



# Infographics and Knowledge Translation

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# Outline



## About Infographics

A brief introduction & history

## Infographics for Knowledge Translation

How they are used for KT

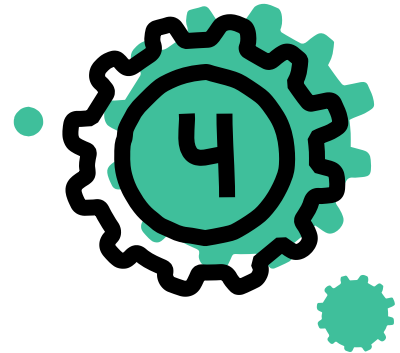


## Impact and Useability of Infographics

A proposed study

## Resources

Links to useful references and guides





# Part I

A brief introduction and history

# What's an infographic?

The image shows a YouTube video player interface. At the top, there is a search bar with the YouTube logo and a search icon. The video player itself displays a central graphic with the text "WHAT'S AN INFOGRAPHIC?" in white on a blue background. The graphic is surrounded by various infographic elements like charts, lists, and icons. Below the video player, the video title "What is an Infographic + Downloadable Templates" is shown, along with the channel name "Easelly: Infographic Design Tips & Tutorials" and a red "SUBSCRIBE" button. The video has 27,282 views and was uploaded on Sep 6, 2020. The video player controls show a progress bar at 0:02 / 1:34.

YouTube CA Search

WHAT'S AN INFOGRAPHIC?

#infographics #infographictemplates #graphicdesign

What is an Infographic + Downloadable Templates

27,282 views · Sep 6, 2020

266 22 SHARE SAVE ...

Easelly: Infographic Design Tips & Tutorials

SUBSCRIBE

<https://www.youtube.com/watch?v=Yvo-mHq1ojU>

# History of infographics

## Chauvet-Pont d'Arc Cave in France

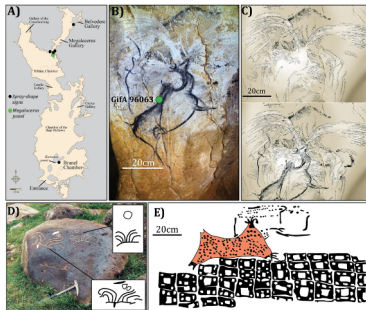
Spray-shaped images found at the Chauvet-Pont d'Arc Cave in France were thought to depict the nearby volcanoes that erupted and expelled lava into the sky.

## 1764: Joseph Priestly's "Chart of Biography"

Illustrated the lives of ~2,000 historical figures on a timeline.

Two decades later...

37,000 BC

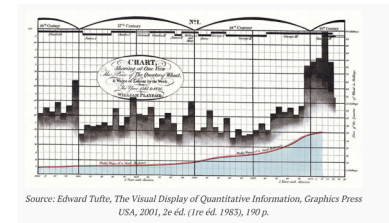


## Serra Da Capivara in Brazil

Rock art specialists propose that the rock art of Serra Da Capivara in Brazil, dating as far back as 36,000 years ago, are the origins of infographics.

18th  
Century

## Playfair; Minard; Beck



Source: Edward Tufte, *The Visual Display of Quantitative Information*, Graphics Press USA, 2001, 2e éd. (1re éd. 1983), 190 p.



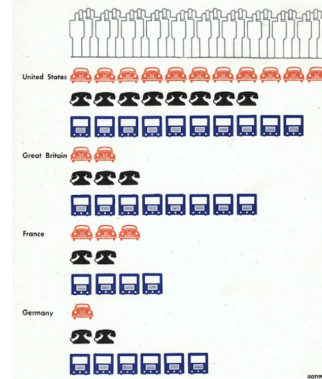
# History of infographics continued...

1920s

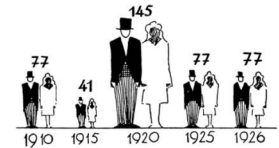


TEAM ISOTYPE : Otto Neurath, Marie Neurath and Gerd Arntz

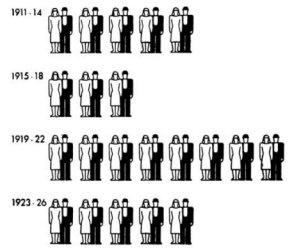
Motor Cars, Telephones, Radio Sets 1937  
per 50 population



Britain is close to America in radio sets per head, but in motor cars and telephones European countries lag far behind American standards.



