Theme 3 - Posters: a forgotten learning and communication approach

Structure of this theme

Learning objectives

Educational posters: a first overview

Learning objectives you can pursue by having posters made

Examples of posters

Design guidelines for educational posters

The potential impact of educational posters

A checklist for evaluating educational posters

Your assignment for this theme

Planning

Literature references

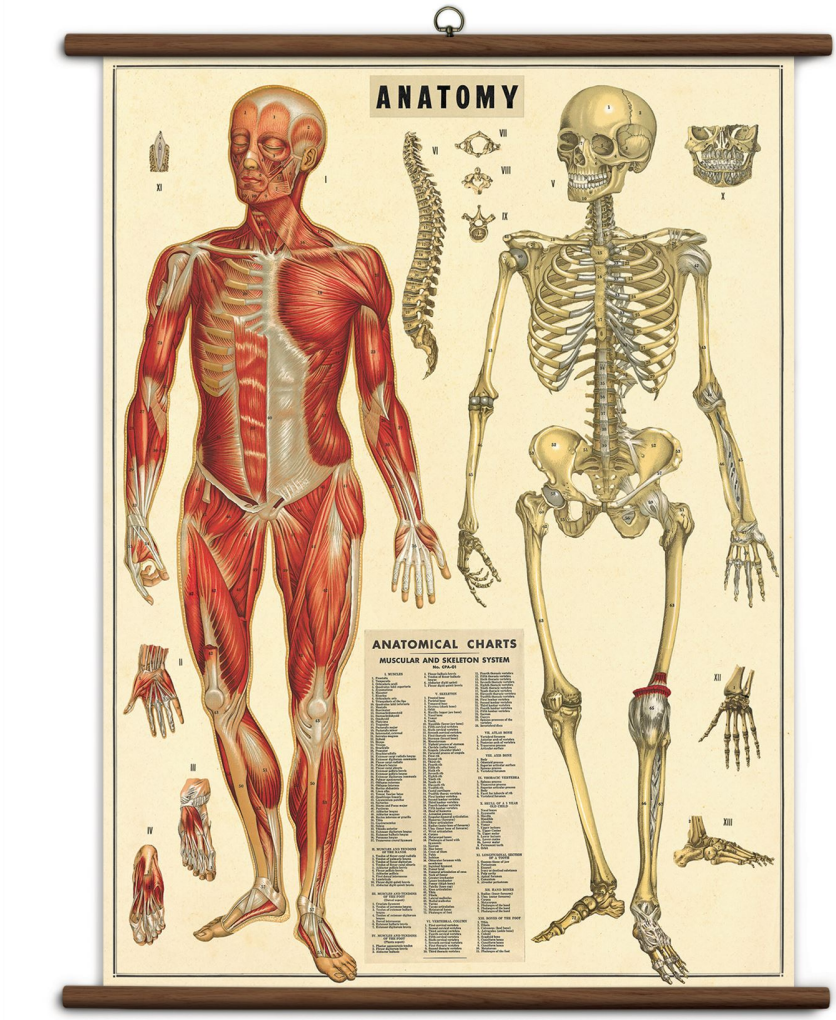
Learning objectives

After studying this theme, you master the following learning objectives:

- Acknowledging the position of posters in 21st century higher education
- Linking poster design to the learning objectives of your own course
- Explaining the key design principles of an educational
- Evaluating the educational value of a poster

Educational posters: a first overview

Posters are part of the "heritage" of education. Besides the use of a bllackboard (with the slate as a precursor), the use of posters goes back a long way. Sometimes those posters were referred to as wall charts. Nowadays, we often use the word infographics to refer to these posters. Since the 18th century, these wall charts have been seen as the solution to make education more "visual" (De Buck, 2015). You can see the visualization principle as a precursor to what cognitivists emphasize as the importance of "multiple representations". Typical wall charts showed historical situations, geographic phenomena, images in medicine, veterinary sciences, technology, mathematics, physics, chemistry ...

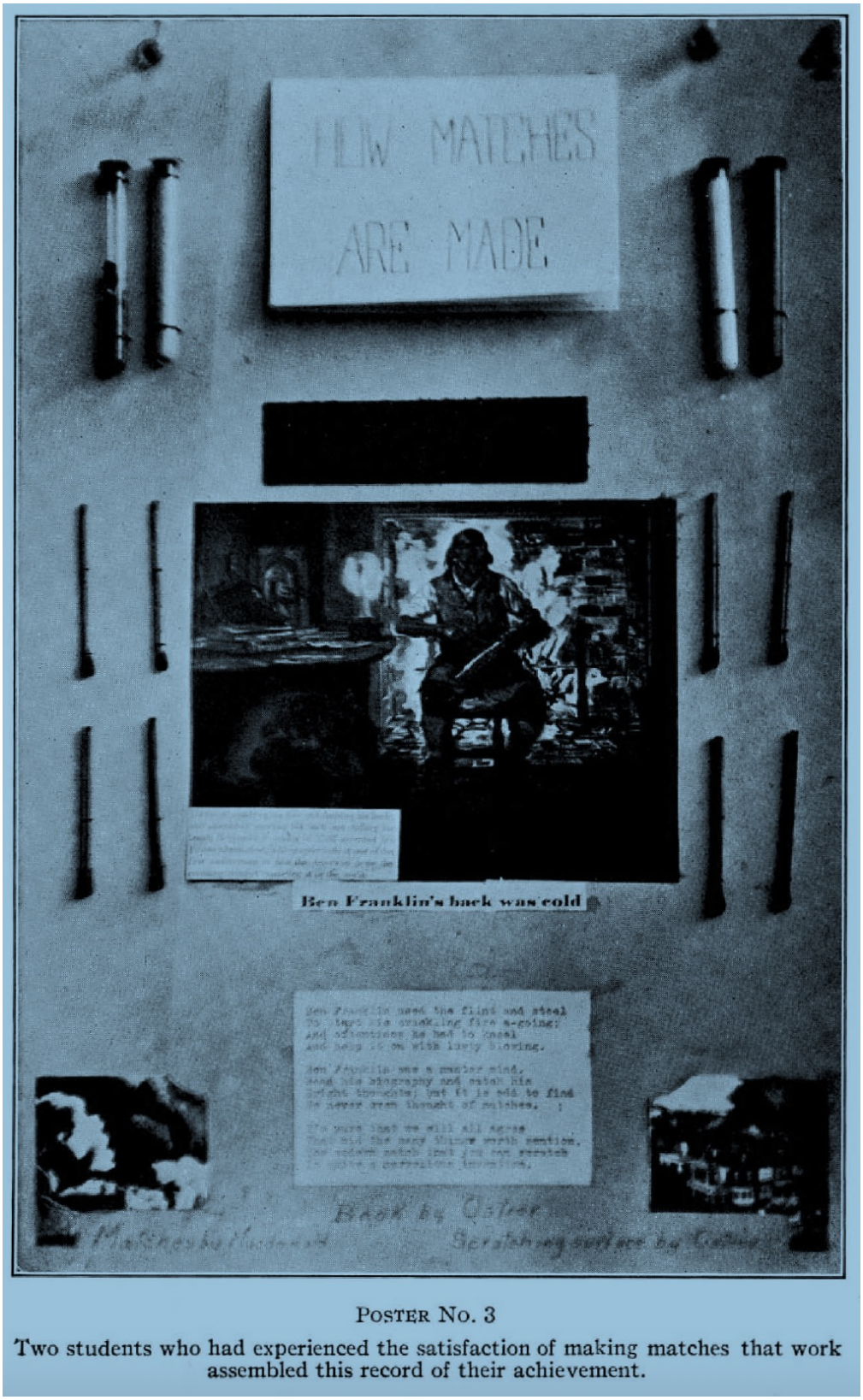


Examples of some historic educational posters found in lecture halls and labs (browse eBay and you will find many on offer)

The development of color printing, the introduction of full-color handbooks and the use of multimedia, whereby the students themselves can search, download and edit images (static and dynamic) themselves via the Internet…. Made that the importance of the classic wall plates has disappeared. They have become museum artifacts. For example, you will find a collection of 4,583 historical wall pictures in the 'School van Toen' in Ghent. And in a Dutch collection you will find more than 10,000 wall plates (http://www.collectiontrade.nl/cms/index.php?page=shop.browse&category_id=1012&option=com_virtuemart&Itemid=35).

But those "classic" wall charts hide a different kind of use of posters that is less known and underexposed in literature and classroom practice: having students design and develop posters themselves. In this third theme we look at this type of poster use. This does not prevent posters from also having a decorative value and ready-made posters can also still play a role in learning processes. But in this theme we do not consider that specific role. What we also don't cover in this theme are posters that aim to emphasize a specific idea and where one slogan and image are central. These posters also have a possible "learning" value (eg promotion of safe traffic, healthy food, reading more, tolerance, non-bullying…).

