

Academische posters elementen

Frank Van Puyvelde – ICTS



1

Inhoudelijke elementen

*How well we communicate is determined not by how well we
say things,*

But by how well we are understood

Paul Spencer Perfect Posters! - <http://prezi.com/am3brxp85ivq/perfect-posters/>

ICTS

4

Elementen

- Titel
- Auteur(s) + affiliatie
- Abstract/Inleiding
- Methode
- Data/resultaten
- Besluit + Verder werk
- Referenties
- Dankwoord

Standaard layout

Title that hints at the underlying issue or question and is formatted in “sentence case”

Your name(s) here

Department of Biology, Swarthmore College, Swarthmore, Pennsylvania 19081

Introduction

This document is a template for a report. It is designed to be used as a guide for writing a report. The report should be written in a clear and concise manner, using the following guidelines:

- Use a clear and concise title.
- Use a clear and concise introduction.
- Use a clear and concise body.
- Use a clear and concise conclusion.
- Use a clear and concise references.

Results

The results of the study are presented in this section. The results are presented in a clear and concise manner, using the following guidelines:

- Use a clear and concise title.
- Use a clear and concise introduction.
- Use a clear and concise body.
- Use a clear and concise conclusion.
- Use a clear and concise references.

Figure 1: A line graph showing the relationship between Time (s) and Distance (m). The graph shows a linear relationship, indicating constant velocity. The data points are: (0, 0), (10, 10), (20, 20), (30, 30), (40, 40), (50, 50), (60, 60), (70, 70), (80, 80), (90, 90), (100, 100).

Conclusions

The conclusions of the study are presented in this section. The conclusions are presented in a clear and concise manner, using the following guidelines:

- Use a clear and concise title.
- Use a clear and concise introduction.
- Use a clear and concise body.
- Use a clear and concise conclusion.
- Use a clear and concise references.

Materials and methods

The materials and methods used in the study are presented in this section. The materials and methods are presented in a clear and concise manner, using the following guidelines:

- Use a clear and concise title.
- Use a clear and concise introduction.
- Use a clear and concise body.
- Use a clear and concise conclusion.
- Use a clear and concise references.

Figure 2: A diagram showing the experimental setup. A subject is seated at a table, looking at a screen. The screen displays a target area. The subject is instructed to move a cursor to the target area. The diagram shows the subject, the screen, and the target area.

Figure 3: A diagram showing the experimental setup. A subject is seated at a table, looking at a screen. The screen displays a target area. The subject is instructed to move a cursor to the target area. The diagram shows the subject, the screen, and the target area.

Figure 4: A diagram showing the experimental setup. A subject is seated at a table, looking at a screen. The screen displays a target area. The subject is instructed to move a cursor to the target area. The diagram shows the subject, the screen, and the target area.

Literature cited

The literature cited in the study is presented in this section. The literature cited is presented in a clear and concise manner, using the following guidelines:

- Use a clear and concise title.
- Use a clear and concise introduction.
- Use a clear and concise body.
- Use a clear and concise conclusion.
- Use a clear and concise references.

This section contains the references for the study. The references are listed in a clear and concise manner, using the following guidelines:

- Use a clear and concise title.
- Use a clear and concise introduction.
- Use a clear and concise body.
- Use a clear and concise conclusion.
- Use a clear and concise references.

Acknowledgments

The acknowledgments of the study are presented in this section. The acknowledgments are presented in a clear and concise manner, using the following guidelines:

- Use a clear and concise title.
- Use a clear and concise introduction.
- Use a clear and concise body.
- Use a clear and concise conclusion.
- Use a clear and concise references.

