains how the "friction" pointed by Björk [2] is not

[1] www.digra.org
[2] www.gamestudies.org

Conference Proceeding

2019 the 4th International Conference on Cloud Computing and Big Data Analytics
2019
April 12-15, 2019 / Chengdu, China

ICCCBDA 2019

2019年
第四届云计算与大数据分析国际会议

2019 the 4th International Conference on Cloud Computing and Big Data Analytics

Hi, ICCCBDA 2019 in Chengdu! 2019 ,

Proceedings /

Journal

Journals

Journal of Animal Science	Order	Public Health Ethics	Journal of Neurosurgery
Energies	JAMA	American Journal of Comparative Law	International Journal of Epidemiology
Brain	Scientific Reports	Journal of Orthopaedic Surgery and ...	Journal of Clinical Oncology
Health Psychology	BioScience	Materials	Journal of Insect Science

Contents

- Concepts of research
- Steps in conducting research
- The need for research
- Types of research
- Theoretical vs Conceptual Framework

Concepts of Research

Addressing problem

Formulating hypothesis

Collecting data

Analyzing data

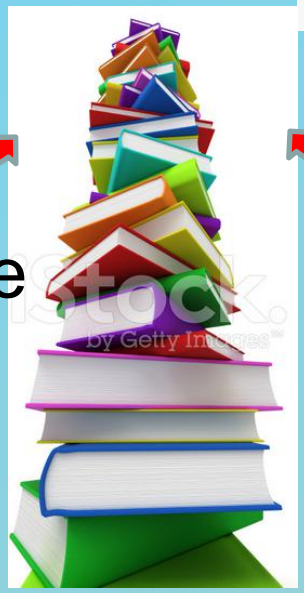
Solutions/ theoretical formulation

Research

+

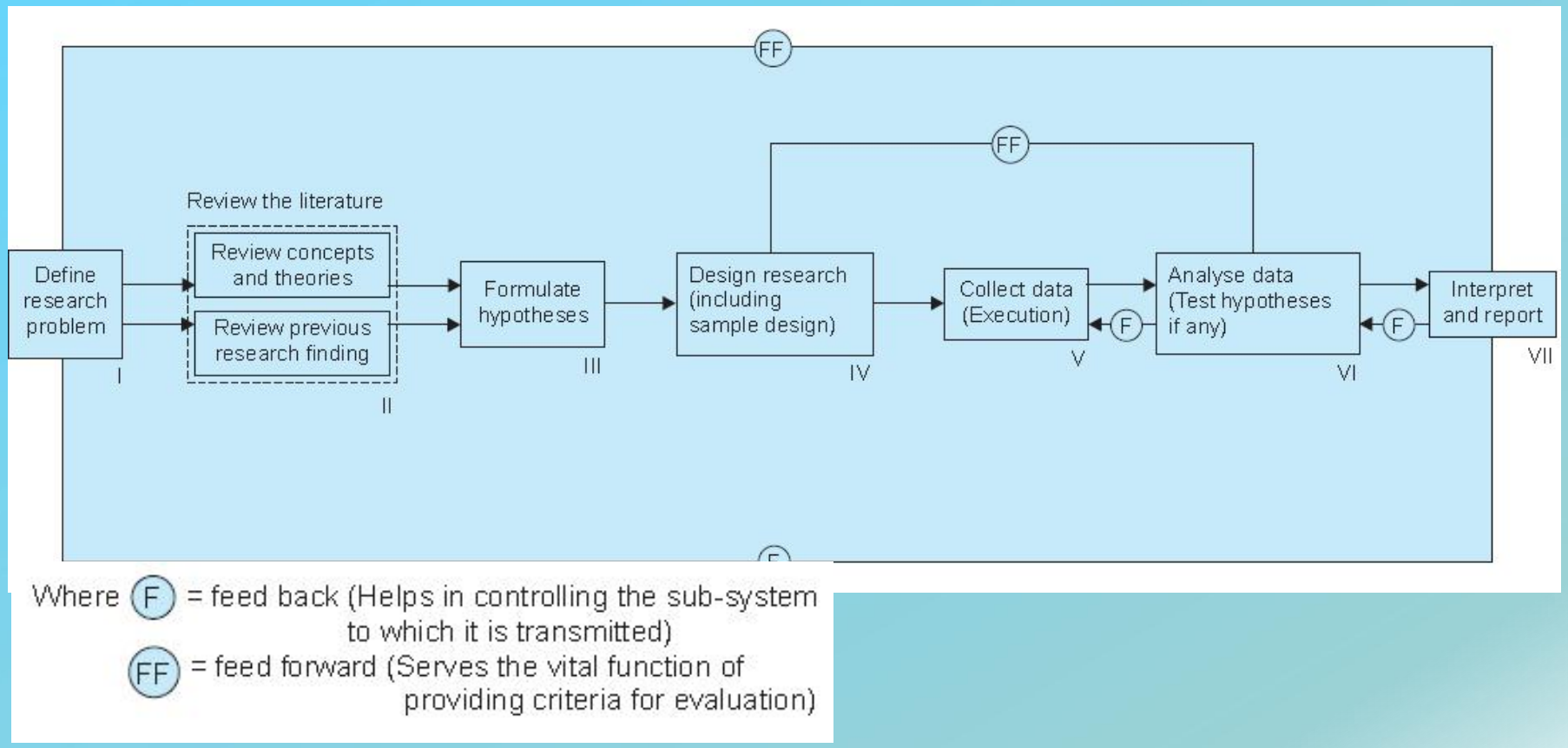
Systematic

Stock of knowledge



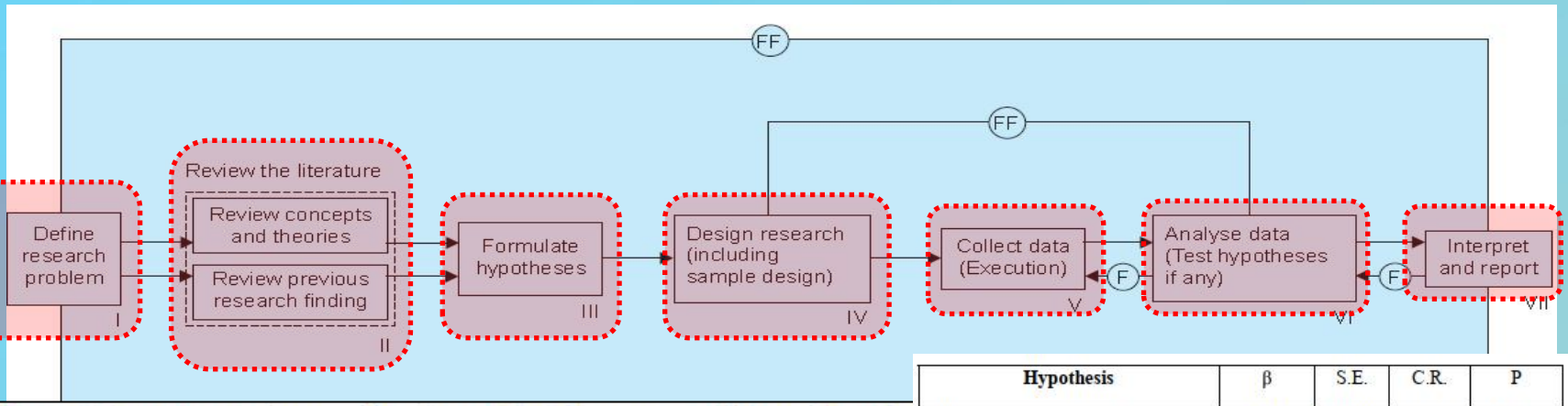
- Establish/ confirm facts
- Reaffirm the results of the previous work
- Solve new/ existing problems
- Support theorems
- Develop new theories

Steps in conducting research



Kothari, C.R., 2012, *Research Methodology: Methods and Techniques*, 2nd edn, New Age International

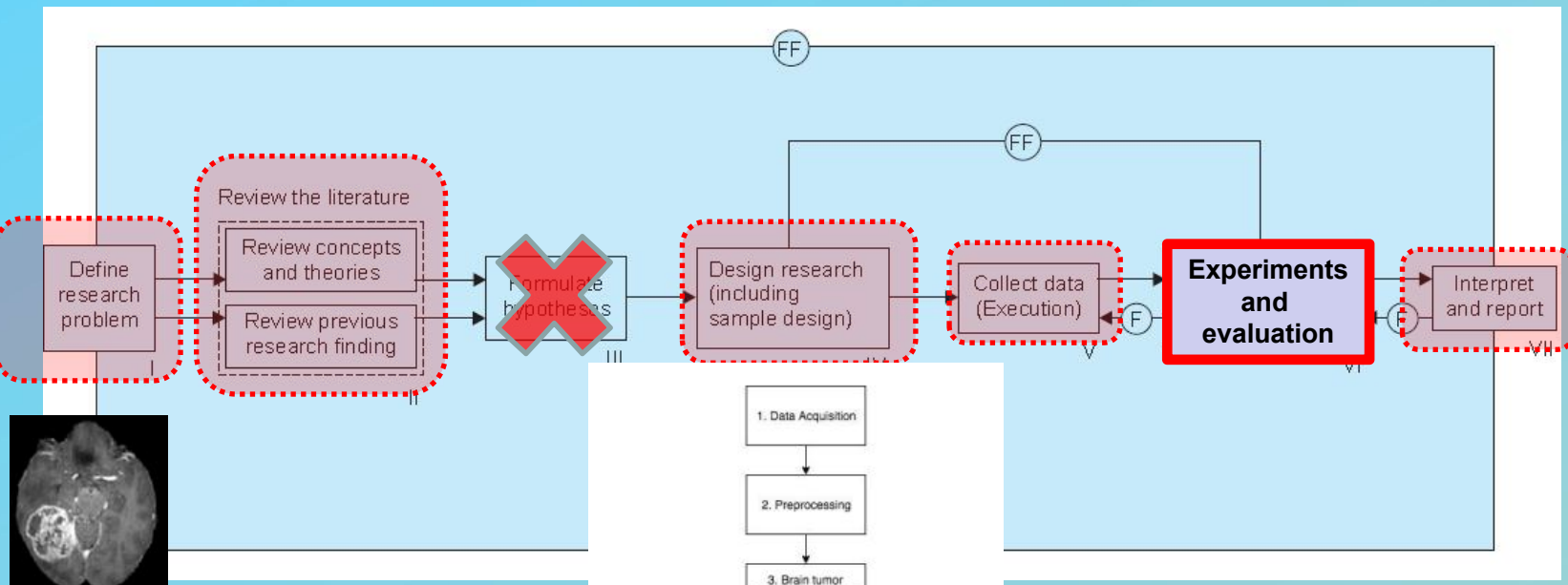
The Impact of Facebook Usage on Academic Performance