The following article by Stone (1929, p. 1535) contains early examples of how students collect and document chemical elements through a poster (ibid, p. 1538): "How matches are made". With the explanation: “The central picture shows Benjamin Franklin sitting with his back to the fireplace where the flames of the wood fire are dancing. Below are shown three short verses setting forth that Benjamin had to use flint and steel to start his fire since matches were then unknown, and concluding with the triumphant assertion that "" The common match that you can scratch is quite a marvelous invention. " Above the picture the producers of the poster have mounted a little book describing how they made their matches and the accompanying striking surface. Around the center are arranged tubes containing the different materials used in match manufacture and there are also shown a number of the matches made by the pupils. ”



POSTER NO. 3

Two students who had experienced the satisfaction of making matches that work assembled this record of their achievement.

Figure 2. Students designing posters (Stone, 1928, p.1535-1538).

The development of color printing, the introduction of full-color handbooks and the use of multimedia, whereby the students themselves can search, download and edit images (static and dynamic) themselves via the Internet…. Made that the importance of

the classic wall plates has disappeared. They have become museum artifacts. For example, you will find a collection of 4,583 historical wall pictures in the 'School van Toen' in Ghent. And in a Dutch collection you will find more than 10,000 wall plates (http://www.collectiontrade.nl/cms/index.php?page=shop.browse&category_id=1012&option=com_virtuemart&Itemid=35). But those "classic" wall charts hide a different kind of use of posters that is less known and underexposed in literature and classroom practice: having students design and develop posters themselves. In this third theme we look at this type of poster use. This does not prevent posters from also having a decorative value and ready-made posters can also still play a role in learning processes. But in this theme we do not consider that specific role. What we also don't cover in this theme are posters that aim to emphasize a specific idea and where one slogan and image are central. These posters also have a possible "learning" value (eg promotion of safe traffic, healthy food, reading more, tolerance, non-bullying…). The short descriptive explanation already shows that the poster is an output of a process that leads to the poster. The learning effect is therefore best found in the nature of the design and development process. As effects, Stone indicates that he is concerned with the application of knowledge, the development of "interest" and a motivation effect for students who are normally less likely to attend classes.

The examples given so far are very close to illustrating settings, situations, events, objects... But there are early examples of use in abstract knowledge where reasoning is central (cause-effect, explanations, comparisons...). For example, Bell (1928) encouraged her students to make posters about how chemical processes can tackle the production of harmful smoke in factories or how chemical waste can be processed, how to fight fire by applying chemical processes or explain the operation of pesticides in rat extermination. Interestingly, Bell also explicitly states that you can use the poster activity to support the application of chemical knowledge (see Bloom), but that posters can also be used to test things out.

Figure 3: How does science help to prevent smog? (Bell, 1928, p.160).

Conyers (2003) also emphasizes the role of posters in assessment processes. As an example, she gives the development of posters at the end of a series of lessons on wound care. The students then worked out posters in which they summarize the core of the lessons, substantiate them with sources, illustrate them with photos and drawings. The students could choose which topic they would like to tackle from the series of lessons. A poster session followed after the

posters were developed. For the evaluation, emphasis was placed on criteria such as correct interpretation of information, organization of the information, relevance of the images and reference to original sources. Berry and Houston (1995) apply this in their mathematics lessons where students develop posters in the mathematical modeling lesson (eg in mechanics). In their research article they list the following learning objectives (ibid, p. 24):

- to encourage clear and concise thinking in mathematics;
- to provide opportunities for cooperative learning and discussion;
- to develop learning through peer-tutoring and self, peer and tutor assessment;
- to enhance communication skills;
- to introduce aspects of professional practice.

What is striking is their emphasis on "communication-oriented" learning goals, in a less obvious knowledge domain such as mathematics.

It makes sense to use posters when pursuing creative goals. Hasio (2015) had pupils develop posters that were then hung in the school and / or class. As a learning effect she refers to (ibid, p. 43): “Overall, the knowledge and skill outcomes reflected a higher level of processing and student learning. Students expressed themselves clearly and logically through their creative posters and demonstrated competence in problem-solving. They were also able to use their concepts to engage in self-reflection through class critiques and recognize that there were social, historical, and theoretical perspectives linked to their creativity. ” She also refers to embedding in a culture: “There is cultural significance for using creative posters in the classroom; like advertising the posters operate on a cultural level to provide symbolic associations between images, media figures, and values related to the student's lifestyle ”.

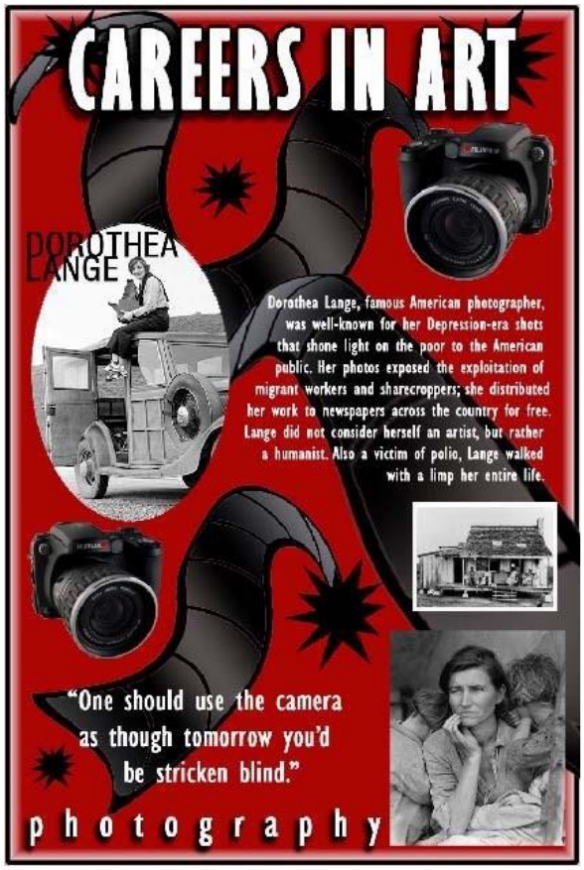


Figure 4. Student describing his/her future job as a photographer and how this supports her social engagement (Hasio, p.42).

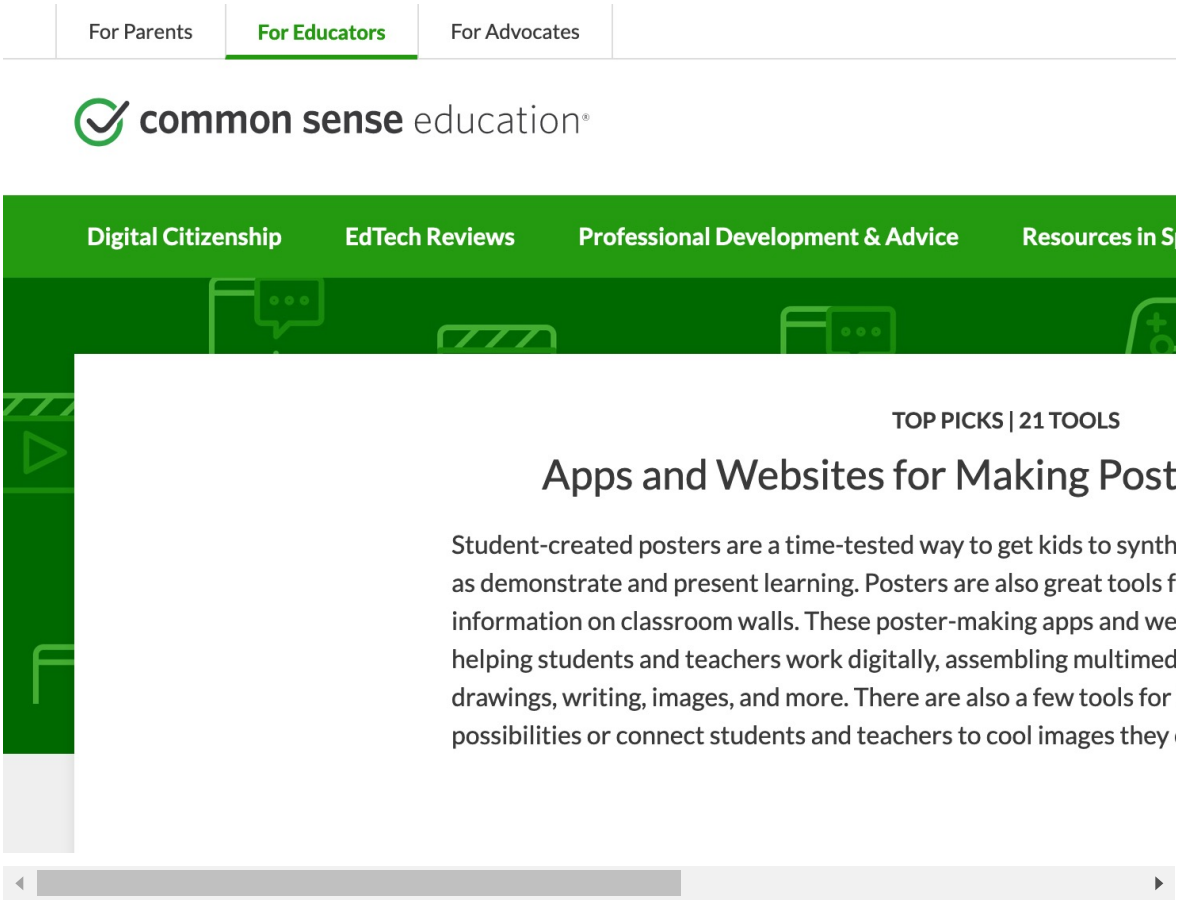
In another example, DeCapua and Marshall "(2019) use English to speakers of other languages in the USA (referred to here as SLIFE: students with limited or interrupted formal Education). The posters are recreated by the students with the aim of: “students create and share a poster with information comparing and contrasting electoral votes in those two states. As SLIFE are accustomed to sharing responsibility for learning among others, the teacher adapts to the students by making this a pair-work activity. Together, students compare and contrast the two states: their electoral votes, populations, and other facts they choose to research. The final condition for learning that SLIFE are used to — oral instead of written transmission — is also attended to by the teacher because students present their pair-work together on a poster to their classmates. ” You notice how the posters play a role in different stages of the learning process. The emphasis is on tracking down information about election results, comparing, looking for statements… The posters here fit into a process that is sometimes referred to as "inquiry learning". In the field of learning foreign languages, we also find poster use in Çetin and Flamand (2013). They had students

