THEMES AND DEBATES

Information design and students' assimilation after Covid-19

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Abstract

The learning strategies have changes after Covid-19. Online and self-learning method become the main axis of study. Information design is considered the important point in structuring studying materials. It illustrates data that has an objective and make it easier to understand. In addition, good information design help to capture the students' attention which makes them spend longer time on studying without boredom. The aim of the study is to illustrating different tools and techniques that students can utilize within a classroom to promote successful assimilation of information design. The study examined 700 Saudi participants through Twitter and Facebook I 2021. The results reveal that the use of infographics to illustrate information on a graph, watching documentaries and videos promote better study results. Students intend to utilize Google to gather relevant data and information related to their field. The study contributes to educational experts to design affective, interactive and engagement methods in learning. The study provided large data to understand the approached that student prefer and intend to use during their study as well as the reasons behind that. **Key words:** Information design, students, assimilation, learning, education, Covid-19.

Introduction

Information design is considered data that is utilized in the construction of a storytelling tool. It illustrates data that has an objective. Hence, it

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can be used to develop documents that are considered successful, which can be applied in different areas from education and training (Hayashi et al., 2020). Simultaneously, it illustrates how critical information is presented on a page or the screen to ensure that it is easy to understand. It combines essential elements starting from the layout, typography, and color (Domínguez et al., 2020). Many other definitions have been given to illustrate what information design means and how it can be assimilated into student learning (Melo-Niño & Mellado, 2017). As a result, those definitions confuse the actual meaning and how they can be applied in different situations.

On the other hand, assimilation is used to understand how information that has been designed can be integrated into different settings. For example, it illustrates how data can be used within a classroom to promote a clear understanding of different situations (Feurzeig, 2020). Students can incorporate information design to analyze data and information collected from various studies to promote better understanding. Information design is what is done so that a document can be developed. Therefore, to be assimilated into student learning, there are many more tools that can be utilized (Vázquez & Romero, 2020). People looking forward to understanding information use different tools from SPSS, excel, and even the T-test to promote its successful design. The information presented in these tolls can occur in tables and graphs, among other tools (Jabbarova, 2020). The graphs and the tables are considered much easier to understand.

Therefore, information design can be used in finding what is needed. Therefore, the information that has been organized in tables and figures becomes easy to understand and identify. Simultaneously, it makes it easy to understand what is collected or what is found (Waitoller &

King, 2016). For example, when one needs to understand the information related to the unemployment rate changes, looking at the graph makes it easy to make the comparison hence understanding the actual meaning. At the same time, it promotes the effective use of information that has been collected. This indicates that if the information is to be used on understanding the measures to put in place to reduce unemployment, it is easy to make necessary and essential recommendations (Velarde, 2020). The designed information makes it easy to understand the significant reductions or increase in unemployment and some of the measures to put in place to reduce it. In most cases, the user of the information needs to decide on the amount of time and effort that needs to be put into the information design (Brand, 2020). They understand what the information means; hence they might have too little or too much time.

In most cases, the designed information users are considered essential to reach a personal goal or objective. For example, the assimilation of the information design within the classroom means that the main objective is to promote understanding of assimilation and how to make the conclusions (Kunz, 2015). Information design is not only crucial in the development of a physical document. It can be used to develop products, websites, software development, and application ad hardware devices. A flow chart can be drawn through information design to differentiate the different roles and responsibilities of people. To successfully promote information design, it is essential to have useful planning questions. At the same time, it is essential to understand the role of the iterative evaluation. The integration and the equal importance related to writing and the presentation of the designed information (Segura-Robles et al., 2020). There needs to be a narrower meaning to the information to promote better understanding.

The information design is also utilized in the visual and dynamic data illustration to make it easy to understand. For example, there are explainer videos utilized in different fields. There are many tutorials, such as using different applications and tutorials in conducting critical processes and documentary formation and design (DeCastellarnau, 2018). Information design can also be assimilated through the wayfinding,

including the development of the physical and the digital design and the design of the escape plans in hotels, malls, and maps. Information design is also essential within the health and safety system. The hospital triage apps, the patient medical files' digital histories, and the C.T. scans. Finally, the sensory information design, such as the 4D cinematic experiences (Natalja et al., 201). Therefore, students can use different information design elements, including the encyclopedia and the yellow pages, the search engines, websites, the infographics, and the explainer videos.