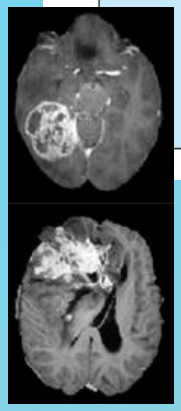


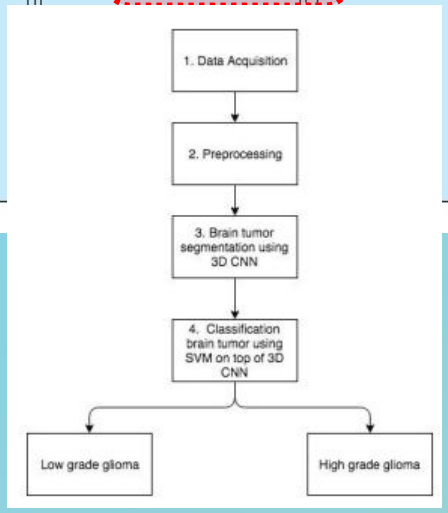
H6: There is a negative relationship between Facebook usage and academic performance(s).

Hypothesis	β	S.E.	C.R.	P
Pass time → Use Facebook	**0.229**	0.036	2.648	**0.008****
Relax/Escape →Use Facebook	**0.159**	0.023	1.991	**0.046***
Entertainment → Use Facebook	**0.444**	0.036	3.600	**0.000****
Socializing → Use Facebook	**-0.076**	0.047	-0.423	**0.672**
Social information →Use Facebook	**0.048**	0.064	0.276	**0.782**
Use → Academic performance	**0.232**	0.228	2.288	**0.022**