Men Getting Married in Germany in a Year



1 sign for 100,000 a year

Fig. 2. Both of these example visualizations were made by Otto Neurath, a proponent of using arrays of simple pictographs to present quantitative information. The left image – published in 1937 – uses rows of pictographs to visualize the number of cars, phones, and radios in different countries. The right image – published in 1936 – shows two visualizations of the same data. Neurath insisted that stretching one pictograph (top) was inferior to stacking multiple small pictographs (bottom) [21].

# History of infographics continued...

**Harry Beck**

Made the first map of the London Tube

\*A milestone in infographic history as it proved that visual diagrams could be used for daily life.

1933

1972

**Otl Aicher**



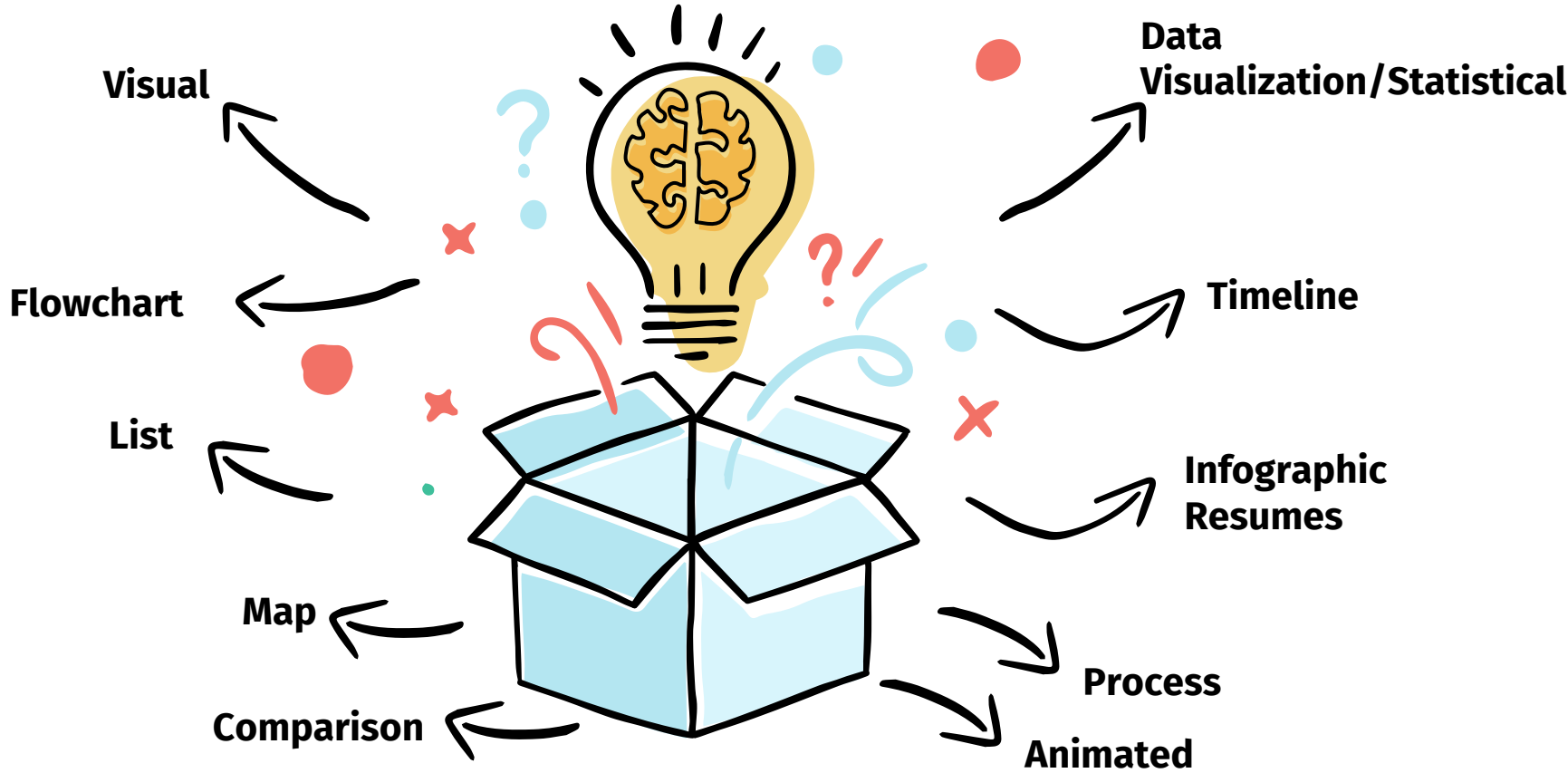
*Pictograms adopted to those of the Olympic Games 1972 in Munich, Germany symbolizing Curling, Figure Skating and Ice Hockey. Drawn by Otl Aicher, on Display at the Olympic Ice Rink*