make posters to support their English vocabulary. You will find a similar approach with Aksyanova and Ostrovaya (2015). They used advertising posters.

In another example, we look again at a less obvious knowledge domain: healthcare. Duchin and Sherwood (1990) had students develop posters that were then used in a poster session. Carter (2012) emphasizes how this aims in scientific settings (conferences, symposia) to create a story and network in 5 to 10 minutes. The focused, summary, condensed, integrated… layout of a poster places high demands on its design. And there lies the learning potential that we want to pursue with posters (ibid, p.314): “Designing a scientific poster is thereof a bit a balancing act. Your challenge is to present as much information as possible in as few words a possible using visual aids designed to complement you, yet that can be understood without your presence. ” And with a final example, we return to the sciences. Hay and Thomas (1999) had students make posters in biology. In their article they highlight a wide variety of learning objectives (ibid, p. 209):

- add variety, new challenges, and diverse assessment to the course being taught (Billington, 1997);
- stimulate literature searching experience (Mulnix and Penhale, 1997);
- provide opportunities to practise skills in condensing information (Sweeney, 1984);
- promote critical thought (Hinzmann, 1996);
- encourage student-staff interaction (see Howenstine et al.,1988; Rush et al., 1995).

The former paragraphs sound a little bit 'dated' and might reflect an old-fashioned perspective. We wanted to reiterate the 'historyt' behind posters, but in th next sections we will emphasize how alive and kicking 'making posters' is as an educational strategy in higher education. At least let you explore the multitude of tools and apps nowadays available for you and students to develop posters (https://www.commonsense.org/education/top-picks/apps-and-websites-for-making-posters-and-collages).



Learning objectives to be attained by developing posters

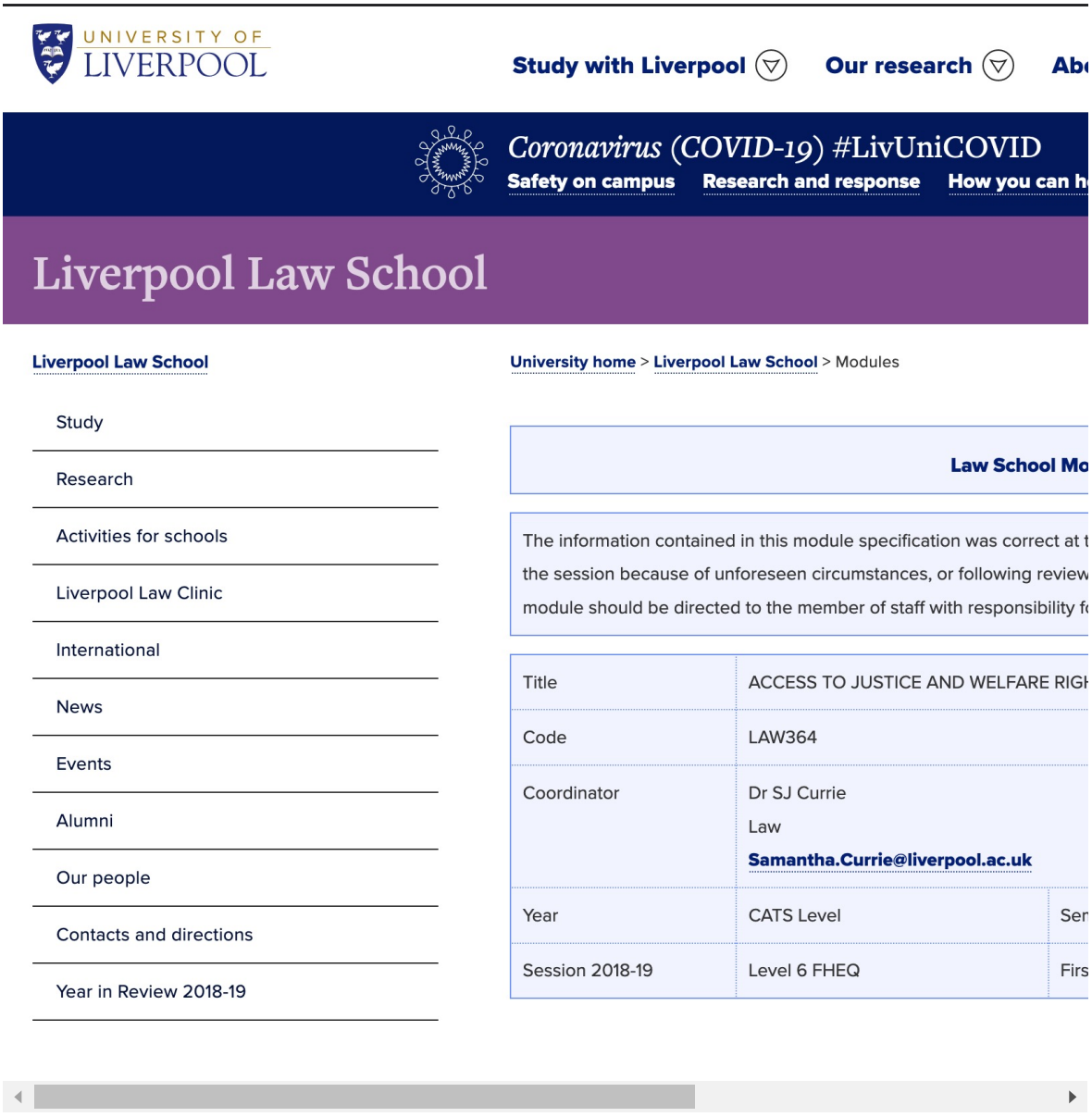
The examples in the previous section give a first idea of which learning goals you can pursue by having students develop posters. But we find a lot of other examples (check: https://poorvucenter.yale.edu/ImplementingPosters):

- brainstorming
- summarizing ideas, texts, books,
- developing a concept map for a complex theme
- description of a troubleshooting approach
- visualization of a process

- timeline for events, historical events,
- table
- venn diagram to map similarities and differences
- ...

The list of examples emphasizes here in addition to declarative knowledge (facts, concepts, structures, theories…) also strong emphasis can be placed on procedural knowledge (processes, approaches, step-by-step plans…). You will find them in all knowledge domains, so posters are quite universally applicable. However, many of the learning objectives will only be achieved when the posters are used in a broader learning and instruction process, thus involving preparatory activities and the posters being used in individual, group or classroom activities.

To give you an idea how university teachers use poster sessions and poster development as part of their teaching an learning strategies, check out the website of Liverpool University, School of Law (https://www.liverpool.ac.uk/info/portal/pls/portal/tulwwwmerge.mergepage?p_template=m_lw&p_tulipproc=moddets&p_params=%3Fp_module_id%3D77410). The website includes the specific learning objectives being pursued.