Brain Tumor Classification



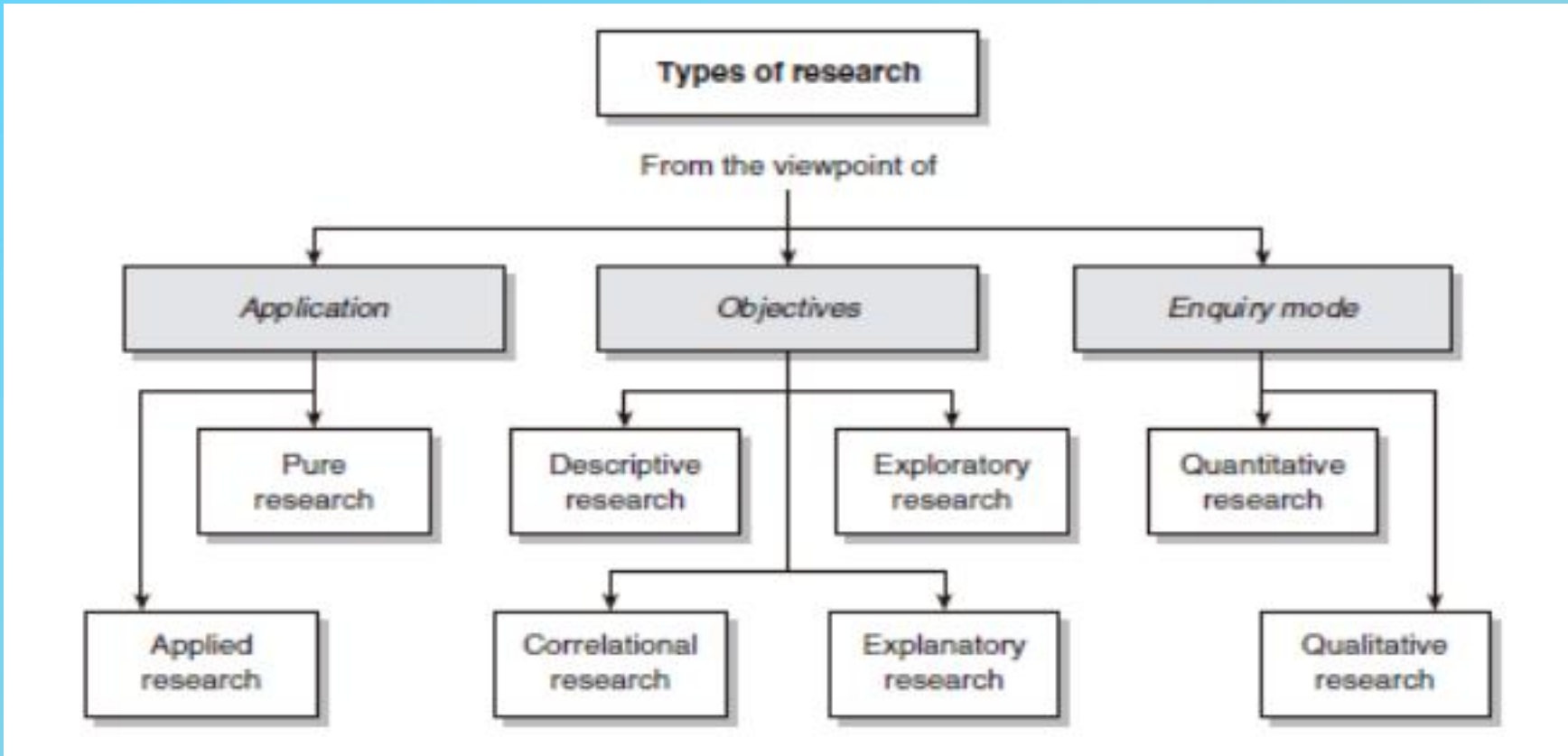




BACS2042 Assignment Guidelines

- choose a Computer Science topic you're interested in
- think of a problem or issue you see in that area
- refine your interest to a possible project that involves one or more ways of solving that problem
- outline the steps you'd take to do the project work and test your ideas
- what is your hypothetical conclusion?
- how would you evaluate the quality of your solution?
- https://www.questionpro.com/blog/what-is-research/

Types of research



Ranjit Kumar, 2011, *Research Methodology: a Step-by-step Guide for Beginners*, 3rd edn, London:Sage

Type	Perspective	Example
Pure	• Involves developing and testing theories and hypotheses that are intellectually challenging to the researcher	Measure the stress level in people.
Applied	• Applied research focuses on analyzing and solving real-life problems.	Finding a specific cure for a disease.
Descriptive	• To describe systematically a situation, problem, phenomenon, service or programmes, or provides information about, or describes attitudes towards an issue.	Describe the attitudes of employees towards management.
Correlational	• To discover or establish the existence of a relationship/association/interdependence between two or more aspects of a situation.	What is the relationship between technology and unemployment?

Type	Perspective	Example
Explanatory	• To clarify why and how there is a relationship between two aspects of a situation or phenomenon.	Explain why stressful living results in heart attacks.
Exploratory	• To either explore an area where little is known or to investigate the possibilities of undertaking a particular research study.	Conduct a research to know the level of customer satisfaction among the patrons of a restaurant

Types of research

Mode of Enquiry Perspective (Chapter 3):

- Concern about the process you adopt to find answers to your research questions.
- Structured approach = quantitative research
- Unstructured approach = qualitative research

Theoretical Framework

Using renowned theories to carry out the research

Research- how the cultures of a group of people influence their attitudes towards the environment.