For further information

The further information of the study is presented in this section. The further information is presented in a clear and concise manner, using the following guidelines:

- Use a clear and concise title.
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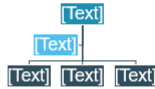
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Analyse van het probleem



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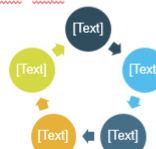
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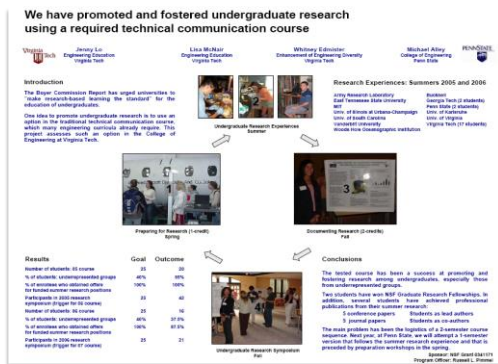
Bibliografie

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Element: titel

- Moet heel interessant zijn (uitdaging)
- Moet publiek lokken vanop afstand
- Moet goed zichtbaar zijn vanop 5 m
- Beknopt
 - Indien de titel te lang is, probeer in te korten, herformuleren
 - Niet de fontgrootte aanpassen
 - Vermijd het gebruik van ‘:’

Element: titel



Vergelijk:

- *"A Study of Automobile Emissions Generated at Drive Up Windows"*
- *"5% of Air Pollution Derives from Cars Idling at Drive Up Windows"*
- *"Drivers Spend an Average of 7.2 Minutes Idling at Drive Up Windows"*
- *"Drive Up Windows pollute and frustrate"*

Element: auteurs/affiliatie

- Schrijf voornamen volledig uit
 - Initialen en titelatuur zijn niet nodig
 - Voeg evt. een foto toe van degene die de poster presenteert, of highlight naam
 - Check met promotor over volgorde van de medewerkers
- Vergeet de affiliatie niet
 - Bach criminology KU Leuven

Element: data/resultaten - tekst

- KISS (keep it short and simple)
- Vermijd alle niet-essentiële informatie
- Vermijd voetnoten
- Vermijd afkortingen, acroniemen, jargon
- Gebruik niet meer dan 1000 woorden
- Gebruik grafieken als visuele aandachtstrekker
- Vuistregel:
 - 20% tekst
 - 40% grafisch
 - 40% witruimte (durf witruimte gebruiken!)

Element: data/resultaten - tekst

• Origineel

The ideal anesthetic should quickly make the patient unconscious but allow a quick return to consciousness, have few side effects, and be safe to handle.

• Posterversie

Ideal anesthetics

- Quick sedation
- Quick recovery
- Few side effects
- Safe to handle

Element: data/resultaten - grafieken

- Tabellen:
 - Bij een beperkt aantal gegevens
 - Label de kolommen
- Grafieken:
 - Bij groot aantal datapunten
 - Vergeet niet: curves benoemen, titel, assen benoemen
- Maak de grafieken groot genoeg
zichtbaarheid vanop 2m!
- Gebruik vette lijnen in grafieken en tabellen voor een goede zichtbaarheid
- Probeer grafische elementen uniform in uitzicht en afmetingen te houden

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Element: besluit

- Belangrijk onderdeel van de poster
- Benadrukken van de belangrijke/sterke punten
- Nieuwe inzichten/interpretaties of onderzoeksbronnen/gebieden worden hierin geplaatst
- Gebruik zoveel mogelijk *bullets* om de verschillende elementen te scheiden

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Element: dankwoord / referenties

• Dankwoord

- Vermeld fondsen,
- Wie behulpzaam was bij het onderzoek


• Referenties

- Vermeld enkel belangrijkste referenties – geen literatuurstudie
- Kan altijd uitgebreid worden bij conversatie

ICTS

KU LEUVEN


17



Top-Down Teaching In Chemistry:

A Stylistic Change in Teaching to Promote Student Engagement


TA Scholar: Geoff Thomas
Chemistry
Faculty Mentor: Laya Kesner
Chemistry




BACKGROUND

- Traditional Bottom-Up teaching is conducted by establishing and building upon basic principles. This methodology has historical precedence and is currently more commonly used in science courses.
- Often times the **least captivating material** is the first impression a student gets of the lesson.
- Top-Down teaching works by breaking down familiar, complex ideas. While this method is less common in modern scientific curriculum, it can be hypothesized that this is potentially a more powerful form of learning.
- Top-Down methodology mimics a natural learning process where a natural phenomenon is observed and then broken down until the basic principles and reasons for its actions are discovered.