According to Piaget's theory of cognitive development, the present knowledge has evolved. What used to work ten years ago is not what is used currently. People develop the desire to learn when they are very young (Reyes & Pech, 2020). Therefore, this indicates the need for different elements to be assimilated into learning to promote the expected learning. Assimilation and accommodation are essential when it comes to promoting successful learning and acquiring information. To achieve cognitive growth, there is a need for constant interweaving of assimilation and accommodation. Assimilation, in this case, is essential since it ensures that new information can be changed or modified accordingly so that it can fit into individual objectives. It ensures that the new information is kept (Koretsky et al., 2011). At the same time, it ensures that it is possible to add to what is already known, making the new information to fit the actual application successfully.

The assimilation of the information design for the students ensures that they use the environment to develop cognitive structures that promote understanding. Therefore, within the classroom, students can utilize the information design to give the data that is collected a purpose (Rao, 2020). Hence, this indicates that they use the design to turn the data into information. Simultaneously, it can benefit the students by conducting necessary research that occurs after the design. Plan out different projects in their prototype to promote successful projects (Shin & Bolkan, 2020). The students represent their data and information which they have visually collected from their projects. This makes it easy to present to the supervisors without having to endure extensive questions (Culp, 2020). It makes it easy to organize different sections of the data

logically and attract different color palettes with the other font combinations.

The study focuses on illustrating different tools and techniques that students can utilize within a classroom to promote successful assimilation of information design. The main aims include discussing the types of information design available to the students that they can assimilate during the studies. Second, determine the types of information design that the students most preferred and, finally, why they prefer such information design compared to the others available. In most cases, students prefer infographics and other graphs achieved by simple tools that are made available for their use within the classroom.

1. Scales

There are several essential scales utilized when it comes to the analysis of questions collected during the survey. The dichotomous scale in which the respondents are expected to answer with a yes or no, true or false, fair and unfair, and agree or disagree. This is mainly used in closed questions. There is no way that the respondents can be neutral. There is a clear and binary answer. The second is the graphic rating scale, which is also considered the continuous scale for rating mainly looks like a figure. Opposite values are sometimes labeled on the opposite sides. For example, one side is labeled very unsatisfied, satisfied all through to very satisfied. The respond can click on the point where they consider the most efficient. Third, the Likert scale contains the odd numbers, which are options for the answers. The semantic differential scale is the max difference. The respondents can offer answers such as ease, speed, design, and size, among others.

2. Methodology

This was a cross-sectional study. Therefore, we utilized online surveys to collect the required information for the analysis. The study involved 700 Saudi participants. Therefore, we communicated with the participants through the use of Twitter and Facebook in August 2021. The participants have forwarded the consent form where they had to read the instructions and indicate as to whether they agree to participate in the survey or not. From this, we gathered a total of 700 who were willing to participate. We considered the value of gender equality hence ensured that we included both genders in the study.

The questions were prepared and posted on the websites. The reliability or the internal consistency of the set of the scale items or the test items was calculated using Cronbach alpha as illustrated in the appendix. Then, a link was sent to the 700 participants through Twitter and Facebook according to the preferences of each of those who participated. They were given 30 minutes each to respond to the questions and submit back the answered questionnaire. Then, we collected the information as provided in the questions for analysis. The sample questions that were included in the survey are illustrated in the appendix.

3. Results

a. Do you like the assimilation of information design into the classroom for student learning? (YES/No)

The figure below illustrates the percentage of participants who agree with the use of assimilation and illustrated their dislike of assimilation within a classroom.