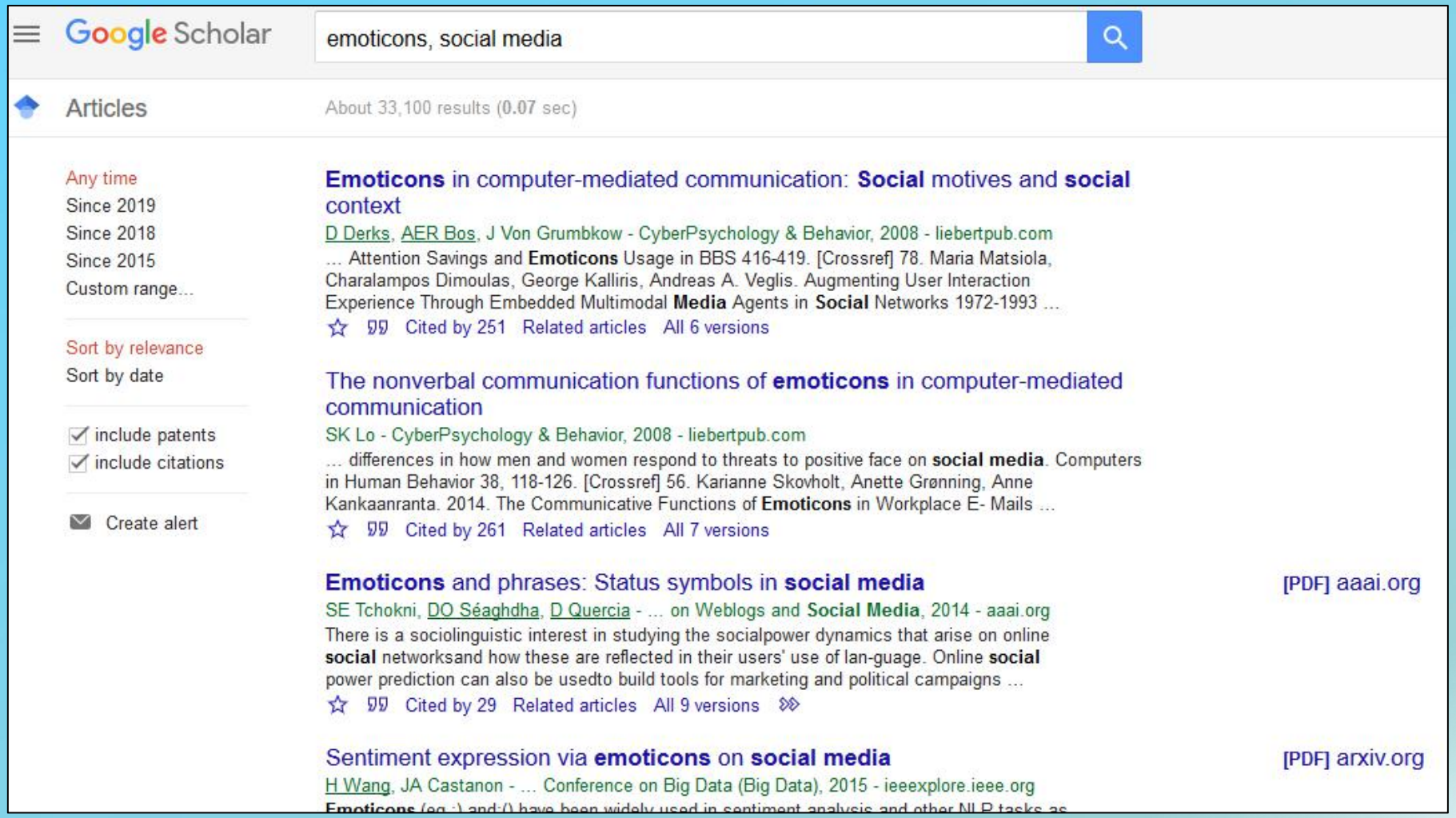
Theories –

- The Human Environment Relations Theory, The Culture Theory,
- The Cultural Ecology Theory,
- Historical Ecology Theory,
- Environmental Determinism Theory

Conceptual Framework

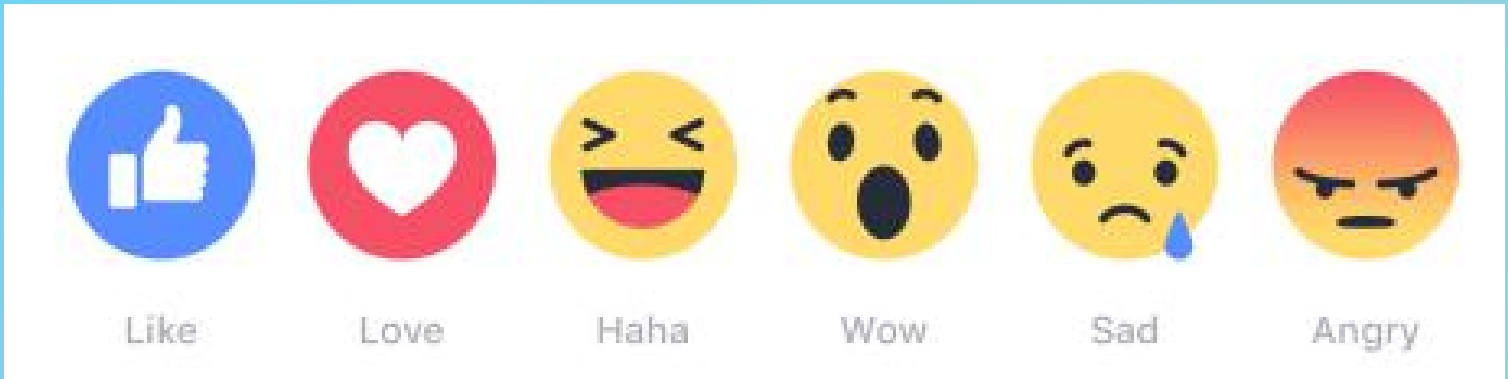
based upon the researcher's ideas on how to conduct the research

- Can add in var. in the selected theory


Google Scholar
emoticons, social media
Articles
About 33,100 results (0.07 sec)
Any time
Since 2019
Since 2018
Since 2015
Custom range...
Sort by relevance
Sort by date
include patents
include citations
Create alert
Emoticons in computer-mediated communication: Social motives and social context
D Derks, AER Bos, J Von Grumbkow - CyberPsychology & Behavior, 2008 - liebertpub.com
... Attention Savings and Emoticons Usage in BBS 416-419. [Crossref] 78. Maria Matsiola, Charalampos Dimoulas, George Kalliris, Andreas A. Veglis. Augmenting User Interaction Experience Through Embedded Multimodal Media Agents in Social Networks 1972-1993 ...
Cited by 251 Related articles All 6 versions
The nonverbal communication functions of emoticons in computer-mediated communication
SK Lo - CyberPsychology & Behavior, 2008 - liebertpub.com
... differences in how men and women respond to threats to positive face on social media. Computers in Human Behavior 38, 118-126. [Crossref] 56. Karianne Skovholt, Anette Grønning, Anne Kankaanranta. 2014. The Communicative Functions of Emoticons in Workplace E- Mails ...
Cited by 261 Related articles All 7 versions
Emoticons and phrases: Status symbols in social media
[PDF] aaai.org
SE Tchokni, DO Séaghdha, D Quercia - ... on Weblogs and Social Media, 2014 - aaai.org
There is a sociolinguistic interest in studying the socialpower dynamics that arise on online social networksand how these are reflected in their users' use of lan-guage. Online social power prediction can also be usedto build tools for marketing and political campaigns ...
Cited by 29 Related articles All 9 versions
Sentiment expression via emoticons on social media
[PDF] arxiv.org
H Wang, JA Castanon - ... Conference on Big Data (Big Data), 2015 - ieeexplore.ieee.org
Emoticons (eg :) and :() have been widely used in sentiment analysis and other NLP tasks as