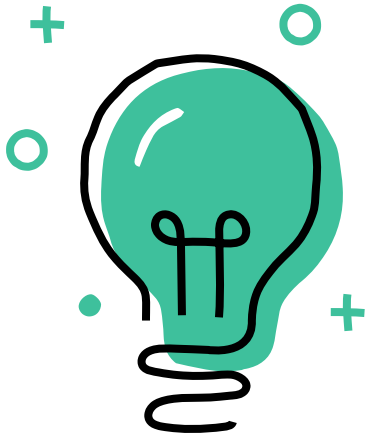


# Types of infographics

<https://www.youtube.com/watch?v=jGURUQMp3g&t=38s>



# What makes an effective infographic?

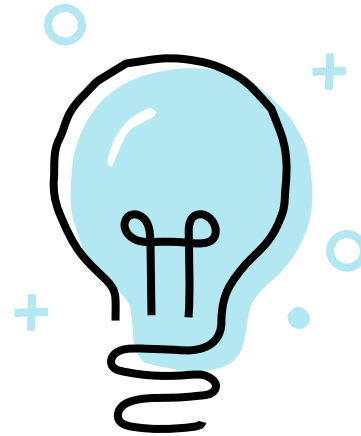


**Informational  
honesty**



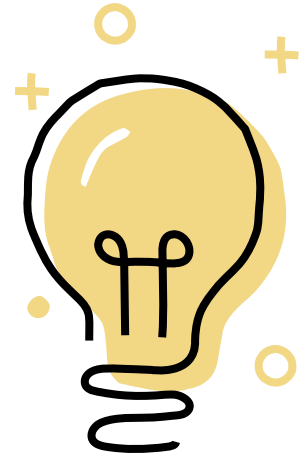
**Complexity of  
content**

Easy to read fonts,  
Limited colour  
palette, simple  
illustrations



**Consideration  
of illustrations**

Choose simple  
illustrations



**What does it  
need?**

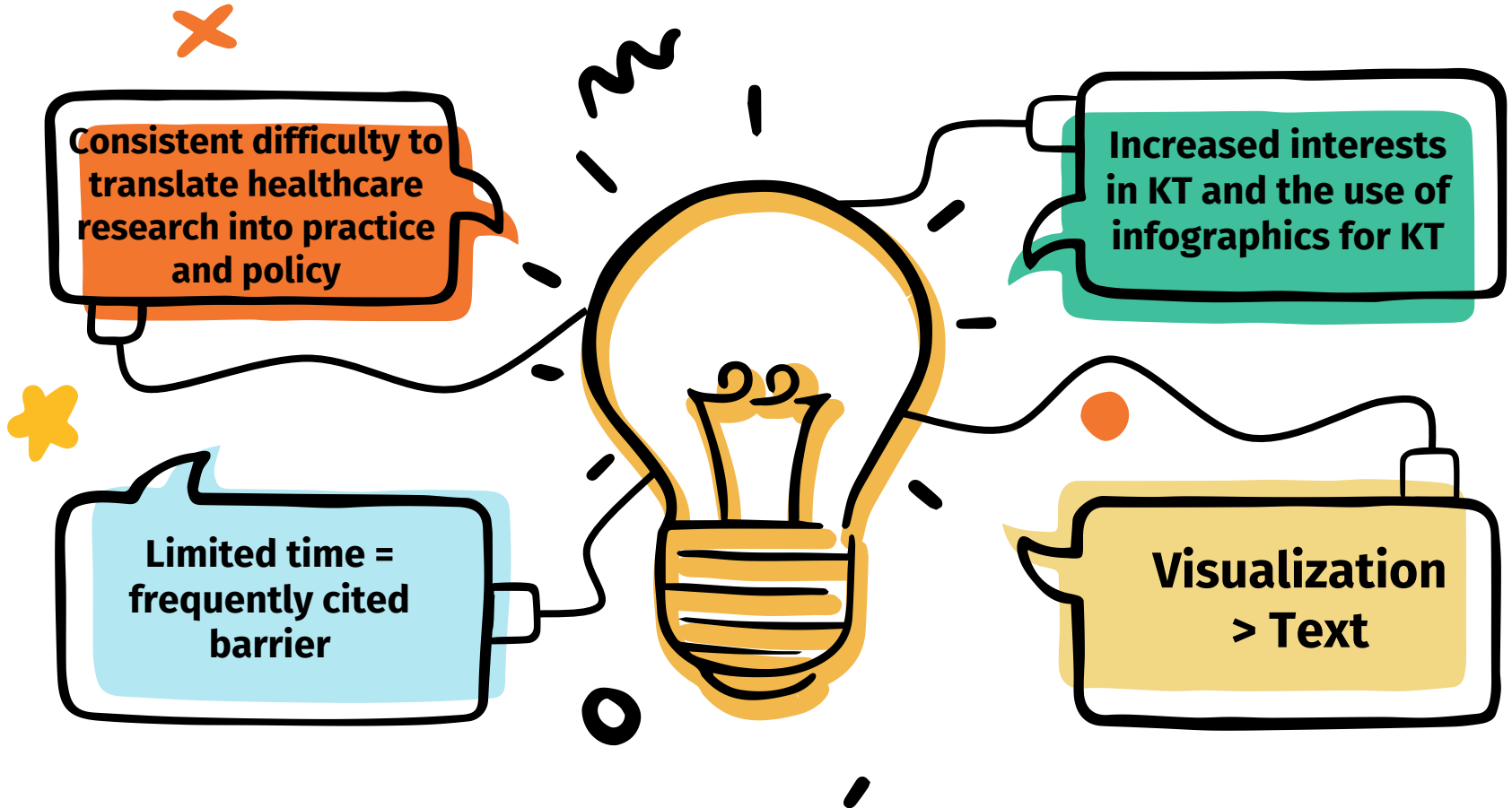
Will interactive  
elements be helpful  
or distracting?