Examples of posters in higher education

Check out these examples of posters developed by students in higher education

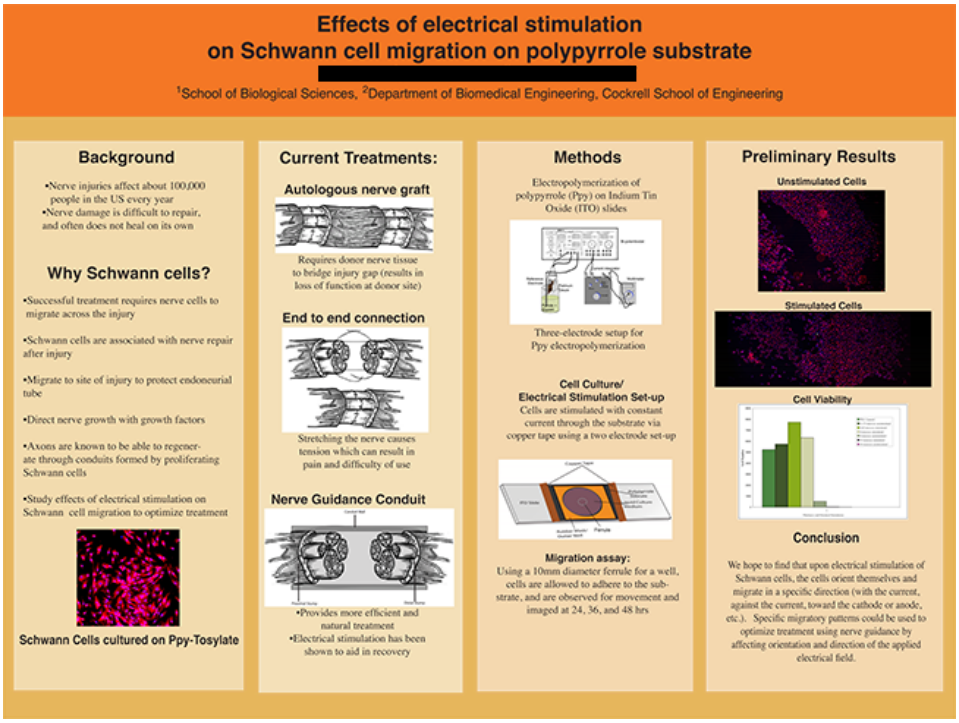


Figure 1: Check out this example from Texas University and read also the comments and feedback in relation to this and other posters (https://ugs.utexas.edu/our/poster/samples).

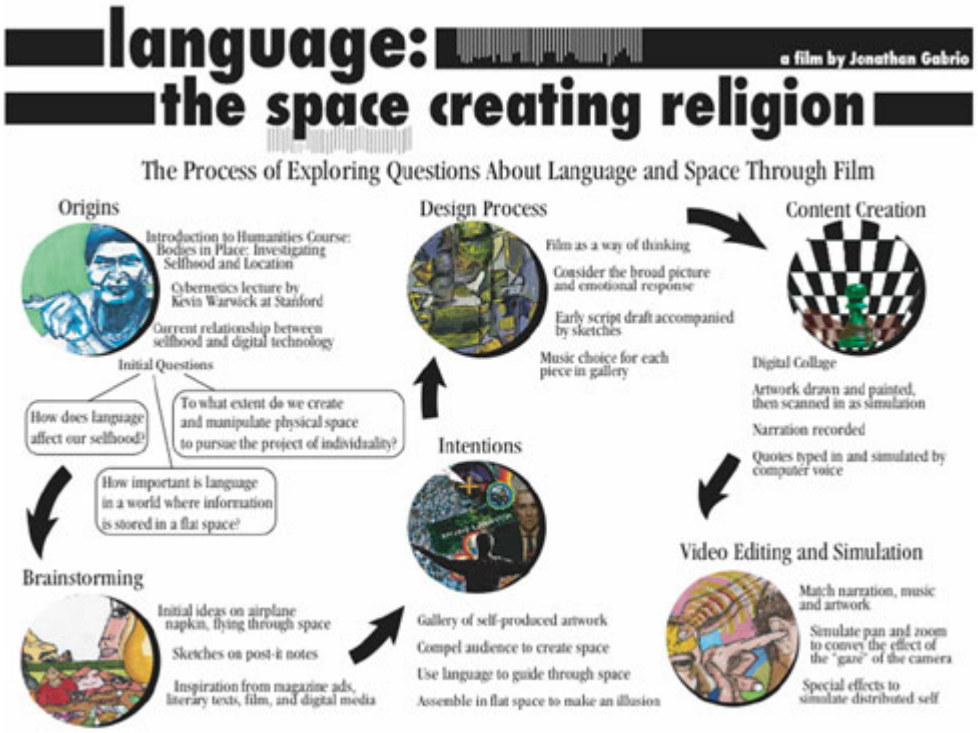


Figure 2: An example from the knowledge domain of 'religion' from Stanford University (https://web.stanford.edu/dept/undergrad/urp/SURP/surpawards04/pages/gabrio.htm).

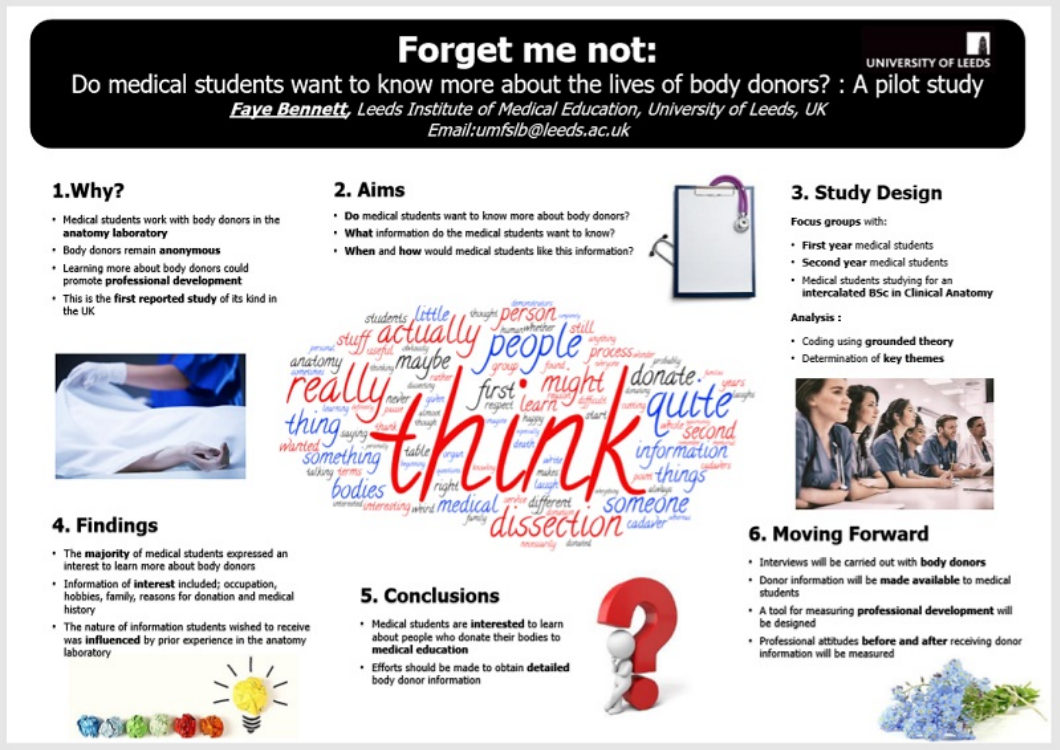


Figure 3: Example from the medical education domain (https://library.leeds.ac.uk/info/1401/academic_skills/196/presentations_posters/4).

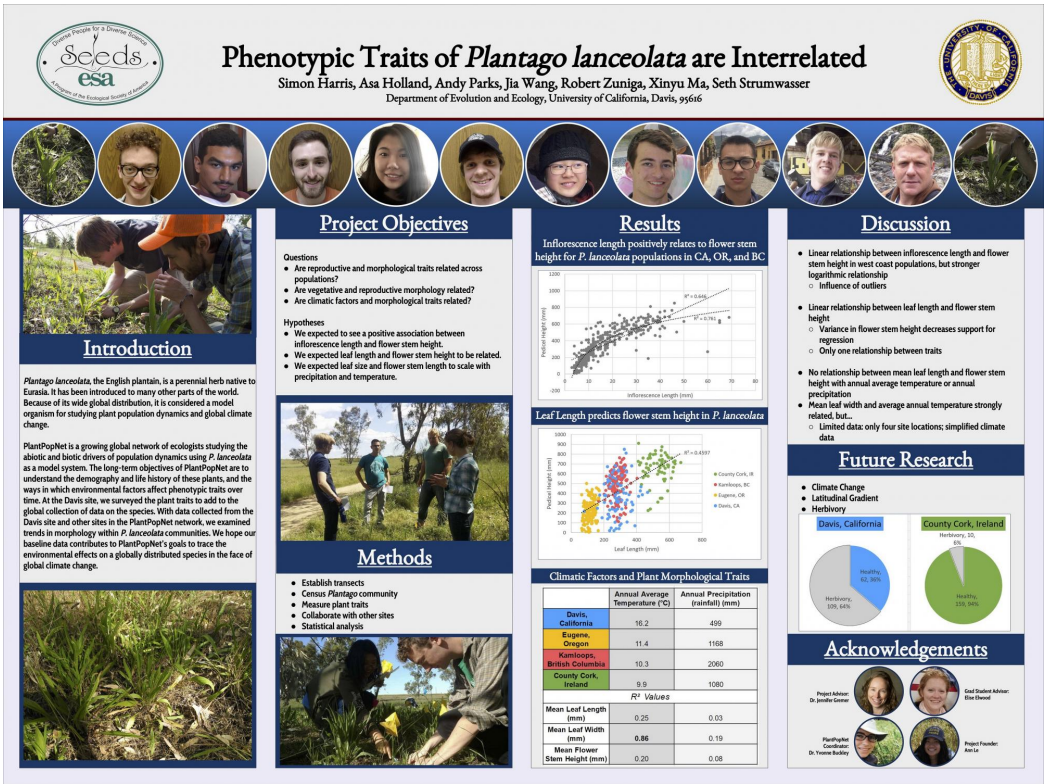


Figure 4: Group poster developed in view of the course Evolution and Ecology at the University fo California

(https://urc.ucdavis.edu/photo-galleries/uc-davis-academic-posters#&gid=1&pid=14).