Example

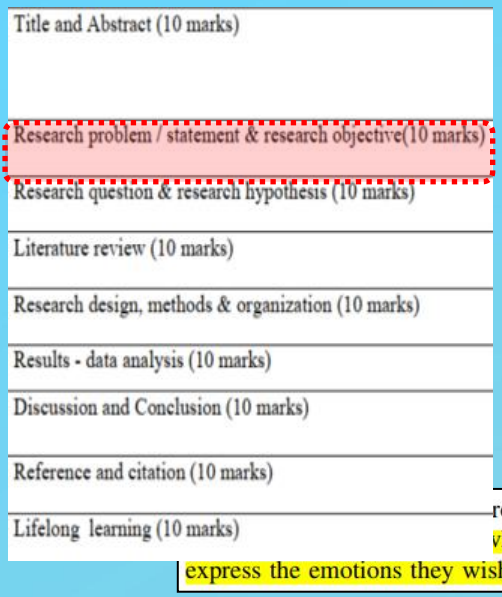
- The relationship between the Facebook emoticons and the users' true feeling



Assessment Criteria	Marks		
Title and Abstract (10 marks)			
Research problem / statement & research objective(10 marks)			
Research question & research hypothesis (10 marks)			
Literature review (10 marks)			
Research design, methods & organization (10 marks)			
Results - data analysis (10 marks)			
Discussion and Conclusion (10 marks)			
Reference and citation (10 marks)			
Lifelong learning (10 marks)			
Subtotal (90 marks):			
Leadership Skills (10 marks for each individual)	**Student No. 1**	**Student No. 2**	**Student No. 3**

Abstract

ABSTRACT The recognition of emotions and feelings through computer technology and devices has been widely explored in recent years. Social networks have become a natural environment in which users express their feelings and opinions through social media, and this includes their Facebook reactions. The aim of this study was to investigate whether the emoticons have chosen by users in social network news actually express the emotions they wish to express, having as indicative, the polarity of the emotions, and the six basic emotions. The data collection was carried out following three courses of action: 1) survey of the posts with higher reactions rates of popular news pages; 2) selection of news by a panel of experts to verify its reliability; and 3) identification of reactions, polarity, and basic emotions flagged by Facebook users for each news item. Finally, an Expectation-Maximization algorithm was deployed to find the relationship between the reactions and the basic emotions signaled. The results made it possible to determine the polarity and the correlation of the reactions with the emotional expressions. This suggests that the use of reactions in feelings analysis algorithms can increase the confidence in determining the emotion that the content reflects and the emotional state of the social network users.



rough social n
whether the em
express the emotions they wish to express,

Expressing and recognizing emotions is, however, an important skill for social performance [6], and therefore the recognition of emotions in face-to-face interaction is widely studied [7]–[11]. However, few studies have shown how much this experience of expressing emotions can actually be transposed into the interactions that occur in social networks [12] such as Facebook or Twitter, which are now the most widely used media. There are about 2.07 billion active users of Facebook [13], who spend most of the day online, making the virtual environment a rich source of data about what users think and feel [14]. In this type of interaction users often adopt the use of emoticons in posts, messages and comments to increase the meaning of these messages and express emotions with symbols without the

- To investigate
- To study
- To compare
- To analyze

Title and Abstract (10 marks)
Research problem / statement & research objective(10 marks)
Research question & research hypothesis (10 marks)
Literature review (10 marks)
Research design, methods & organization (10 marks)
Results - data analysis (10 marks)
Discussion and Conclusion (10 marks)
Reference and citation (10 marks)
Lifelong learning (10 marks)

RQ- Are the FB emoticons represents the users' true feeling?

Title and Abstract (10 marks)
Research problem / statement & research objective(10 marks)
Research question & research hypothesis (10 marks)
Literature review (10 marks)
Research design, methods & organization (10 marks)
Results - data analysis (10 marks)
Discussion and Conclusion (10 marks)
Reference and citation (10 marks)
Lifelong learning (10 marks)