# Part II

Infographics for knowledge translation

# Infographics for knowledge translation (KT)



# Infographics VS Critical Appraisals



Critically Appraised Topic (CAT): What drugs are effective and tolerable for treating acute migraine headaches in children and adolescents?	
Title	Drugs for treating acute migraine headaches in children and adolescents
Reviewed by	Tariq AlShawabkeh, MD
Date of review	August 2013
Question	In children and adolescents under the age of 17 with acute migraine headaches, what drugs are effective and tolerable for treating acute migraine headaches in children and adolescents?
Clinical bottom line	The primary use of ibuprofen is justified based on safety and efficacy, with triptans as a suitable choice for those in whom ibuprofen has failed.  Supporting information: These results are based on a meta-analysis of 25 randomised controlled clinical trials. Ibuprofen is a safe and effective treatment for acute migraines in children and adolescents. Acetaminophen is often used to treat acute migraines in adults, but there is insufficient evidence in one pediatric study. There is no significant difference in efficacy between acetaminophen and ibuprofen based on one small study.  Triptans as a class are also effective in the treatment of acute migraine in children and adolescents (with higher response mainly in children <12 years of age), irrespective of the route of delivery (i.e. oral or intranasal). The rate of adverse events is higher with triptans although all are considered minor (e.g. fatigue, dizziness, low energy, taste disturbances, nasal symptoms, nausea or vomiting). The choice of triptan medication may be guided by patient preference, route of delivery, palatability and familial experience. Sumatriptan may be a reasonable first choice but is not approved for use in pediatrics in some jurisdictions. Other choices are almotriptan or rizatriptan or intranasal sumatriptan and zolmitriptan.
Search strategy	Nine electronic databases were systematically searched from inception to April 29, 2013. OvidSP MEDLINE, Ovid MEDLINE in Process & Other Non-indexed Citations, Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, Database of Reviews and Abstracts, EMBASE, International Pharmaceutical Abstracts, PsycINFO, and EBSCOhost, CINAHL.
Citation	Richer et al. Drugs for treating acute migraine headaches in children and adolescents. Cochrane Database of Systematic Reviews 2005, Issue 2. Art. No.: CD005220.
Critical appraisal	<b>Population</b> Children and adolescents under the age of 17 with acute migraine headaches. <b>Interventions</b> Acetaminophen or Ibuprofen vs. placebo (2 studies, cross-over and parallel), dihydroergotamine vs. placebo (1 small cross-over study) and triptans vs. placebo (22 studies, cross-over and parallel). <b>Outcome</b> Pain-free at 2 hours, headache relief at 2 hours, and adverse events. <b>Design</b> Systematic review of randomized clinical controlled trials.
The evidence	The systematic review controlled for publication and selection bias to identify all relevant studies for the review. In addition, the a priori protocol and the methods of relevance, inclusion, and quality assessment were independent and valid. Finally, data extraction was verified and the data were pooled appropriately.  Ibuprofen was superior to placebo for both the pain-free outcome (RR 1.96, 95% CI 1.30 to 2.95, I <sup>2</sup> =0%) and headache relief (RR 1.54, 95% CI 1.18 to 2.01, I <sup>2</sup> =0%) at 2 hours.  Triptans as a class were superior to placebo for both the pain-free outcome (RR 1.35, 95% CI 1.20 to 1.51, I <sup>2</sup> =36%) and headache relief (RR 1.14, 95% CI 1.05 to 1.25, I <sup>2</sup> =66%) at 2 hours.  Sumatriptan is the reference drug in the triptan class and most frequently studied. The other individual triptan medications were not significantly superior or inferior to sumatriptan.  Minor adverse events were reported more commonly with triptans compared with placebo.  The pooled analysis of placebo response rates was 21% (95% CI 18 - 25%) for the pain-free outcome and 48% (95% CI 44% - 53%) for headache relief.