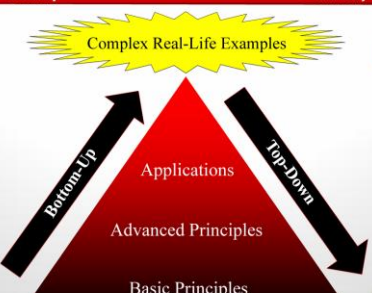
"This (stuff) is interesting... It's examples we study yes"



"It keeps me engaged... What we are learning feels tangible"



"It's definitely worth it... the class is fun"



THE PROJECT

• Approach lesson design in a stylistically different manner while covering the same material

• Start with a 'Real-Life' example and build down to core concepts

• Ask the students questions

• Discuss students' possible theories and hypotheses and reason through these

• Act as a moderator and guide the discussion in the appropriate direction

• Here the methodology is implemented in an elementary chemistry discussion / lab section (CHEM 1120)

Examples

• Ester synthesis

• As a way of introducing ester synthesis to students, we investigated the chemistry of smell. The lesson started by passing around a collection of chemical compounds with distinctive smells (Esters, Aromatics, Thiols, Amines, etc.) and asking the students "Why do we smell?" "How does smell work?"

• Chromatography

• TLC (Thin Layer Chromatography) is a common method of analyzing mixtures of compounds in organic chemistry. To introduce how this method works, the word "CHEM 1120 was drawn in permanent marker on the instructor's arm and the students were asked "What makes a 'Permanent marker' permanent?" as various solvents were used to try to remove the writing.

• Oxidation of alkenes

• Alkenes are a chemical functional group present in a wide variety of compounds. Dyes are one class of familiar compounds where alkenes are most visible. As such, to introduce oxidation of alkenes to the class, a bright blue shirt was hung on the board and bleach was poured on it. As the color leached out of the bleach stain the class was posed with the question "Why does this happen?"

ASSESSMENT & BENEFITS

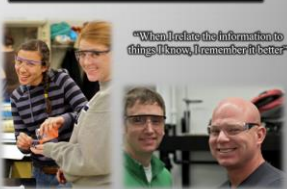
Benefits of Top-Down methodology

- Higher attendance
- Increased class popularity
- Improved knowledge retention through memorable learning experiences
- Engaged students in class discussions and lessons
- More questions asked by students
- More personal class experience for students
- Teaches students how to critique scientific ideas
- Positive course feedback as students learn and benefit from a superior teaching environment
- Improvement in test scores throughout the course

Evaluation

Top-Down teaching may not be the most effective means of instruction in every instance, however, it represents a powerful tool in an instructor's repertoire that is currently underused.

"When I teach the information to things I know, I remember it better"



ACKNOWLEDGMENTS & REFERENCES

I would like to acknowledge the help of Laya Kesner, The University of Utah Department of Chemistry and GTLE for their assistance in this project. I would also like to thank all the students in the CHEM 1120 course that participated in this project.

References for project development

1. "Top-down teaching" in noncalculus-based introductory physics classes. J. M. Dudley, G. E. J. Bull. Am. J. Physics. Vol. 64. 1996
2. Personal interview with Tadi P. Begley Ph.D. (Texas A&M University)

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Method

This study used a survey constructed from the Community of Inquiry instrument (Arbaugh et al., 2007). The survey allowed the researchers to examine the three presences within the Community of Inquiry model and how they may be influenced by gender, age and degree status. Furthermore, the survey allowed the researchers to examine the relationships between the three presences of the model as well as examining them in online and blended classroom settings.

The survey research method was chosen due to the ability to administer the survey directly by the researchers, the minimal time required by the participants to complete the survey, and the rapid turnaround of data collection. Group administration of self-administered surveys generally provide higher cooperation rates and much lower in cost to administer (Fowler, 2002).

Results/Conclusions

While the study continues to collect data, the analysis of the results thus far indicate a relationship exists between the student's perceived and actual interactions with their instructor and perceived learning. The perceived relationship directly affects student satisfaction (Swan, 2006). When students are provided frequent timely public and private feedback they tend to view the higher levels interaction with the instructor as a significant factor in their perceived level of learning. At this point, the study indicates that those who have had a positive experience in online or blended classrooms will continue to take courses in the future. Key findings of this study are that students who are instructed and taught, standards for Blackboard course layout, instructor training, and well articulated University expectations will continue to positively contribute to student satisfaction in online and blended classrooms.