**Fig 1: Percentage total of preference for the use of information design**
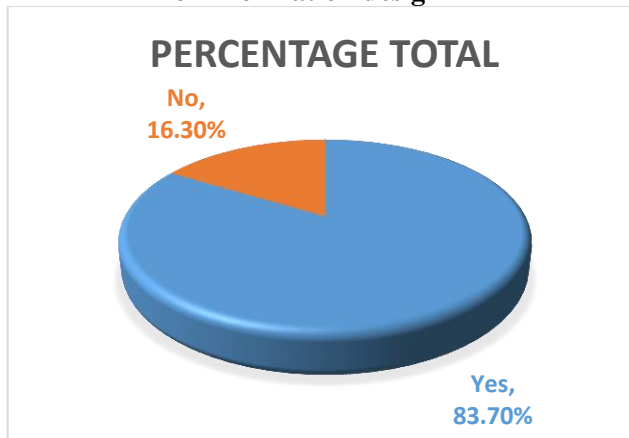
In this case, almost 83 percent of the participants indicated that they prefer the assimilation of information design into the classroom. However, 16 percent of the participants indicated that they don't prefer the use of assimilation within a classroom. This would be due to several reasons which can be included in the discussion. Some of the participants indicated

that they don't like the assimilation of information design into the classroom, which illustrates the need to convince people of why it is needed. This is associated with discussing the advantages associated with the use of information design, offering people a reason to understand why it is essential. There is a need to allow students to practice their skills practically to promote increased learning.

b.   What type of information design available to you during your studies?

The figure below illustrates the type of information designs available to students and the number of students agreeing to those types' availability.

**Fig 2: Information design types available to students.**
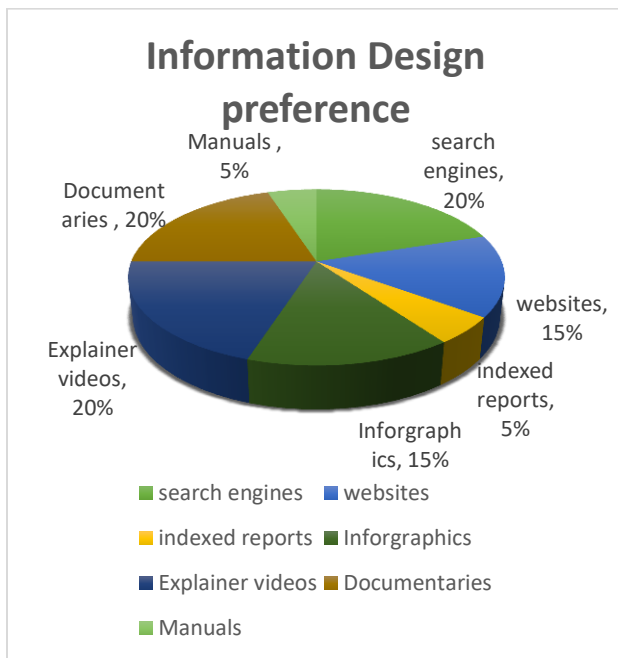
From the figure above, it is clear that different types of information designs are made available to students learning. Several designs are available for student use within the classroom hence providing a broader variety to select from. As indicated in the figure, different types of information design are preferred by the students. The types with the highest preferences include documentaries, explainer videos, and different search engines, in which each had a record of 20

percent of the participants agreeing to be their favorites. This was followed by the infographics and the websites with a percentage of 15 percent each. This indicated that 15 percent of the participants indicated that they preferred to use infographics and websites in their studies. The list of preferred types of information design within the classroom included index reports and manuals, which had only 5 percent of the participants indicating their preference.

c.   How often do students assimilate the information design within the classroom?

This question's main objective is to help respondents so that they can indicate how often they believe the information design is used within the classroom. The figure below illustrates the results collected.

**Fig 3: How often information design is assimilated to the classroom.**
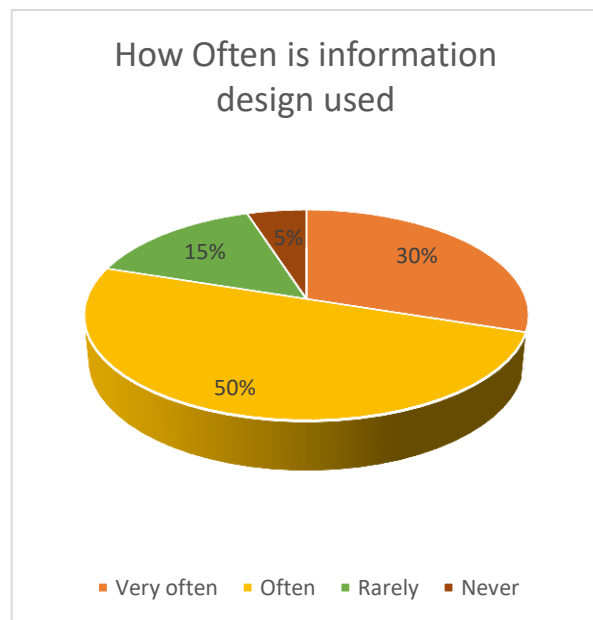
According to the results collected and analyzed as shown in the figure, 50 percent of the participants indicated that information design is often used within the classroom. Thirty percent of the participants indicated that information design is used within the classroom very often. Fifteen percent of the participants indicated that they rarely assimilate information design within the classroom, and only 5 percent indicated that they