RR, Relative Risk; RD, Risk Difference; P, I-squared; CI, confidence interval.

# Preferences of knowledge users for two formats of summarizing results from systematic reviews

Preference varied by professional role, with 68% of physicians preferring the critical appraisal and 67% of nurses preferring the infographic.

No difference for comprehensibility

51% preferring the infographic to the critical appraisal

Critical appraisal > infographics on clarity

Critical appraisal > infographics on clarity

# Knowledge translation of research findings

1. What should be transferred?



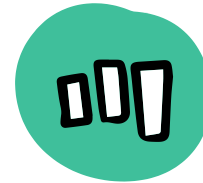
2. To whom should research knowledge be transferred?



3. By whom should research knowledge be transferred?



4. How should research knowledge be transferred?



5. With what effect should research knowledge be transferred?





# Infographics and Social Media as a KT Strategy

## Social media for rapid knowledge dissemination: early experience from the COVID-19 pandemic

A. K. M. Chan,<sup>1</sup> C. P. Nickson,<sup>2</sup> J. W. Rudolph,<sup>3</sup> A. Lee<sup>4</sup> and G. M. Joynt<sup>4</sup>

- Infographics disseminated via social media, including Twitter and WeChat and the departmental website
- Infographics were translated into 13 different languages within 10 days
- 63,440 interactions with the infographics on Twitter over a month
- Adopted by numerous reputable organizations

**PRINCIPLES\* OF AIRWAY MANAGEMENT IN CORONAVIRUS COVID-19**  
FOR SUSPECTED/REPORTABLE\*\* OR CONFIRMED CASES OF COVID-19

**BEFORE**

**STAFF PROTECTION**

- Hand Hygiene
- Full Personal Protective Equipment\*\*\*
- Minimize Personnel During Aerosol Generating Procedures\*\*\*\*
- Airborne Infection Isolation Room (if available)

**PREPARATION**

- Early Preparation of Drugs and Equipment
- Formulate plan Early
- Metabolic Artery Assessment
- Connect Wires/Bacterial Enter to Circuits and Manual Ventilator
- Use Closed Suctioning System
- Use Video Laryngoscopy (if available)

**DURING**

**TEAM DYNAMICS**

- Clear Delineation of Roles
- Clear Communication of Airway Plan
- Closed-loop Communication Throughout
- Cross-monitoring by All Team Members for Potential Contamination

**TECHNICAL ASPECTS**

- Airway Management by Most Experienced Practitioner
- Tight Fitting Mask with Two Hand Grip to Minimize Leak
- Ensure Paralysis to Avoid Coughing
- Lowest Gas Flows Possible to Maintain Oxygenation
- Rapid Sequence Intubation and Avoid Bag-Mask Ventilation Unless Possible
- Positive Pressure Ventilation Only After Cuff Inflated

**AFTER**

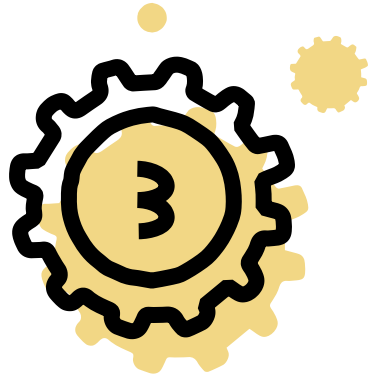
- Avoid Unnecessary Circuit Disconnection
- If Disconnection Needed, Wear PPE and Standby Ventilator +/- Cuff Tube
- Strict Adherence to Proper Segueing Steps
- Hand Hygiene
- Team Debriefing