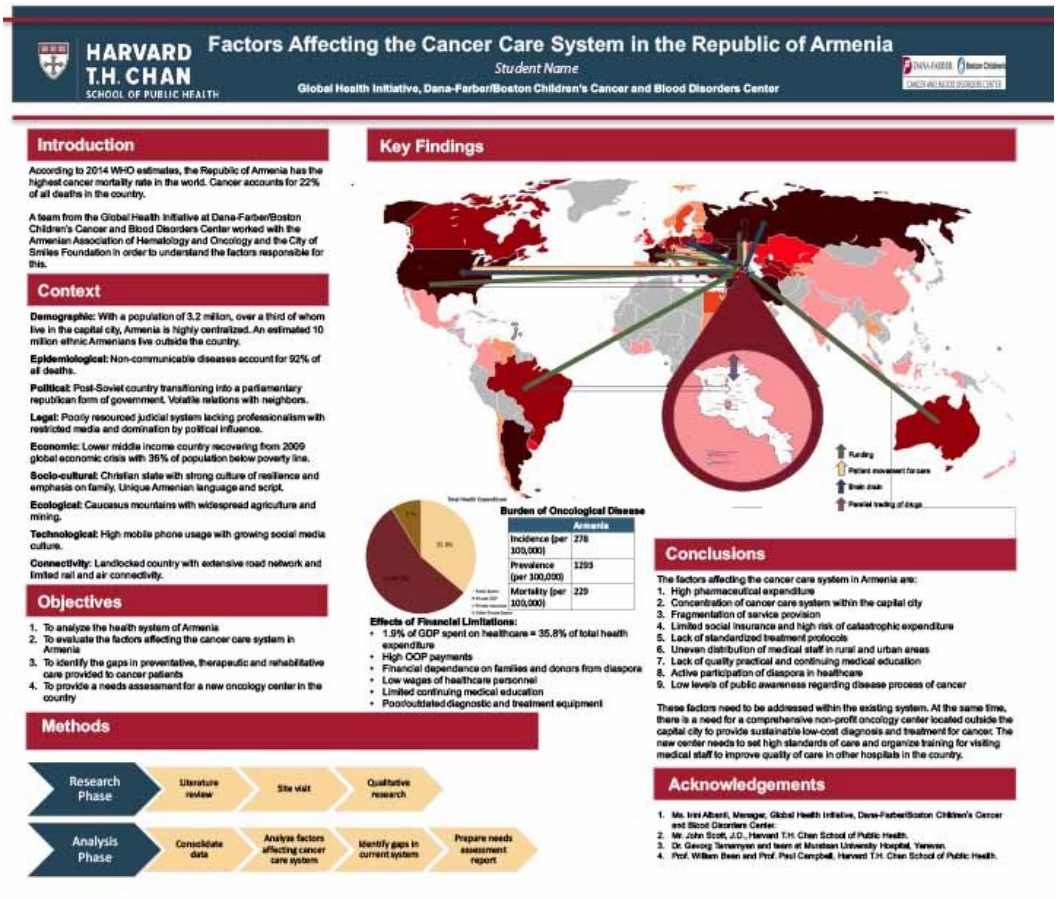


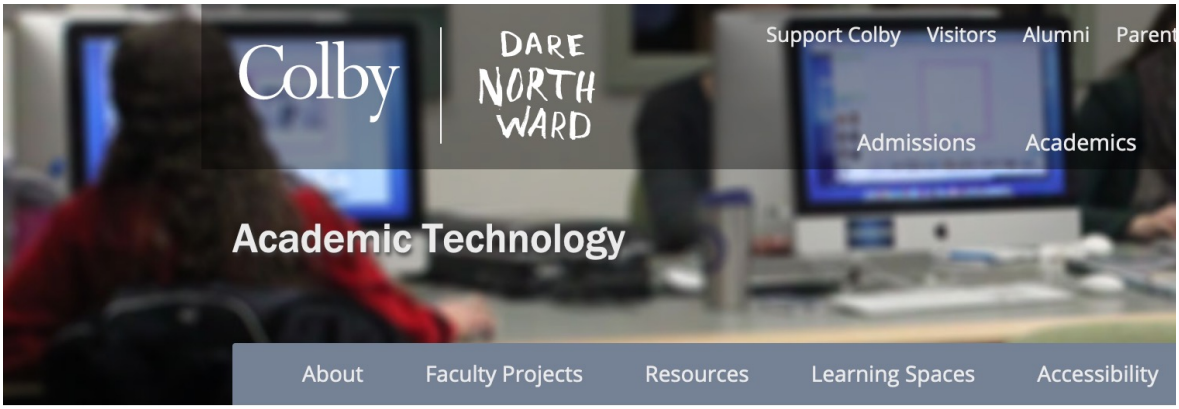
Figure 5: Examples from Harvard University, School of Public Health (https://www.hsph.harvard.edu/public-health-practice-resources/for-students/resources-for-practicum/communicating-your-practice-experience/student-posters/).

Figure 6. This example is taken from a research article where posters are used as an educational strategy in an English as a Foreign Language course (505-1502846032.pdf).

Design guidelines for educational posters

Tools to design and develop posters

Explore the following website to guide student's work on posters (https://www.commonsense.org/education/top-picks/apps-and-websites-for-making-posters-and-collages)



Student Academic Poster Guidelines

Need help making an academic poster? You've come to the right place!

(Please refer to this page if you are looking for help with submitting and printing your poster)

Purpose

A poster is a visual summary of your project. Therefore, it should not dwell on details but rather present the big picture, preferably by graphs and images more than text. A poster thus usually explains the context, significance, method, findings, and conclusions of your project.

Design guidelines

The number of lists with guidelines to develop academic and educational posters is 'endless'. But we give some selected examples. At the end of this sectiuon, we will integrate all the guidelines in view of the checklist that will be used in view of the task related to this theme.

Hay and Thomas (1999) stress the following poster design guidelines:

Table 1 Five principles of poster production

Attention-getting	Does the poster make a good first impression? Does it grab th layout, colour, title, and other devices. Getting audience atter
Brevity	The poster should make its point(s) concisely
Coherence	An effective poster makes a logical, unified statement requiri accessible to the intended audience and must be capable of 's
Direction	Over-complicated posters discourage and confuse readers. Th
Evidence	The argument must be supported by accurate, referenced evi

Figure 1. Design principles for posters (Hay & Thomas, 1999, p. 210).

Berry and Houston (1995) supplement this with the following criteria in their math posters: is there a logical structure of the poster? and is that "common thread" visually supported? are there any meaningful titles? Is the central title attractive, catchy, motivating to read the poster are the illustrations meaningful (instead of purely decorative); they are attractive to attract attention is the problem clearly outlined? is everything sufficiently compact, concisely elaborated? the illustrations are meaningful and not merely decorative is / are there any conclusion (s) provided?

Duchin and Sherwood (1999, p.206) additionally emphasize the language being used:

- is the title no longer than 10 words?
- does the language use suit the target audience?
- is the target audience familiar with the symbols, abbreviations, jargon used?
- is all recorded content necessary to convey the "message"?
- is unnecessary repetition avoided?
- is a visual language also used with a mix of text, photos, graphs, tables,…?
- is there a "way" to get even more information?

With regard to the latter, poster developers sometimes put a short text next to a poster. Others provide a QR code with which you can download the poster and / or additional information (see additional explanation via https://www.qr-code-generator.com/qr-codes-on/posters/). A link to the website, the CV of the "author" of the poster also fits.

Authors often put forward hints and advice on the use of color, fonts (fonts), font size, aesthetic effect. In Hay and Thomas (1999) you will find a first list of such technical advice. You can download the article here; read the pages starting on p.211. Pay attention. That article mainly looks at advice on a "scientific" poster. That is why a lot of attention is paid to components that typically belong to the reporting of scientific research (introduction, materials, method, results section…). Of course this is less important if the poster fits in

another knowledge domain. However, it is in any case important to choose a structure that fits your knowledge domain. Hay and Thomas's structure is their "common thread". So choose or have a structure chosen that suits your knowledge domain and learning goals. A final piece of advice from the authors looks at "composition". They suggest a 3 x 3 grid hidden underlying pattern. Then think about what the starting point is at this grid: from left to right from the center to the outer frames You can enhance the use of the grid by adding lines and / or arrows.