never use information design within the classroom. This figure generally indicates that most of the participants agreed that they often use information design.

d. Are you satisfied with the types of information design assimilated to the classroom during learning in terms of different variables, including design…?

This question is meant to illustrate the participants' satisfaction level concerning the types of information design utilized within the classroom. The question helped the participants indicate how appropriate the types of information design used were in terms of speed and quality. The figure below illustrates the participants' satisfaction level according to the types of information design utilized within the classroom.

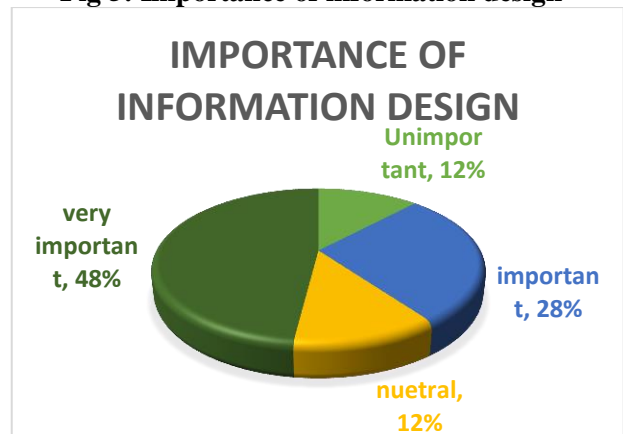**Fig 4: Satisfaction level on the use of information design**
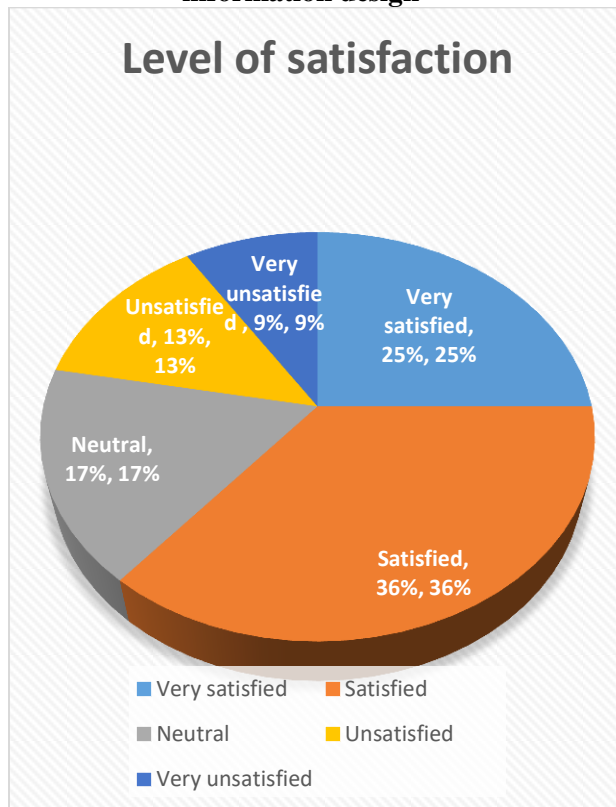
From the figure above, 36 percent of the participants indicated that they were satisfied with the classroom use of information design. The results also indicated that 25 percent of the participants illustrated to be very satisfied with the

use of information design within the classroom. Seventeen percent of the participants indicated that they were neutral concerning the use of information design utilized within the classroom. This indicated that they were neither satisfied nor unsatisfied. 13 percent of the participants indicated that they were unsatisfied about using information design within the classroom. Finally, 9 percent indicated that they were very unsatisfied with the use of information design within the classroom. The results generally indicate that most participants were satisfied with the use of information design to promote better learning and increase the practical student experience.

e. How important is it to assimilate information design into the classroom for student learning?