\*Principles of Airway Management of COVID-19 may apply to Operating Theaters, Intensive Care, Emergency Department and Ward Settings. Similar principles apply to evaluation of COVID-19 patients.  
\*\*There are regional and institutional variations on definition of a suspected/reportable case. Please refer to your own institutional practice.  
\*\*\*Personal Protective Equipment according to your own institutional recommendations. May include particular Respirator, Cap, Gown Protection, Long-sleeved Waterproof Gown, Gloves.  
\*\*\*\*Aerosol Generating Procedures: Tracheal Intubation, Non-Invasive Ventilation, Tracheostomy, Cardiopulmonary Bypass, Manual Ventilation before Intubation, Bronchoscopy, Open Suctioning of Respiratory Tract

References:  
1. World Health Organization. Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected. Interim guidance. January 2020.  
2. Center for Disease Control and Prevention. Interim Infection Prevention and Control Recommendations for Patients with Confirmed 2019 Novel Coronavirus (2019-nCoV) or Person Under Investigation for 2019-nCoV in Healthcare Settings. February 2020.

Disclaimer: This infographic is used for informational purposes only, and is not intended to replace institutional policy. Please refer to your own institutional guidelines for appropriate recommendations. © Department of Anesthesia and Intensive Care, Prince of Wales, Hong Kong. All rights reserved. [igsmexchange.com](https://www.igsmexchange.com)