Study	Main Approach	Social Network	Character level	Emoti
[23]	Sentiment lexicon	Twitter	Emoji	Valenc
[26]	Probabilistic Language Model	Twitter	Emoji	Valenc
[27]	MoodLens	Twitter	Emoticon	Valenc joyful,
[28]	Sentiment lexicon	Twitter	Emoji	Valenc
[29]	Sentiment lexicon	Twitter	Emoji	Valenc
[30]	Sentiment lexicon	Twitter	Emoji	Valenc
[14]	Sentiment lexicon and Finite State Machines(FSM)	Facebook	Emoji	Valenc
[31]	Sentiment lexicon	Twitter	Emoji	Valenc
[22]	Word2vec and Kmeans	Twitter	Emoji	Valenc
[32]	Linguistic Inquiry and Word Count (LIWC)	Facebook	Emoji	Valenc
[16]	Sentiment lexicon and Naive Bayes	Twitter	Emoji	Valenc surprise, sadness, anger and indifference
[33]	Sentiment lexicon	Facebook	Emoji	Happiness, anger, sadness, fear, disgust, surprise
[34]	Sentiment lexicon and finite state machine	Facebook	Emoticon	Valence
[35]	Correlation	Facebook and Emojipedia dataset	Emoticon	Valence
[36]	Multilayer Perceptron (MLP)	Twitter	Emoticon	Neutral, happy, sad, disgust

First, E. Kouloumpis, T. Wilson, and J. Moore [22] researched the utility of semantic features for recognizing sentiment in twitter messages. They assessed the convenience of existing lexical assets (utilized in works with e.g., in [23], [24]) just as features that catch data about the casual and inventive dialect utilized in micro-blogging. They utilized a hashtag and emojis dataset and utilize an assortment of features for classification tests utilizing n-grams and vocabulary features, acquiring a normal F-measure of 0.65 to 0.68 and an accuracy of 0.74 to 0.75.

In study [25] was to find the mentality or supposition of the tweets, which is normally figured as a machine learning based content order issue. They utilized two strategies for investigations conclusion: First, physically marked (LM) information to prepare completely regulated models; Second, a novel model, called emojis Smoothed dialect demonstrate (ESLAM), to deal with this test. The essential thought was to prepare a dialect display dependent on the physically named information and after that utilization the loud emoji information for smoothing. One aggregate of 3727 tweets was assessed. Around 570 tweets were with valence positive and 654 negatives. 2503 was with unbiased messages. In the wake of expelling the re-tweets or copies and setting the classes to

Title and Abstract (10 marks)
Research problem / statement & research objective(10 marks)
Research question & research hypothesis (10 marks)
Literature review (10 marks)
Research design, methods & organization (10 marks)
Results - data analysis (10 marks)
Discussion and Conclusion (10 marks)
Reference and citation (10 marks)
Lifelong learning (10 marks)

III. MATERIAL AND METHODS

The data collection of this study involved the selection of popular news on Facebook, analysis of the reliability of the news by expert judges, a collection of data with Facebook users from a questionnaire elaborated with this news, and correspondence analysis between reactions and basic emotions. Each of the steps will be described below.

A. SELECTION OF NEWS

Three different researchers selected the news that could be initially used, by surveying the largest news sites posted on their respective Facebook pages, in accordance with the following criteria: 1) they had been posted in the last two days,

child, a couple and another adult portrays the phrase "Marrow donation joins a man and the family of the baby he saved".

B. ANALYSIS OF CORRESPONDENCE BETWEEN NEWS AND BASIC EMOTIONS

The posts were assessed by a panel of seven expert judges so that a set of news items could be compiled that were suitably related to the six emotions proposed in the study by Paul Ekman [6], [8] for the following analysis. The judges were both professionals and post-graduate students in the field of psychology who are conducting research on how to investigate human emotions. For each news, the judges evaluate separately what was the perceived thrill to watch her. Of the 36 news items initially chosen by the researchers, 24 were selected as the most representative (4 news items related to each emotion), based on the following criteria: 1) a majority of the judges found the same emotion in one

C. GENERAL DESCRIPTION OF THE QUESTIONNAIRE

The study used a questionnaire that was prepared with the aid of the Lime Survey tool. The instrument was based on the 24 selected postings as described above, and for each post three questions were asked to be answered by clicking on one of the answer alternatives: 1) What Facebook reaction would you give to the post? The answer could range between the six options of reactions in graphical form, among those of the emotions that the Facebook social network makes available; 2) How do you rate this post? The answer could be positive, negative or neutral; 3) Which emotion is most prevalent in this post? The answer could range from "I do not recognize it" to the six basic emotions: joy, sadness, fear, disgust, anger and surprise. In questions 1 and 2 only one answer alternative could be selected for each question. In the third question, the user could choose up to two predominant emotions.

D. DATA COLLECTION WITH USERS

Users of the Facebook social network were invited to participate in the study by means of a formal invitation made available in the digital media, either personally or on the researchers' social network platform. Before the respondent could be included in the study, he/she had to: 1) be an adult (eighteen years or over); 2) be a user of the social network Facebook; and, 3) have answered the entire questionnaire. Interested participants were invited to respond to the questionnaire described in section III-C available on the laboratory website and disseminated on digital platforms. The instrument was made available to interested parties for a period of approximately three weeks. When they accessed the research web page, the participants were initially informed of the rationale, purpose, and implications of the study, and given an assurance of confidentiality through a Free and