Future Work

The Community of Inquiry Model, specifically Teaching Presence, examines the level of direct instruction and how well courses are designed and facilitated. As Shea et al (2006) note, "Higher levels of reported interaction with instructors have been found to result in higher levels of perceived learning." We will be continuing the use of the Community of Inquiry model and aim to include more institutions and programs in our study to understand the importance of Teaching, Social and Cognitive presence, as well as identify techniques to improve those areas and to create stronger online and blended courses.

Community of Inquiry Model

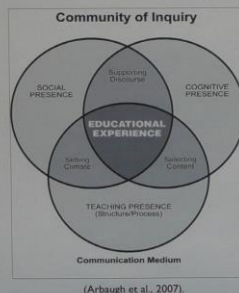
Garrison et al. (1999) originated the Community of Inquiry model to investigate how written language used in computer conferencing activities promoted critical and higher-order thinking. The model assumes that valuable learning in online and blended courses is a function of the interaction between social presence, cognitive presence and teaching presence (Arbaugh 2007).

Social Presence: Is the ability of instructors and students to project themselves into the class by using affective, interactive, and cohesive techniques (Anderson, Rourke, Archer, & Garrison, 2001; Arbaugh et al., 2007; Garrison, 2007; Garrison et al., 1999; Vaughan & Garrison, 2006).

Cognitive Presence: Involves critical thinking and the ability of learners to construct meaning through sustained communication (Arbaugh et al., 2007; Garrison, 2007; Garrison et al., 1999).

Teaching Presence: Examines the design of the course, discourse facilitation and direct instruction typically performed in courses where learning management systems are involved (Anderson et al., 2001; Garrison, 2007).

▶ Please ask your students to take our survey at: http://www.surveymonkey.com/s.aspx?sm=Kr_2bg9rB5uU3hngXkcB0kpQ_3d_3d



References

- [illegible]

K-12 Summer Engineering Outreach Programs – Curriculum Comparisons Between Ages, Minorities, and Genders

Andrew L. Gerhart

Lawrence Technological University, Southfield, MI



Drop test of egg carton. Package and contents inside were free of damage and a thin layer of cushioning was visible.

Summer Odyssey – Middle School Program

[illegible]

Summer Science Institute – High School Program

Personality Type	All Participants (%)	Female/White (%)	Minority/White (%)
1. High Mach, Low Agree, Low Comm	35.0	15.0	10.0
2. High Mach, Low Agree, High Comm	15.0	10.0	5.0
3. High Mach, High Agree, Low Comm	10.0	5.0	5.0
4. High Mach, High Agree, High Comm	10.0	35.0	10.0
5. Low Mach, Low Agree, Low Comm	10.0	10.0	10.0
6. Low Mach, Low Agree, High Comm	5.0	5.0	5.0
7. Low Mach, High Agree, Low Comm	5.0	5.0	5.0
8. Low Mach, High Agree, High Comm	5.0	5.0	35.0
9. High Mach, Low Agree, Low Comm	5.0	5.0	5.0



One of the solar ovens that was designed, built and



Holding a drinking straw bridge that could support his

ONLINE RESOURCE SELECTIONS

RESULTS

Folder	Hits	Percent
Syllabus	22	1.37
Course Documents	190	9.73
Assignments	604	30.57
External Links	190	19.78
Math Skills Survey	70	3.54
Shared Material	32	1.62
Course Information	92	4.68
Final Exam	6	0.31
Reflective Journals	267	16.08
Power Points	106	5.32
Math Skills Review	106	5.32
Total	1975	100%

MATH FOUNDATIONS MODULE DESIGN

- 3 students successfully completed the survey.
- 4 students participated in Math Foundations seminar.
- At this time, One learning module, topic-based general web links, and outside resources available for Math Foundations Seminar
- The 2nd Math Skills Survey administered Fall 2007, midterm
- Same 4 students successfully completed version 2 survey
- Student Feedback from required Reflective Journal
 - Indicated need for practice problems
 - Expressed need for examples of survey format before administered.