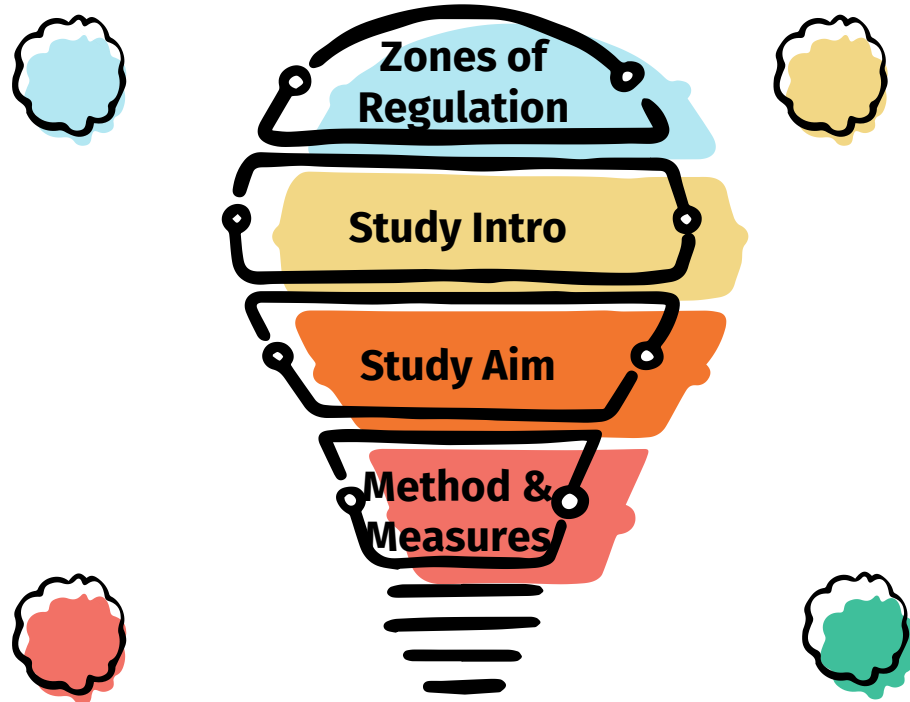
Version 1.0 Feb 2020



# Part III

Impact and useability of infographics

# Impact and usability of infographics amongst teachers introduced to the *Zones of Regulation* program



# The **ZONES** of Regulation<sup>®</sup>

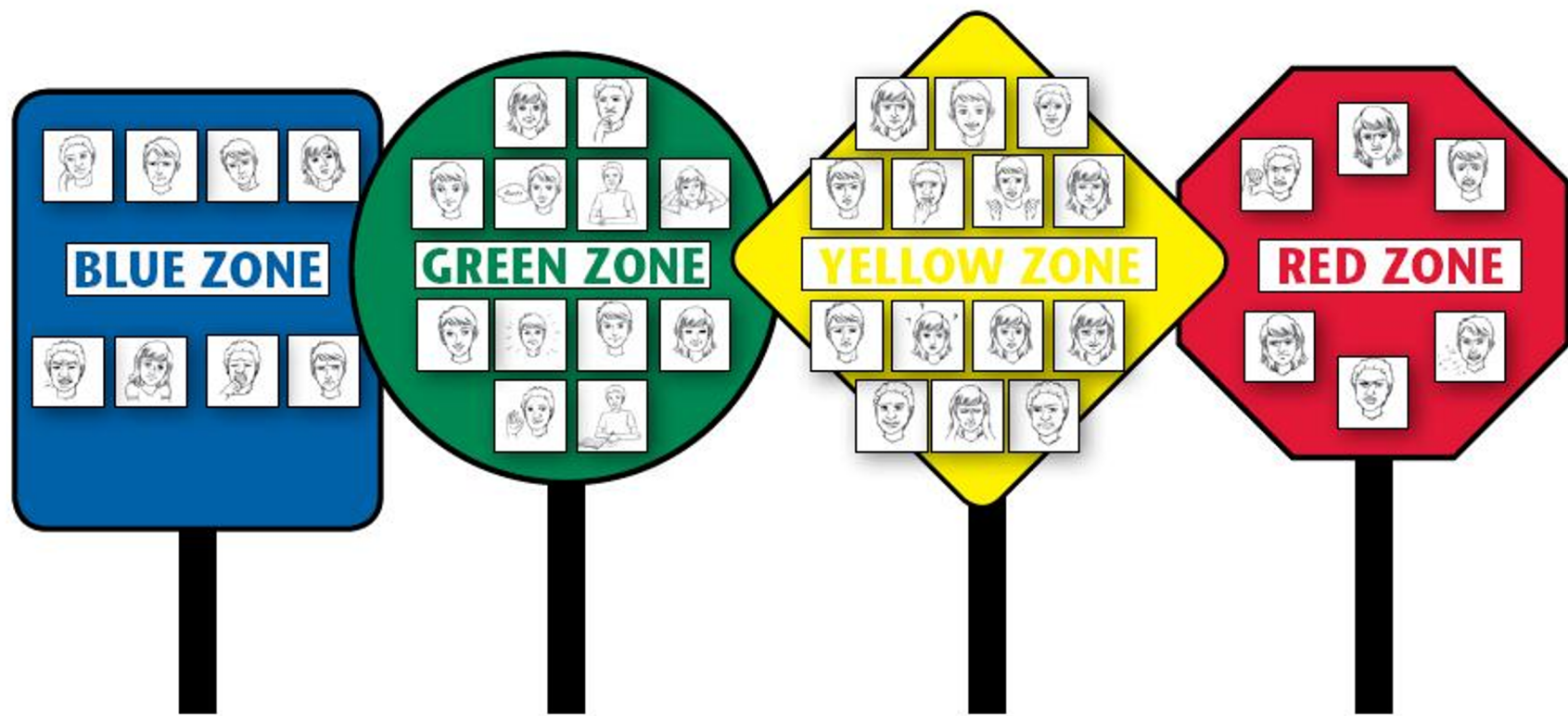
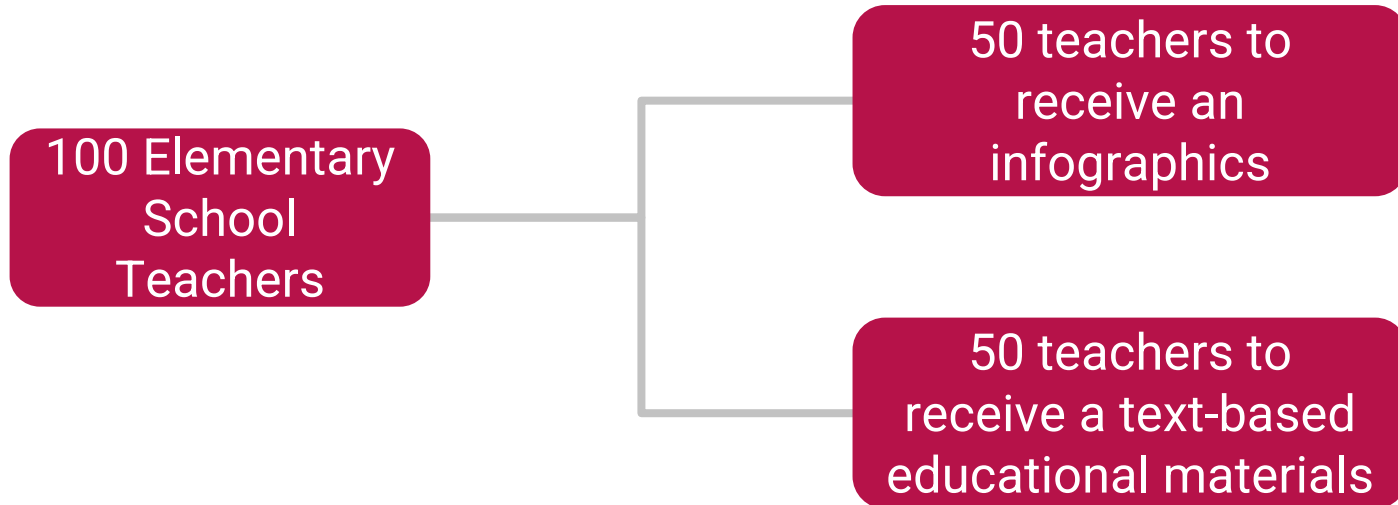