We go towards the end of this section on design guidelines by referring to the article by Hubenthal, O'Brien and Taber (2011). Striking in their approach is that they put forward design guidelines based on a theory; in this case the Cognitive Theory of Multimedia Learning (CTML van Mayer, 2009). This theory emphasizes that everyone processes information through different sensory channels at the same time; eg reading text and watching animations; view visual cues and process text. In their framework they emphasize a range of design guidelines that shift along three dimensions:

- the aesthetic dimension
- the cognitive dimension
- the protractive dimension

You recognize the criteria for *the aesthetic dimension*, because they relate to the use of color, use of images and layout in which the flow (structure, coherence, sequence) is central. Along the *cognitive dimension,* the authors emphasize the link with the learning objectives / curriculum; extent to which the reader / viewer is questioned, challenged? The extent to which explicit learning objectives are central so that a central idea emerges? Is there a balance between text and graphics that enhances the content of the message? Are the graphic elements interrelated? In the *protractive dimension*, the authors emphasize the "continuation" after using and / or viewing / experiencing the poster. The QR code mentioned above is an example of this; you can therefore retrieve additional information.

Power	Design Elements	Description	
Attractive	Aesthetics	Visual appeal of the poster including; artistic design, color pallet, layout, overall size, print quality, etc.	- Encourages tea - Contributes to - Attracts studen
	Curricular Connection	Explicit and intentional connections to the curriculum including; broad overarching themes, process skills or individual content chunks	- Posit ions poste a "sciency" cla - Encourages tea rotate with topi - Affords both di topics currently
Cognitive	Invitation to Inquiry	Uses cognitive learning theory to attract and engage learners in a minds-on way (e.g. title as question, visual analogy, or discrepant imagery)	- Activates stude cognitive proce - Provides a fran construction of
	Message	Explicit learning objectives distilled to essential ideas	- Creates purpos - Defines what t know or believ - Distinguishes g and visual cont
	Text/Image ratio	Decrease volume of explanatory text and increase size of central imagery	- Reduces the vi initial cognitive - Increases appr - Central or icon students Comp pedagogical ele and educationa - Fosters teacher
Protractive	Extensions	Provide opportunities for students to extend understanding through elements outside the 2-D, static space of a poster	- Integrates poste - Offloads relate from the poster - Extends time o - Fosters interact simulated phen

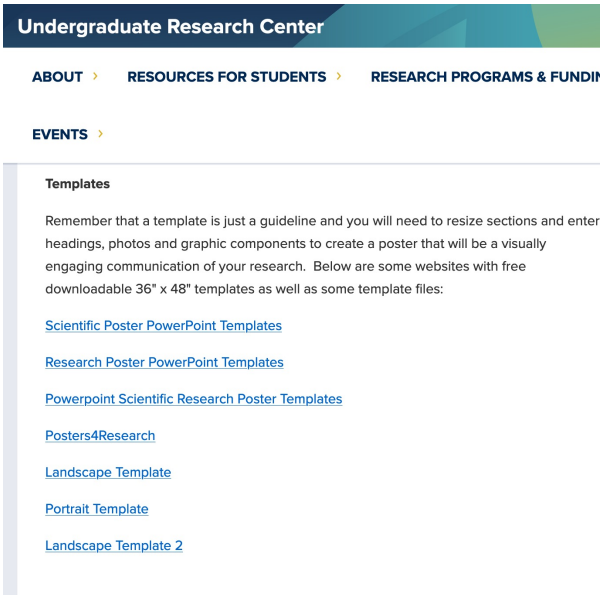
Figuur 2. Graphical representation of the design-framework of Hubenthal and colleagues (2011, p.204).

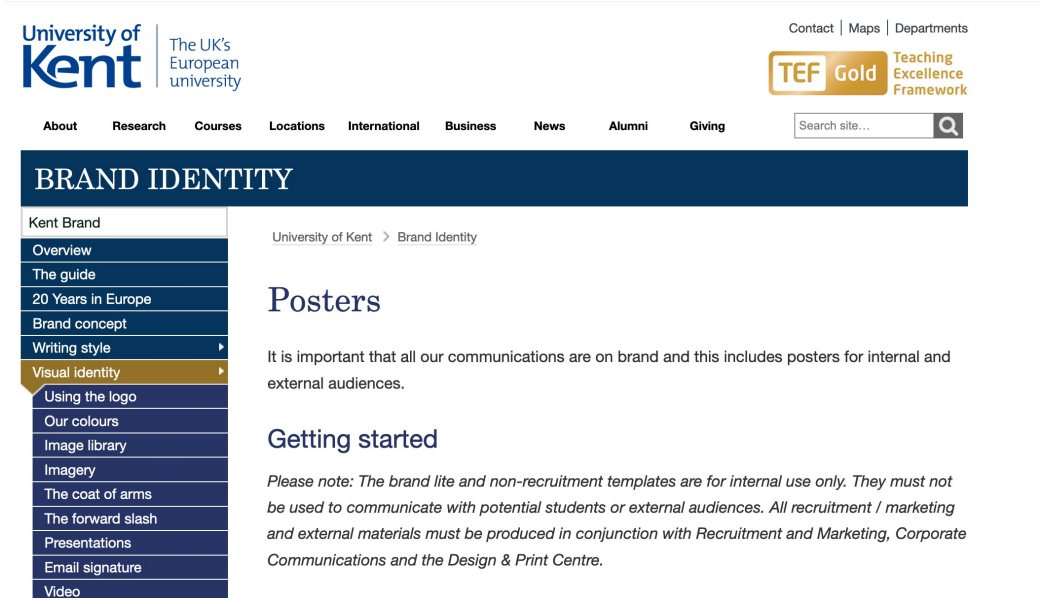
Some input from the humanities, arts and social sciences perspective

Teachers often complain that guidelines are geared too much towards the sciences and health related doamin. To counter this idea, we explicitly refer to guidelines and a procedure developed for these specific domains; as develop by Maryland University. The approach has a focus on research, but is sufficiently generic to be used in other ways: https://www.ugresearch.umd.edu/documents/DesigningPosterForHumanitiesAndSocialSciences.pdf:

Tools and help for designing posters

It is always helpful to support students in designing adequate posters that fit the design guidelines and criteria. This often results in handing out 'formats' to develop specific types of posters. Examples of such formats can be found at e.g., the U.C. Davis University (https://urc.ucdavis.edu/creating-effective-academic-posters). More guidelines can be found at e.g., the website of the University of Kent (https://www.kent.ac.uk/brand/visual/posters.html).





We integrate the variety of design guidelines into athe checklist you will use in view of the task related to this theme.

The impact of using posters as an instructional strategy

To a lesser extent, empirical research is available that systematically measures the effect of poster use on educational attainment. Obviously this is difficult because the examples above mainly emphasize embedding the poster in a broader learning and instruction process.

Rosanti and Abu Seman (2019) set up an experimental design in higher secondary education and compared a group of students who studied learning goals related to economics with and without a poster. In this small study, the students in the experimental condition with the poster performed better on a knowledge processing test.

The research by Banerjee and Greene (2013) investigated the effect of designing posters on the effects of smoking and anti-smoking campaigns. A content analysis of the posters shows that adolescents have a fairly good idea of the impact of smoking and which anti-smoking campaigns are effective.

Riejos and colleagues (2001) had students develop posters in “English for specific purposes” to convey metaphors in an understandable way. The posters turned out to have a meaningful impact on the better understanding of metaphors. Reilly (2007) also uses posters in his language class (EnTaal use: adapted to target group English as a Foreign language). In his research, the posters are mainly used as video cues for words, sentences, ideas and situations. In addition, the posters are used to promote interaction between students and the teacher. Analysis of the observational data indicates that oral communication strengthens, that there is also more authentic communication, that the students are more confident, that there are fewer language errors, that students can work independently, that there is a good insight into oral language skills of pupils ...

In a comparable way, Ahmad (2019) researched the impact of students designing digital posters on their EFL development (English as a Foreign language). The postive impact on students' reading comprehension learning objectives can be derived from the article below.

Jour

Publis

Digital Posters to Engage EFL Students a Comprehensio

Samah Zakareya Ahmac

[1] Faculty of Education, Suez University, Suez, Egypt

Correspondence: Samah Ahmad, Faculty of Education, S samahahmad2020@yahoo.com

Received: June 10, 2019 Accepted: July 4, 2019 Onli

doi:10.5539/jel.v8n4p169 URL: https://doi.org/10.5539/j

Abstract

This study investigates the effect of digital posters on the readi students. Thirty-three 3rd-year EFL college students were divic experimental group (n = 16). Both groups were pretested on readin experiment and then posttested after it. For 12 weeks, participant instruction while those in the experimental group used digital pos steps: orientation, preparation, production, presentation, evaluation, showed no significant differences between the two groups in the pr $p > 0.05$) or engagement ($U = 102.00$; $p > 0.05$), it showed significa reading comprehension ($U = 70.00$, $p < 0.05$) and engagement ($U =$ reach the conclusion that digital posters significantly improved the EFL students

Of course, the effect of the posters cannot be separated from the integrated use of the posters in the broader learning and instruction setting. Nopr and Shahrill (2014) used the design and use of a poster presentation as a test basis in mathematics (triangular geometry). Based on their pre-test-post-test design, they state a significantly higher learning effect in students on a test on mathematics insights. But the attitudes and perceptions regarding mathematics of the students in the experimental condition also turned out to be significantly more positive.

