Character-based Learning Planning in the 21st Century

Meisuri [1], Srikandi Dwi Poncowati [2], Najwa Syarofa [3], Suyitno [4], Eka Uliyanti Putri Br Bangun [5]
[1] *Universitas Negeri Medan, Indonesia*
[2] *Universitas Negeri Yogyakarta, Indonesia*
[3] *Universitas Negeri Malang, Indonesia*
[4] *Universitas Gresik, Indonesia*
[5] *Institut Teknologi dan Bisnis Bina Sarana Global, Indonesia*

Corresponding Author: Meisuri, E-mail; meisuriw@yahoo.com

ABSTRACT
Character-based learning planning is material or tools that teachers must prepare when they want to carry out the teaching and learning process, here the teacher emphasizes more on the affective aspects and character values that are planned to be realized. The purpose of this study is to explain the importance of character-based learning planning in the 21st century, because currently there are still many lessons that do not prioritize character. Researchers used quantitative methods by using google form as a survey tool addressed to teachers in several schools in Tanah Datar. The result of this research is to know that character-based learning in the era of increasingly sophisticated technology is still too little applied, because learning is still adrift to general knowledge that does not prioritize character. The conclusion of this research is that character-based learning in the 21st century really needs to be applied in order to produce students who have good morals. The limitation of this research is that character-based learning materials are only contained in a few subjects, researchers hope that future researchers can develop it further.

Keywords: *Affective, Character, Learning*

INTRODUCTION

Planning is a process to prepare everything that will be done in the future to achieve a goal or select and connect between knowledge, imagination, and assumptions of a learner for the future or time to come and to find out the results desired by an educator (Alzheimer's Association, 2018; Rajkumar, 2020). Lesson planning should be viewed as a tool that assists educators in carrying out their duties (Deng dkk., 2019; Raissi dkk., 2019). Planning can help achieve a goal more economically, effectively, perfectly, on time, and provide opportunities for easier control in the implementation of the teaching and learning

process carried out by an educator to students in a classroom or in a room. The implementation of good learning requires good program or process planning.

Learning is a process that will be carried out by an educator in guiding, helping, nurturing and directing students (Bannuru dkk., 2019; Rao, 2019; Sun dkk., 2018). So that students have learning lessons that are related or closely related to how someone teaches and how a student understands the learning, and includes a series of planned events or a process that is designed, to be remembered, to be conveyed, to improve and encourage students to learn more easily and understand what is conveyed by an educator (Bray dkk., 2018; Siegel dkk., 2020; Théry dkk., 2018). Learning is an assistance provided by educators so that the process of acquiring knowledge and knowledge, mastering skills and habits, and forming attitudes and beliefs to students can occur.

Learning planning includes a container or is included in a teaching and learning process which aims to make the implementation of learning run perfectly and effectively (Sung dkk., 2018; Tacconelli dkk., 2018; Yao dkk., 2020). Lesson planning is included in an action taken by an educator in preparing for the teaching and learning process so that it can run smoothly and efficiently (Bansal, 2020; Phua dkk., 2020; Tortorici & Veesler, 2019). Learning planning also includes the preparation of learning materials, the use of learning media, the use of approaches or learning methods, in the future or time to reach the target or achieve the specified goals. The success of students is largely determined by the planning made or planning designed by a student.

Learning planning is an important thing for an educator in carrying out his duties as an educator (Afshin dkk., 2019; Agha dkk., 2019; Kemper & Rosenau, 2018). Lesson planning also includes a projection of what an educator will do to coordinate learning components (Knutson dkk., 2020; Thema dkk., 2019; Y. Wang dkk., 2018). Learning planning that prioritizes aspects of attitude, behavior, character that will be conveyed or that will be applied to students (Anderson dkk., 2020; Li dkk., 2018; Nicola dkk., 2020). Before carrying out the teaching and learning process, a mature learning plan is needed so that learning becomes effective, therefore learning planning is needed and must be carried out by educators when teaching in class. Educators will not be able to teach optimally or perfectly if educators do not have preparations developed in the learning planning process.

Learning planning is a rational document that is compiled based on the results of an analysis of the development of students which aims to make learning carried out by educators to students become more effective and efficient learning (Feng dkk., 2020; Kahneman & Tversky, 2000; Yuan dkk., 2019). In accordance with the needs of learners and the surrounding community, good learning implementation requires good program or process planning (Thompson dkk., 2018; Wishart dkk., 2018). The success of students is determined by the planning that is made and the planning that is designed by an educator.(Hu dkk., 2018) If an educator wants to instill character values in their students, then the lesson plan must be character-based (Diercks dkk., 2018). And if an educator wants to apply religious values, then the lesson planning that is compiled must be religiously based or religiously based.