This question's main objective was to illustrate the significance of promoting the use of information design for the students within the classroom through assimilation. Therefore, the question allowed the participants to indicate how important it was to promote information design. This way, it was easy to understand whether the students like the assimilation of information design or teachers are expected to develop better techniques to promote a better practical experience. The figure below illustrates the importance of the use of information design within the classroom.

Fig 5: Importance of information design

Information design is considered an essential element to assimilate to a classroom for student learning. From the figure above, 48 percent of the participants agreed on the

significance of information design within the classroom. This indicated how significant information design is considered for the students. Second, 28 percent of the participants indicated that information design was essential to assimilate to a classroom to promote better learning. 12 percent of the participants indicated that they considered using information design within the classroom neutral. This indicated that they were not sure whether it is essential or not important. Twelve percent of the participants indicated that information design was considered unimportant when assimilating it to the classroom training. This indicates that some of the participants were confused about using information design, and some considered it unnecessary. Such results would be due to several reasons.

f.   Discussion

The study focuses on illustrating different tools and techniques that students can utilize within a classroom to promote successful assimilation of information design. Several types of information design can be assimilated into a classroom to help students with learning. Anything that is utilized to promote a clear understanding of data is considered a type of assimilation. For example, the use of infographics to illustrate information on a graph to promote better comparison. At the same time, the use of documentaries and explanatory videos. The documentaries and videos help explain certain occurrences. They can also be used to provide procedures that can be followed to accomplish a specific task.

Several types of information design exist which can be assimilated into students learning. It is essential to understand that every aspect of our activities' activities collects some form of data. The devices that we have around are continually collecting data, even though not all of that is used in a meaningful manner. One example is the curated information, which is known to follow a specific line. This can be used in the design of elements such as infographics and recipe books. At the same time, it is used for the searchable information that includes the search elements, including the websites and the search engines. It also helps design educational resources, especially the books and portals, where students can collect information.

Students can utilize different types of information design to promote better understanding. One of the information design that is known to be widely available in search engines. There are different digital and online equivalent sites, and the yellow pages are utilized to promote learning among students. Some of those include Google, Bing, and Yandex, among others. These are types of information design utilized by students to gather the information that promotes an actual meaning of different situations and experiences. Students utilize Google to gather evidence used to explain the relevance of data and information collected from the field.

The use of infographics is the most common. When most people hear about information design, the first thing to think of is infographics. These are mainly composed of visualizations with a set type of data to achieve a specific objective or purpose. Students can also utilize websites that are larger than infographics. The website contains a lot of information which has been posted there by different people or groups. The information is made available for the students. Therefore, they can utilize such information for print production, such as brochures or catalogs. Finally, explainer videos, tutorial videos, and how to do videos and documentaries. Students can watch documentaries that are related to learning a particular unit. Simultaneously, some videos provide steps on accomplishing a specific procedure making it easy to accomplish the procedure and achieve specific objectives.

There are many types of information designs that students most prefer to utilize to promote learning within a classroom. One of the most preferred is the different types of search engines. There are several search engines available. However, most students typically use Google. This type contains a broader variety of information. Several studies have been completed and posted on Google and other websites. At the same time, most of the information provided on Google and other yellow pages is free. This indicates that students only require the internet. It is easily accessible, and students can get it even within the classroom or outside. Google also reduces the boredom that is experienced within the classroom. Most participants have indicated their preferences toward the use of search engines. This

indicates that they prefer search engines as a form of information design assimilated towards learning.

Finally, there are higher preferences shown towards the use of learning videos, documentaries, and how to do videos and tutorial videos. Videos make it easy to understand what is presented. It helps students to get away from a theory, which would be very tiring sometimes. They also present different visuals, which make the information more understandable to students. Videos can provide information about real-life events. Hence, it makes it easy to prove certain occurrences. The explanations that are offered within videos prove to be much more precise than reading through the textbooks.

g. Conclusion

Information design is considered the utilization in the construction of a storytelling tool. It illustrates data that has an objective. Hence, it can be utilized to develop documents that are considered successful which can be applied in different areas from education and training. It shows how important information is presented on a page or the screen to ensure that it is easy to understand. It combines essential elements starting from the layout, the typography, and color, among others.