A checklist to evaluate student posters in classroom and during poster sessions

The design guidelines that were discussed earlier in this section, can be used to develop a checklist to assess posters. What we do not include in this checklist is an assessment of activities set up with the poster; e.g., the presentation of a poster during a poster session, a discussion about posters, a lesson that the students give based on the poster…. These are other approaches to educational interaction and communication that fall outside the scope of this theme. But below - at the end of this subsection - you can find a format to address these wider issues.

You can download the checklist here Feedback_poster_ENb.docx. It looks like follows:

Criterion	Feedback
	Participant
Attraction dimension	
Visual elaboration of the poster: use of color	
Visual elaboration of the poster: fonts	
Visual elaboration of the poster: structure of the poster (3x3 grid and coherence, flow, red thread)	
Visual elaboration of the poster: meaningful illustrations	
Cognitive dimension	
Is there a clear central theme	
Is there a clear central learning objective	
Language use: adapted to target group, level of symbols, jargon ...	
Language use: short main title; speaking subtitles	
Language use: concise, to-the-point; no drawn-out text	
Is there a balance between graphics and text?	
Protractive dimension	
Is there a concrete link to information that you can reach / retrieve next to the poster?	
Absorbability (See Theme)	
Comparability (See Theme)	

If you want a 60-second approach to poster evaluation,; e.g., in the context of a poster session in your classroom, you can build on the work of the colleagues of North Carolina State University (https://projects.ncsu.edu/project/posters/60second.html):

60-Second Poster Evaluation

George Hess - NC State University - Forestry Department

Rating Criteria - Circle rating that applies.

Overall Appearance

0 **Cluttered or sloppy** appearance. Gives the impression of a solid mass of text and graphics, or pieces are scattered and disconnected. Little white space.

1 **Pleasant** to look at. Pleasing use of colors, text, and graphics.

2 **Very pleasing** to look at. Particularly nice colors and graphics.

White Space

0 **Very little**. Gives the impression of a solid mass of text and graphics.

1 **OK**. Sections of the poster are separated from one another.

2 **Lots**. Plenty of room to rest the eyes. Lots of separation.

Text / Graphics Balance

0 **Too much text**. The poster gives an overwhelming impression of text only. **OR Not enough text**. Cannot understand what the graphics are supposed to relate.

1 **Balanced**. Text and graphics are evenly dispersed in the poster. There seems to be enough text t explain the graphics.

Text Size

0 **Too small** to view comfortably from a distance of 1-1.5 meters.

0.5 Main text OK, but **text in figures too small**.

1 **Easy to read** from 1-1.5 meters.

2 **Very easy to read**.

Organization and Flow

0 **Cannot figure out** how to move through poster.

1 **Implicit**. Headings (Introduction, Methods, etc) or other device implies organization and flow.

2 **Explicit** numbering, column bars, row bars, etc.

Author Identification

0 **None**.

1 **Partial**. Not enough information to contact author without further research. This includes missing codes on addresses.

Assignment in view of this 'poster' theme

The examples of posters that you could consult in this theme are 'colored' by the available media that students could get to work on during the publication or research.

The starting point of the assignment for this theme is to choose a learning objective. So look at your own courses and look for a theme that is currently on the agenda in your exercises, assignments, internship, portfolio ... This is the starting point for your task development. Do not forget that a 'clear' theme and 'learning objective' are criteria in the checklist for the assignment. Now imagine that you yourself are a 'student' who is taught about this theme and in function of this learning objective. You will be asked to develop a poster that will be discussed and assessed in a poster presentation with the whole class in a poster session. Keep this goal in mind, because the elaboration of your poster takes into account the poster presentation (see the protractive dimension in the criteria). Nowadays you easily use computer software for posters. Today we use a tool widely used in education to provide students with basic poster designs. It is a free tool that you can explore at www.canva.com. You can create your own free account from here. There is a 'teacher' and 'student' option. Choose the student option today because that is the approach we follow today for tackling the assignment: working out a poster as a 'student'.

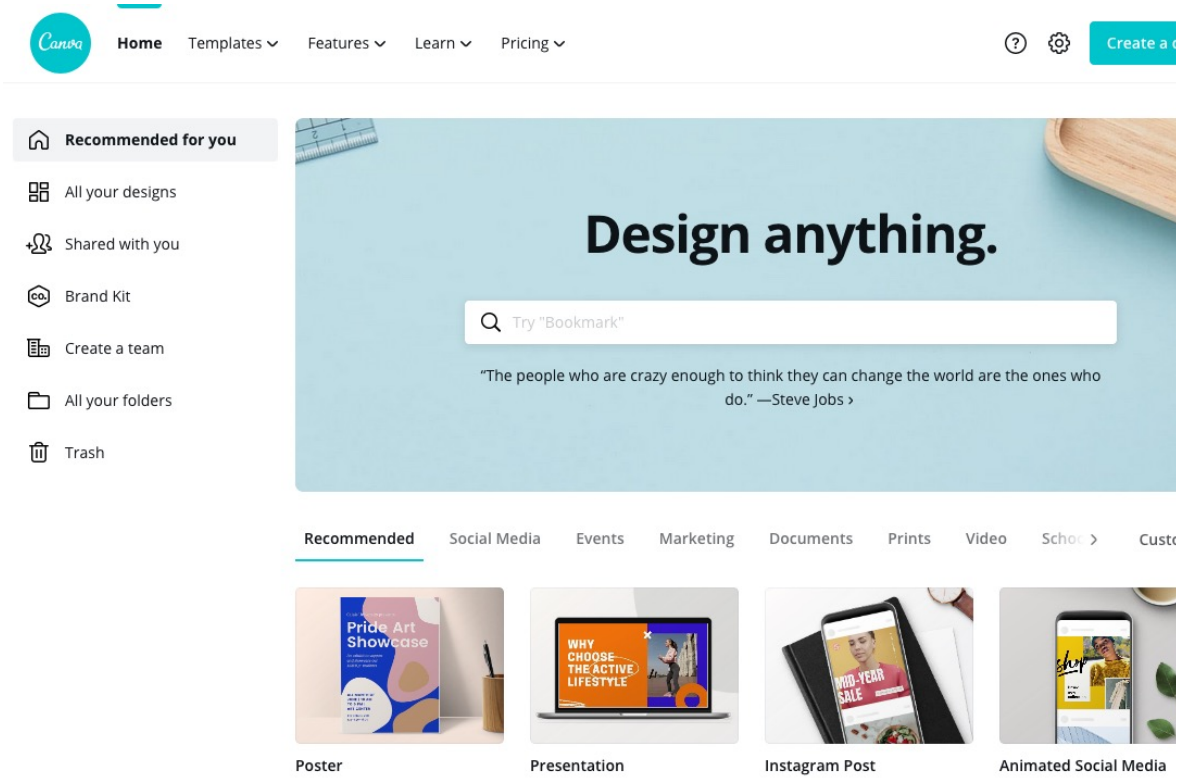


Figure 1. Opening page of the Canva website

After opening your Cnava account, you get the opportunity to ....