Figure 2: Wall Posters of the Zones

# Introduction & Study Aim

- Aim: to examine the *impact* and *usability* of infographics relative to text-based educational materials in promoting teachers' knowledge and confidence in the *Zones of Regulation* program.



# Method & Measures



**Impact**

**Survey:** Understanding of emotion regulation difficulties among children and the Zones of Regulation program, confidence in using the program in the classroom

**ANOVA**

**Impact & Useability**

**Useability**

**Qualitative interviews:** How easy the information is to understand, time it took to understand the material, content and format of the materials

**NVivo thematic analysis**

# Expected Outcomes and Impact

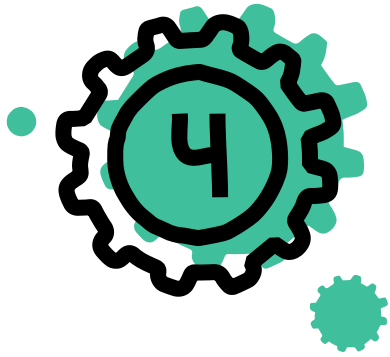


**Infographics**

>



**Texts**



# Part IV

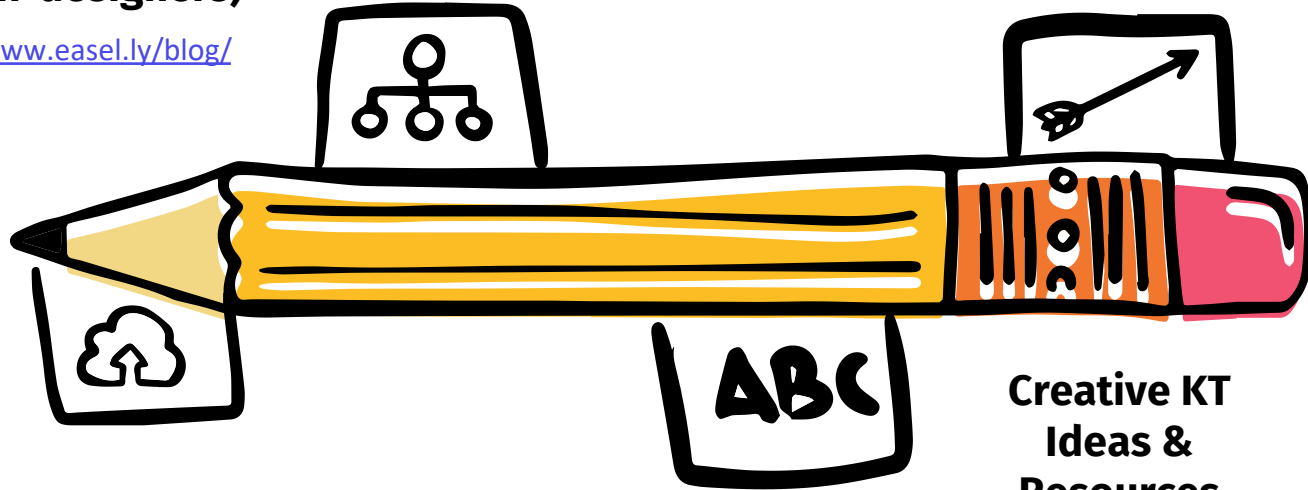
Resources



# Helpful links and resources

## Making infographics (for non-designers)

<https://www.easel.ly/blog/>



## Creative KT Ideas & Resources

<https://ktpathways.ca/system/files/resources/2019-02/if-res-mhr-creative-kt.pdf>

# References

Chan, A. K., Nickson, C. P., Rudolph, J. W., Lee, A., & Joynt, G. M. (2020). Social media for rapid knowledge dissemination: early experience from the COVID-19 pandemic. *Anaesthesia*, 75, 1579-1582.

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(n.d.). Retrieved from [http://www.designhistory.org/Symbols\\_pages/isotype.html](http://www.designhistory.org/Symbols_pages/isotype.html)



**Thank you!**