- 5 Students given preview of types of questions to be asked on Math Skills Survey.
- 3 Students attempted survey.
- 2 Students successfully completed survey.
- 1 Student participated in Math Foundations seminar.
- Non-native English speaking international student, hence primary difficulty likely to be language barrier.
- Student directed to complete Math Foundations seminar with assistance from Academic Achievement Center.

● Content Selection

- **Content Selection**
 - Developed modules based on Math Skills Survey results; for items students had most difficulty completing successfully
 - Exponential Functions, Logarithms, Trigonometry, Solving Algebraic equations, Coordinate graphing and linear equations
 - Use of real-world problems; interactivity

FUTURE PLANS

- Seminar Modules to be incorporated into the Master of Science Education Organization Blackboard site.
- MSE students may Access and Utilise Learning Modules on topics as they are addressed at any point in the program.
- MSE faculty may Refer students to Learning Modules based on difficulties. Use Survey and Learning Module format to develop topics for particular course material.

ACKNOWLEDGEMENTS

Grant proposal developed by Professor Sandra Yarema and Dr. Valentina Tobos.

ALTEX: Alternatives to Animal Experimentation 2007;24(2):91-106



© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 395–401

Griffin and colleagues (2006) found that 20 veterinary surgical students trained using plastic surgical simulators performed ovariohysterectomies on live dogs with greater skill than 20 classmates trained via cadavers. In all cases the ability to use the models repeatedly contributed to the superior surgical skills of the students who used them.

ever, in this case the probability of gastric cancer, as

over, in this case the priority result used was noted as being relevant, being more highly and often used by the group, with future paid-through occurring despite appropriate technique and tension.

While most studies mentioned short hair wearing submerses, Perle and colleagues (1996) compared the skills of 12 new graduates from the Tufts University veterinary school of 1996, who had participated in an alternative small animal medical and surgical procedures course, with the skills of 36 of their conventionally trained counterparts, via employer questionnaires. Employers reported no significant difference in the abilities of the conventional and alternative graduates in pattern common surgical techniques, but did report that the alternative graduates were more confident and self-assured in surgery, confidence in performing the listed procedures, or ability to perform when unsupervised, either at the time of hiring or 13 months later.

SEAN BARNARD, DVM, MS, DABVP

Surgery and physiology are the 2 major components of the course. Clinical

NEUROPHYSIOLOGICAL DISCIPLINES
 Several disciplines have been needed in the greatest harmful animal use during veterinary education. Disciplines other than surgery were poorly represented in studies of veterinary students.

Azbeltschik and colleagues (2002) found that a CO-RD was more effective than a live animal demonstration by an instructor of the correct method for inserting a nasogastric tube into a horse. Students using the CO-RD performed significantly better on a test of knowledge, were more confident, and were significantly quicker at successfully inserting a nasogastric tube into a live horse, than their traditionally instructed peers.

Farrow and colleagues (1990) found

Power and colleagues (1990) found that first-year university students learnt cardiovascular physiology more efficiently from interactive videodisc simulations than from the printed laboratory text, resulting in both student and staff time savings.

Studies of non-nursing disciplines from non-tertiary facilities, however, were abundant. By 2007 at least 33 papers sourced from the biomedical and educational literature, covering all educational levels and disciplines, discussed the use of computer technology for learning. Observations and anecdotal evidence on its impact on knowledge and clinical or surgical skills (www.flourishonline.com/learning/peoples.computer). In total, 90.4% (33/37) demonstrated that alternative students achieved superior learning outcomes, or additional equivalent results more quickly, allowing time for additional learning. In 1978, 1979 and 1980, *Psychological Abstracts* reviewed, many of these studies, demonstrating the effectiveness of computer-based learning. Two of the early articles (1978, 1979) were

ADVANTAGES OTHER THAN EDUCATIONAL EFFICACY

Twenty-nine papers describing humane teaching methods in veterinary education that did not involve comparisons with harmful animal use (although comparisons with non-harmful teaching methods did) were identified. The advantages of humane teaching methods in veterinary education were numerous, including: lower cost and saved savings, enhanced potential for customerism and repeatability of the learning exercise, increased student confidence and satisfaction, increased compliance with animal use regulations, increased student participation in the use of humane animal models, and greater of clinical perspectives and ethics early in the curriculum. Additional advantages include the saving of substantial numbers of animal lives, decreased student exposure to toxic chemicals used to preserve dissections, and decreased potential for conflict with students unwilling to harm animals during their education.