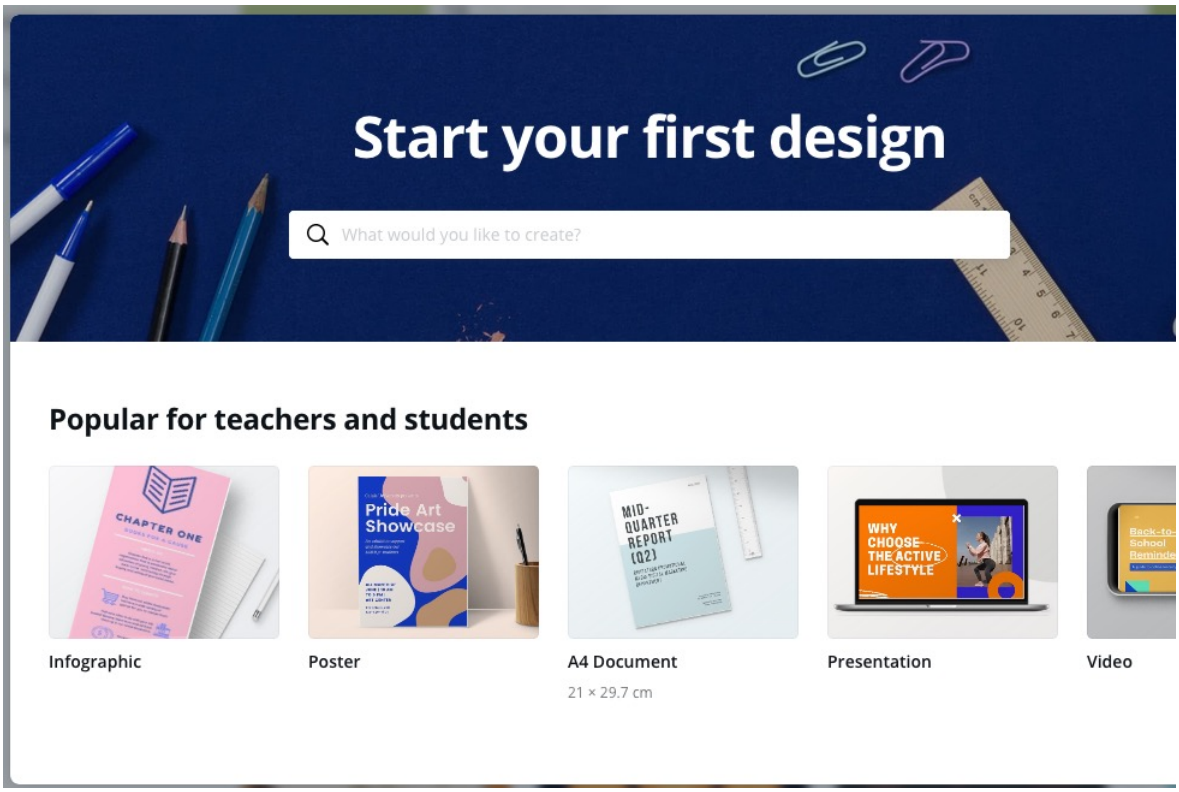


Figure 2. Options in the menu to start designing

You can immediately choose from a hundred templates. Pay attention to the design guidelines immediately when choosing a template. Because not all templates are suitable for an educational poster.

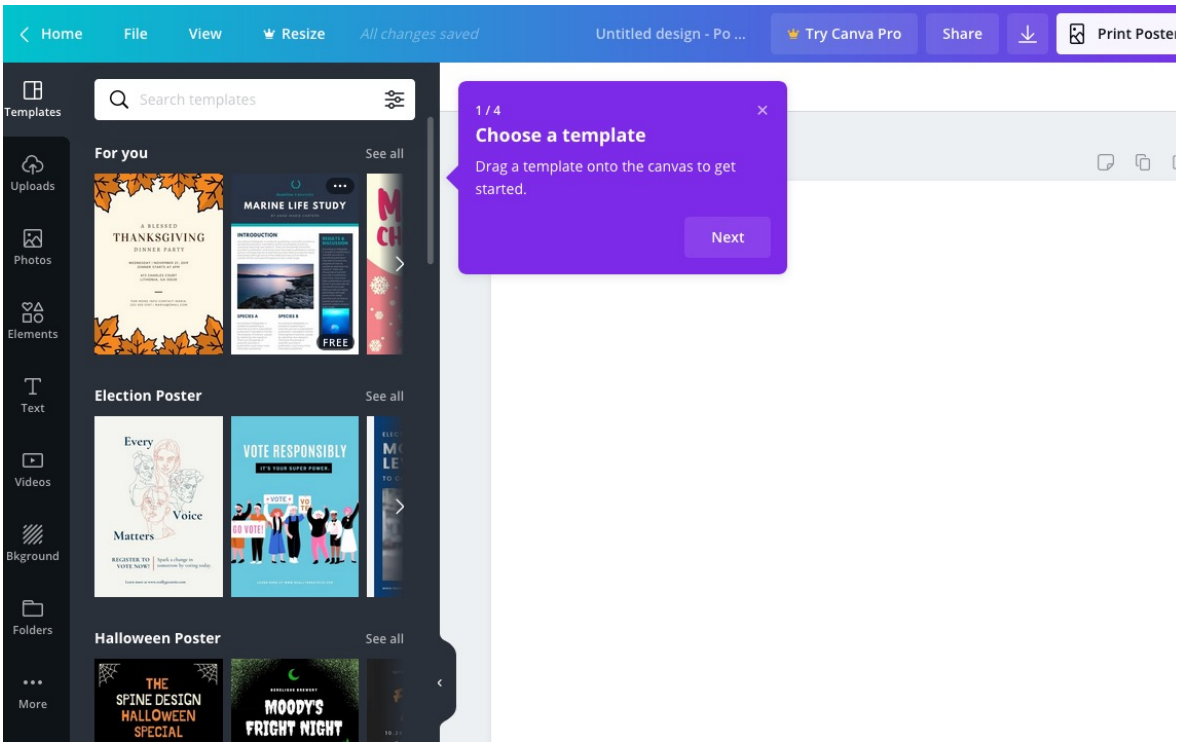


Figure 3. Choosing a template for canva

You can get started with the template. You can manipulate all parts of the poster (the 'objects'); so move, resize, colorize, replace, supplement ... So you can effortlessly add other images and figures to your own template. You can save and / or download the result. For the assignment for theme it is obvious that you download the poster and then upload it in the safe of your group. Don't forget to change the name of the file to the following format: Student name_Poster.pdf

Good luck!

Planning

- Deadline to upload your poster: XXXX

- Deadline to upload your feedback and feed forward for one colleague: YYY

Use the feedback form: Feedback_poster_ENb.docx

and save it as follows and upload in the system:
"Colleaguegivingfeedback"_"Colleaguegettingfeedback".doc

- Deadline for uploading your feedback to the feedback having received: ZZZ

Don't forget to reuse the feedback form your received to add your feedback to the feedback. Change the name of the file:
Don't forget to save the file as follows *"colleaguegivingfeedbacktofeedback"_"colleaguewhogavefeedback". doc* and to uplod it in the system

Literature references

Aksyanova, Z. I., & Ostrovaya, Y. S. (2015). The use of advertising pictures (posters) in French. In *Языковое образование в вузе: теоретический и прикладной аспекты* (pp. 166-170).
Banerjee, S. C., & Greene, K. (2013). “Yo! This is no lie, if you smoke, you die”: a content analysis of anti-smoking posters created by adolescents. *Journal of Substance use*, *18*(2), 119-128.

Bell, F. L. (1928). Posters in chemistry. *Journal of Chemical Education*, *5*(2), 157.
Berry, J., & Houston, K. (1995). Students using posters as a means of communication and assessment. *Educational Studies in Mathematics*, *29*(1), 21-27.
Carter, M. (2012). *Designing science presentations: A visual guide to figures, papers, slides, posters, and more*. Academic Press.
Çetin, Y., & Flamand, L. (2013). Posters, self-directed learning, and L2 vocabulary acquisition. *ELT journal*, *67*(1), 52-61.
Conyers, V. (2003). Posters: An assessment strategy to foster learning in nursing education. *Journal of Nursing Education*, *42*(1), 38-40.
De Buck, M. (2015). De klasinrichting doorheen de onderwijsloopbaan van leerkrachten in het lager onderwijs. Onuitgegeven masterproef. Gent: Universiteit Gent. Opgehaald via http://lib.ugent.be/fulltxt/RUG01/002/216/347/RUG01-002216347_2015_0001_AC.pdf op 20 10 2020.
DeCapua, A., & Marshall, H. W. (2011). *Breaking new ground: Teaching students with limited or interrupted formal education in US secondary schools*. Ann Arbor: University of Michigan Press.
Duchin, S., & Sherwood, G. (1990). Posters as an educational strategy. *The Journal of Continuing Education in Nursing*, *21*(5), 205-208.
Hasio, C. (2015). Visual Inspirations: The Pedagogical And Cultural Significance Of Creative Posters In The Art Classroom. *Journal of College Teaching & Learning (TLC)*, *12*(1), 39-44. https://doi.org/10.19030/tlc.v12i1.9068
Hay, I., & Thomas, S. M. (1999). Making sense with posters in biological science education. *Journal of Biological Education*, *33*(4), 209-214.
Hubenthal, M., O'Brien, T., & Taber, J. (2011). Posters that foster cognition in the classroom: multimedia theory applied to educational posters. *Educational Media International*, *48*(3), 193-207.
Mayer, R.E. (2009). *Multimedia learning* (2nd ed.). New York: Cambridge University Press.
Nor, H. N. H. M., & Shahrill, M. (2014, June). Incorporating the use of poster and oral presentations as an alternative assessment in the teaching of secondary mathematics. In *Proceedings of the 2nd*

International Conference on Social Sciences Research (pp. 369-378).
Riejos, A. M. R., Mansilla, P. U., & Castillejos, A. M. M. (2001). The impact of visuals: using a poster to present metaphor. *European journal of engineering education*, *26*(3), 301-310.
Rosanti, S. Y., & Abu Seman, N. A. (2019). The Effectiveness of Posters as a Learning Media to Improve Student Learning Quality. *The Journal of Social Sciences Research*, *5*(4), 1046-1052.
Stone, C. H. (1929). Posters in high-school chemistry. *Journal of Chemical Education*, *6*(9), 1535.