On the other hand, assimilation is used to understand how information that has been designed can be integrated into different settings. Promotes the use of information within a classroom to promote a clear understanding of different situations. The study was focused on illustrating the significance of information design, the types of information designs that can be assimilated to promote better learning among students, and the reasons why there is preference to some types of information design compared to the rest. The results indicated that most students prefer search engines, websites, infographics, and different types of videos in learning. There are several reasons why these are the most preferred, including the fact that they are free and provide free information and explanations required to complete different projects and processes.

h. Contributions

This study makes several contributions. The study contributes to the existing literature on the significance of incorporating information design towards student learning. Information design ensures that the students ensure that they use the environment to develop cognitive structures that promote understanding. Therefore, within the classroom, students can utilize the information design to give the data collected a purpose. Hence, this indicates that they use the design to turn the data into information. It makes it easy to plan out different projects in their prototype to promote the realization of successful projects. The students represent their data and information which they have visually collected from their projects. This makes it easy to present to the supervisors without having to endure extensive questions. It makes it easy to organize different sections of the data logically and attract different color palettes with the other font combinations.

Second, this study has helped illustrate the different types of information design available to different students for better learning. In most cases, students get confused since they never understand which information design is available for their use. Some students fail to understand the information design suitable for their applications and offer the needed results. The participants, in this case, indicated their preferences for different types of information design. Students can use such information to understand the different types available and make necessary choices on the ones they prefer most. Understanding different features of the type of information designs are essential for selecting the most efficient to use.

The study has illustrated several reasons why different information designs are preferred as compared to the rest. There are many different types of information design, making it difficult for the students to choose of what they consider the most. This indicates the reason why it is essential to understand the benefits and disadvantages presented by others. Therefore, there are many reasons discussed above in relation to the benefits of different types, including search engines, infographics, websites, and different videos, including documentaries. The study has made it easy for the students to understand from which category they can select. Rather than taking too much time to look for the type that suits their needs, it is easy to use the information to select the best. Therefore, this study has contributed to the

existing literature informing the students on which information designs can work best and how they can be utilized.

i.   Limitations and contribution

One of the significant limitations of the study is that it was concentrated in a single area. The study included participants from Saudi. This can limit the application of results to different areas globally. Information design is required to be applied in different regions by students all over the world. This indicates that information collected from a single area will make it difficult for students from other areas to use. For example, the types of information design available to students are only in Saudi. There might be different types in other regions that need to be incorporated into the study and clearly explained. This will help students from other regions to understand the options that they have available.

Similarly, the time limitation would also affect the ability of the participants to answer the questions as expected. After opening the questionnaire, the participants were offered 30 minutes to answer the questions. This is a concise time which can force participants to answer falsely to complete the exercise. In term of contribution, the study provided result that hep educational experts to design affective, interactive and engagement methods in learning. The study provided large data to understand the approached that student prefer and intend to use during their study as well as the reasons behind that.

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References

Melo-Niño, L. V., & Mellado, V. (2017). Initial characterization of Colombian high school physics teachers' pedagogical content knowledge on electric fields. Research in Science Education, 47(1), 25-48.

Culp, R. (2020). Articulating citizenship: Civic education and student politics in Southeastern China, 1912–1940. Brill.

Brand, B. R. (2020). Integrating science and engineering practices: outcomes from a collaborative professional development. International Journal of STEM Education, 7(1), 1-13.

Hayashi, A., Chen, C., Ryan, T., & Wu, J. (2020). The role of social presence and moderating role of computer self efficacy in predicting the continuance usage of e-learning systems. Journal of Information Systems Education, 15(2), 5.

Rao, A. R. (2020). Interventions for Promoting Student Engagement and Predicting Performance in an Introductory Engineering Class. Advances in Engineering Education, 8(2), n2.

Jabbarova, A. (2020). Psychological basis of teaching writing essay for the 1st year students at higher education.

Feurzeig, W. (2020). Apprentice tools: Students as practitioners. Technology in education: Looking toward, 97-120.

Vázquez, L. Q., & Romero, J. (2020). ESP within ESP: the design and implementation of a pronunciation module in a technical English course. Onomázein: Revista de lingüística, filología y traducción de la Pontificia Universidad Católica de Chile, (6), 209-228.