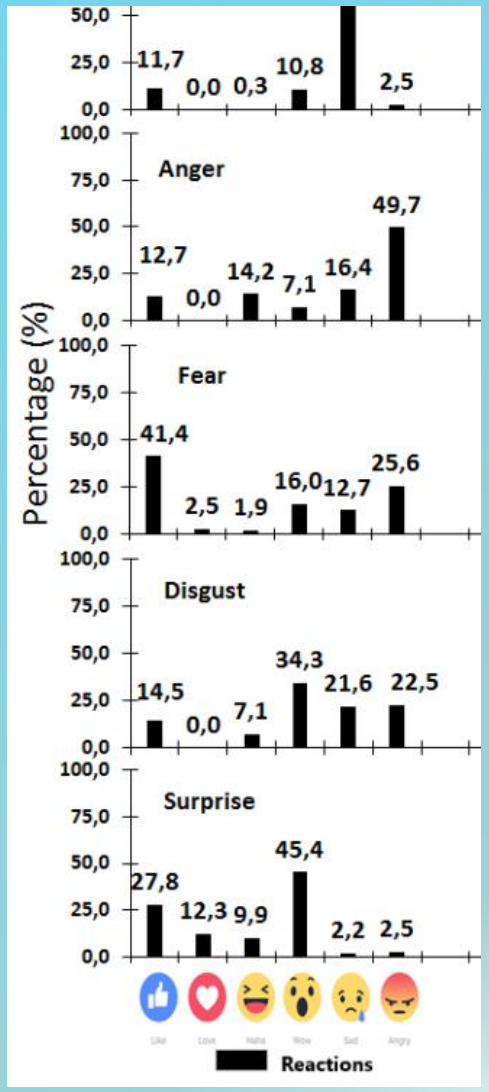
At the end of the questionnaire, the participants were given final guidelines for making contact and thanked for taking part. The information submitted was automatically made available to the researchers and contained the raw data of each participant. The individual results were examined, and two questionnaires were excluded because they did not meet any of the inclusion criteria (both respondents were minors aged 14). Thus, one hundred and forty-seven questionnaires were analyzed. The average rate of agreement of users in relation to the predominant emotion can be checked in Table 3.

E. CORRESPONDENCE ANALYSIS BETWEEN REACTIONS, THE POLARITY OF FEELING, AND BASIC EMOTIONS

Considering that it is intended to verify the polarity of feelings and how well Ekman's six basic emotions can be represented by Facebook's Reactions, and starting from the

Title and Abstract (10 marks)
Research problem / statement & research objective(10 marks)
Research question & research hypothesis (10 marks)
Literature review (10 marks)
Research design, methods & organization (10 marks)
Results - data analysis (10 marks)
Discussion and Conclusion (10 marks)
Reference and citation (10 marks)
Lifelong learning (10 marks)

t = 1,167, p<0.001; sad, t = 1,231, p<0.001; and, angry, t = 1.250, p < 0.001)]. Emotionally sad news received mostly sad reaction (74.7%), and no participant attributed "love" to any item of news in this condition. The attribution of sad reaction was significantly higher than all the other responses [Friedman, $\chi^2(5)$ = t = 811.15, p < 0.00; like (t = −1.889, p < 0.001), love (t = −2.241, p < 0.001); Haha (t = −2.231, p < 0.001); Wow (t = −1.917, p < 0.001); and, angry (t = 2.167, p < 0.001)]. News angry received a strong attribution of reaction and angry (49.7%) was significantly higher than the others [Friedman, $\chi^2(5)$ = t = 288.15, p < 0.001; like, t = −1, 111, p < 0.001; love, t = −1.491, p<0.001; Haha, t = −1.065, p < 0.001; Wow, t = −1, 278, p<0.001; and, Sad, t = −1.000, p < 0.001)]. The News classified as fear received the reaction of like in 41.4% of the situations; this value was significantly higher than the other reaction [Friedman, $\chi^2(5)$ = t = 219,15, p<0.001; love (t = 1,167, p < 0.001); Haha (t = 1,185, p < 0.001); Wow, (t = 0,759, p < 0.001); sad (t = 0,861 p < 0.001); and angry (t = 0,472, p < 0.020)]. The attributions to disgust news was distributed between Wow (34.3%), angry (22.5%) and sad (21.6%); these reaction values were not statistically different (Wow versus sad: t = 0.352, p < 0.250; Wow vs Angry: t = 0.380, p < 0.147; and, Sad vs. Angry: t = −0.28, p < 1,000).



Title and Abstract (10 marks)
Research problem / statement & research objective(10 marks)
Research question & research hypothesis (10 marks)
Literature review (10 marks)
Research design, methods & organization (10 marks)
Results - data analysis (10 marks)
Discussion and Conclusion (10 marks)
Reference and citation (10 marks)
Lifelong learning (10 marks)

analysis to be employed with minimum dependence on verbal semantics. The sample of news items selected for the investigation was relatively complex given the fact that multidimensional features were used to express the information (which usually involved showing pictures and words), rather than only relying on facial information. However, the results showed a consistent attribution, particularly with regard to both emotion and valence, when using different news items; moreover, the division of the clusters was very successful, and the reactions represent the feelings in question very well. This could be an important step in carrying out scientific investigations that can make valid generalizations about emotions, ranging from real to virtual environments, as well as conducting studies of how emotion representation can take place in virtual environments with non-textual information.

Jibril and Abdullah [21] point out that the intensification of virtual interactions and expression of emotions through social