CONCLUSIONS


Sufficient studies have been conducted to draw some conclusions about the efficacy of humane teaching methods in imparting surgical skills or knowledge. Well-designed humane alternatives could

superior learning outcomes. Financial and time savings are important advantages when compared to traditional methods.

FURTHER INFORMATION
Detailed information about the alternatives available for various academic disciplines is provided through Ashes & Chalk (2002) and by web sites such as www.virtualclassroom.com/Alternatives.asp and www.youthaid.org.uk. Comprehensive alternatives databases, alternatives lending libraries, reviews on leading alternatives, free on-line computer simulations, and hundreds of educational studies of alternative delivery, organized by academic discipline, are also available at web sites such as www.alternatives.org and www.eric.org.

KEY REFERENCES

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 Krige, A., Bakende, J. & De Sio, J. Comparative studies of student performance: humane teaching methods demonstrate educational efficacy when compared to harmful animal use in biomedical education. www.HumaneLearning.info/papers/comparative/ Others available on request. <http://www.HumaneLearning.info>





Inorganic Biochemistry of Iron Proteins

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Purpose:
To study iron protein biochemistry from the perspective of the iron Protein = Ligand

The Iron Paradox
Iron is needed for nearly every living cell. However, iron is toxic and can produce reactive oxygen species & must be controlled.

Iron Abundance in Humans
40-60 mg in humans
70% in Red Blood Cells (hemoglobin)
10-15% in Transferrin
However, turnover of transferrin is ~10 mg / 24 hours with 80% of the Fe being transported to the bone marrow for hemoglobin synthesis.
Bacteria can also target Tf as a source of iron.

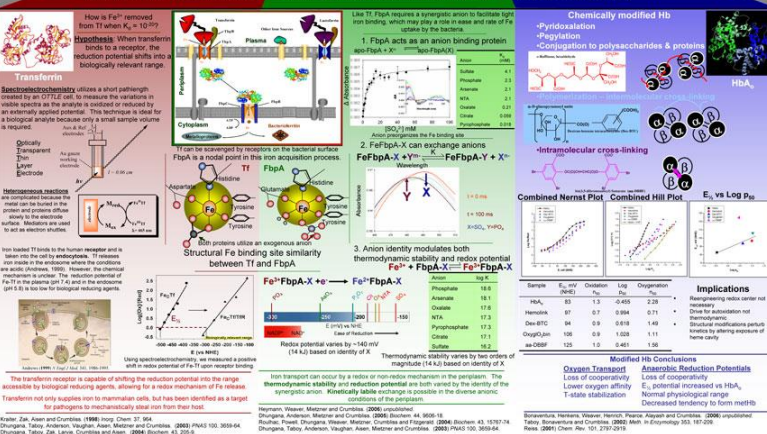
Proteins act as the 1st & 2nd coordination shell of iron and can modulate the kinetics and thermodynamics of reaction.

Techniques:
Spectroelectrochemistry
UV-Visible Spectroscopy
Fluorescence Spectroscopy
Difference Spectroscopy
Stopped-Flow Kinetics
SUPREX

TRANSFERRIN
A mechanistic study of the iron release by receptor-bound transferrin using spectroelectrochemistry

FERRIC BINDING PROTEIN
Role of a synergistic anion on modulating iron uptake in a bacterial transferrin by pathogenic bacteria: A study in kinetics and thermodynamics

HEMOGLOBIN
Effects of subunit cross-linking on hemoglobin oxidation states determined by spectroelectrochemistry



Carrier Bus for the Translife Mars Gravity Biosatellite