Domínguez, D. G., Hernandez-Arriaga, B., & Paul, K. S. (2020). Cruzando Fronteras: Liberation psychology in a counseling psychology immersion course. Journal of Latinx Psychology.

Shin, M., & Bolkan, S. (2020). Intellectually stimulating students' intrinsic motivation: the mediating influence of student engagement, self-efficacy, and student academic support. Communication Education, 1-19.

Segura-Robles, A., Fuentes-Cabrera, A., Parra-González, M. E., & López-Belmonte, J. (2020). Effects on personal factors through flipped learning and gamification as combined methodologies in secondary education. Frontiers in Psychology, 11.

Koretsky, M., Kelly, C., & Gummer, E. (2011). Student perceptions of learning in the laboratory: Comparison of industrially situated virtual laboratories to capstone physical laboratories. Journal of Engineering Education, 100(3), 540-573.

Ertmer, P. A., & Newby, T. J. (2013). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design

perspective. Performance improvement quarterly, 26(2), 43-71.

Waitoller, F. R., & King Thorius, K. A. (2016). Cross-pollinating culturally sustaining pedagogy and universal design for learning: Toward an inclusive pedagogy that accounts for dis/ability. Harvard Educational Review, 86(3), 366-389.

Velarde O. (2020). What Is Information Design and Why Is It Important? retrieved from https://visme.co/blog/information-design/

Reyes, W. & Pech, S. (2020). Gamification in distance education: experiences in a university educational model. DO - 10.32870/Ap.v12n2.1849. https://www.researchgate.net/publication/344478384_Gamification_in_distance_education_experiences_in_a_university_educational_model

Martínez-Borreguero, G., Naranjo-Correa, F. L., Cañada Cañada, F., González Gómez, D., & Sánchez Martín, J. (2018). The influence of teaching methodologies in the assimilation of density concept in primary teacher trainees. Heliyon, 4(11), e00963. https://doi.org/10.1016/j.heliyon.2018.e00963

Birkett A. (2019). Survey Response Scales: How to Choose the Right One. Retrieved from https://cxl.com/blog/survey-response-scales/

DeCastellarnau, A. (2018). A classification of response scale characteristics that affect data quality: a literature review. Qual Quant 52, 1523–1559. https://doi.org/10.1007/s11135-017-0533-4

Buskirk, T.D., Saunders, T. (2015). Michaud, J.: Are sliders too slick for surveys? An experiment comparing slider and radio button scales for smartphone, tablet and computer based surveys. Methods Data Anal. 9, 229–260. doi:10.12758/mda.2015.013

De Leeuw, E.D., Hox, J.J., Boeve, A. (2016). Handling do-not-know answers: exploring new approaches in online and mixed-mode surveys. Soc. Sci. Comput. Rev. 34, 116–132. doi:10.1177/0894439315573744

Kunz, T. (2015). Rating scales in Web surveys. A test of new drag-and-drop rating procedures. Technische Universität, Darmstadt [Ph.D. Thesis].

Natalja M., Christof W. & Kathrin B. (2018). Design aspects of rating scales in questionnaires, Mathematical Population Studies, 25:2, 63-65, DOI: 10.1080/08898480.2018.1439240
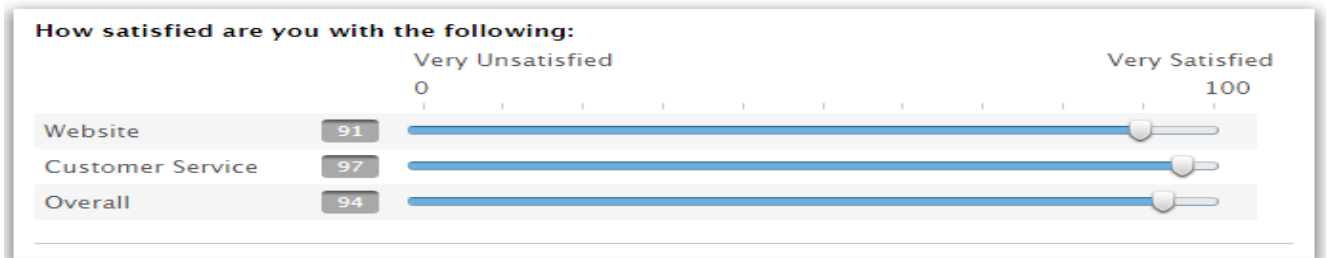
Appendix

Scales

1. Dichotomous scales
   - "Yes" or "No";
   - "True" or "False";
   - "Fair" or "Unfair";
   - "Agree" or "Disagree."

2. Graphic Rating Scale

How satisfied are you with the following:

	Very Unsatisfied 0	Very Satisfied 100
Website	91	
Customer Service	97	
Overall	94	

3. Likert Scale

How satisfied are you with our service?

○ Very Unsatisfied   ○ Unsatisfied   ○ Neutral   ● Satisfied   ○ Very Satisfied

4. Semantic Differential Scale (Max Diff)

How satisfied are you with the following:

	Least	Most
Ease-of-use	○	○
Speed	○	○
Design	○	○
Size	○	○
Durability	○	○

5. Side-by-Side Matrix

Importance					Satisfaction				
Not Important				Very Important	Not Satisfied				Very Satisfied
1	2	3	4	5	1	2	3	4	5
○	○	○	●	○	○	○	○	○	●
○	○	○	○	●	○	○	○	●	○
○	○	○	○	●	○	○	○	●	○

6. Rating scale
    *   1–10;
    *   1–7;
    *   1–5 (or Likert scale).

Cronbach alpha

To calculate the Cronbach's alpha in this case, we used four different items including q1, q2, q3, and q4. We used the reliability command as shown in the appendix.

Reliability/variables = q1   q2   q3   q4.

The resulting output from the above syntax is as illustrated here below:

Reliability

Scaling was calculated on all the variables.

The processing summary of the case:

	N	%
cases valid	700	100.0
Excluded	0	.0
total	700	100.0

There was list wise deletion with the consideration of all the variables that were used in the procedure.

The reliability statistics were as illustrated below

Cronbach's Alpha	N of items on the list
.838	4

The value for the alpha coefficient as calculated for the item son the list was .838. This indicated that there was a probability that the items contained an internal consistency which was relatively higher. Any coefficient of reliability that is above .70 is considered acceptable in most studies that are done in science.

The Cronbach's alpha calculation is illustrated in the table below:

		q1	q2	q3	q4
q1	Covariance	1.158	.547	.564	.662
q2	Covariance	.547	1.022	.691	.730
q3	Covariance	.564	.691	1.159	.723
q4	Covariance	.662	.730	.723	1.282

The information provided in the table can be used to calculate each of the components in the following steps.

The results need to match the calculated alpha coefficient which is 0.3

The illustration of dimensionality:

Dimensionality of the scale is also considered important in addition to the reliability coefficient. There is a command factor that is used for this:

The variables that are considered in this case include the q1 q2 q3 q4

The resulting output is as illustrated below with the use of the syntax above:

The analysis of the factors

The communalities:

	Initial	Extraction
q1	1.00	.574
q2	1.00	.711
q3	1.00	.654
q3	1.00	.715

The principal component analysis was utilized in the extraction technique.

The explanation offered to the total variance is as illustrated below:

Component	Initial Eigenvalues			Extraction sums of the squared loadings		
1	2.503	66.999	66.999	2.503	66.999	66.999
2	.532	13.537	82.161			
3	.399	10.000	92.010			
4	.355	8.799	100.000			

The principal component technique was utilized in the analysis

The calculation of the matrix of the component.

	Component
	1
q2	.830
q4	.865
q3	.823
q1	.802

The eigen values that are observed on the fisrt factor are quit large as compared to the eigen valsue on the next facto. Similarly, the fisrt factor is considered to acount for atleast 67 percent of the total variance. Hence, the scale values are very unidimensional.

Survey questions
a. Do you like the assimilation of information design into the classroom for student learning? (YES/No)
b. What type of information design available to you during studies? (Check as appropriate?
c. How often do students assimilate the information design within the classroom? (check as appropriate)
d. Are you satisfied with the types of information design assimilated to the classroom during learning in terms of different variables including design…? (Check as appropriate?
e. How important is it to assimilate information design into the classroom for student learning? (Check as appropriate?)

Social Medicine
Health For All