Based on the results of relevant research related to the study of learning planning where the results of the research are, planning in a simple sense can be done as a process of preparing things that will be done in the future to achieve a goal that has been set in advance (Albawi dkk., 2017). Learning planning is a managerial process or the first stage in determining what to do and how to do it later, and in it also made goals to be achieved and which will also be developed in the work program to achieve these goals (Büchi dkk., 2020). Perencanaan merupakan kegiatan awal dalam setiap tindakan yang dilaksanakan nantinya, ataupun hanya dalam pemikiran-pemikiran seseorang saja.

Planning is the process of determining goals and guidelines for implementation by choosing the best of the available alternatives, planning is the whole process of thinking and determining carefully about things that will be done in the future in a series of achieving a predetermined goal (X. Wang dkk., 2018). Planning is closely related to the relationship between what is now (WHAT IS) and how it should be (WHAT SHOULD BE) which is related to needs, determination of goals, priorities, programs, and allocation of resources (Heidari dkk., 2019). This definition emphasizes the effort to fill the gap between the current situation and the future situation adjusted to what is aspired to, namely eliminating the distance between the current situation and bringing what is desired.

Based on the description above, researchers are interested in examining more deeply, to what extent character education can literally be interpreted as changing or shaping the character, behavior, temperament, character, habits and personality of a learner in accordance with the specified criteria or in accordance with the existing code of behavior (Chen dkk., 2020). The purpose of this character-based learning planning research in the 21st century, namely to improve the quality of the process in changing character and the success of education that directs the formation of character and morals of students as a whole, integrated, and balanced, in accordance with the competency standards of graduates in educational units (Choi dkk., 2018). In addition, character education is also aimed at developing moral intelligence or developing students' moral abilities (Griffin dkk., 2019; Lemoine dkk., 2019). Researchers hope that students can apply this learning, for better morals or ethics in the future and to be applied in their daily lives, as they have learned before.

RESEARCH METHODOLOGY

This research was conducted in schools in Tanah Datar. This research also uses quantitative methods and also conducts surveys to collect data (Chu dkk., 2020). In this study, researchers used google from to find out how the development of embedding character-based learning planning in the 21st century (Martín-Martín dkk., 2018). And this research also describes educators' understanding of the purpose of character-based learning planning, identifying methods used by educators in implementing character-based learning planning to students (Cho dkk., 2018). In supporting this character-based learning plan, researchers hope that parents will also participate in implementing or instilling character in children (McDonagh dkk., 2021). This data collection is addressed to

educators in State University of Medan and also addressed to the existing community and also addressed to the parents of students.

The sources obtained by researchers are those addressed to educators who are in schools in Tanah Datar as well as those addressed to parents of educators or the surrounding community and to students who are in State University of Medan who participate in filling out online-based questionnaires, so from that it can be seen the answers of educators and students in planning character-based learning through habituation at home and habituation at school with the help of parents and educators who are at school (Szklarczyk dkk., 2019). The application of character-based learning planning has been found in many other schools, because it can be helped by educators in implementing character-based learning planning for students so that they can get better in the future (Lau & Grieshaber, 2018). Therefore, educators must prepare all means in order to apply character to students to be able to achieve the desired results or get satisfactory results.

The results of this study were collected in the form of questionnaires and surveys before the researcher gave the questionnaire, the researcher gave several questions, then educators, students, parents, and the surrounding community to be able to fill out the questionnaire (Wan dkk., 2020). Criticism and suggestions from several validators were used as a basis for reference to improve the description of the questionnaire that the researchers distributed (Islam & Shin, 2019). As for the questions that researchers share related to character-based learning planning in the 21st century through habituation at home and at school with the help of parents and educators, does it need to be improved in the way of planning character-based learning to students (Y.-X. Wang dkk., 2018). The research data that has been collected, then analyzed using quantitative, namely looking at the results of the percentage and questions in the questionnaire that has been distributed, then the percentage that has been obtained will be described through discussion with opinions and corrected by the researcher first relevant (Ibanez dkk., 2018). The purpose of this study is to increase students' interest by embedding character-based learning and motivating students to be active in learning.
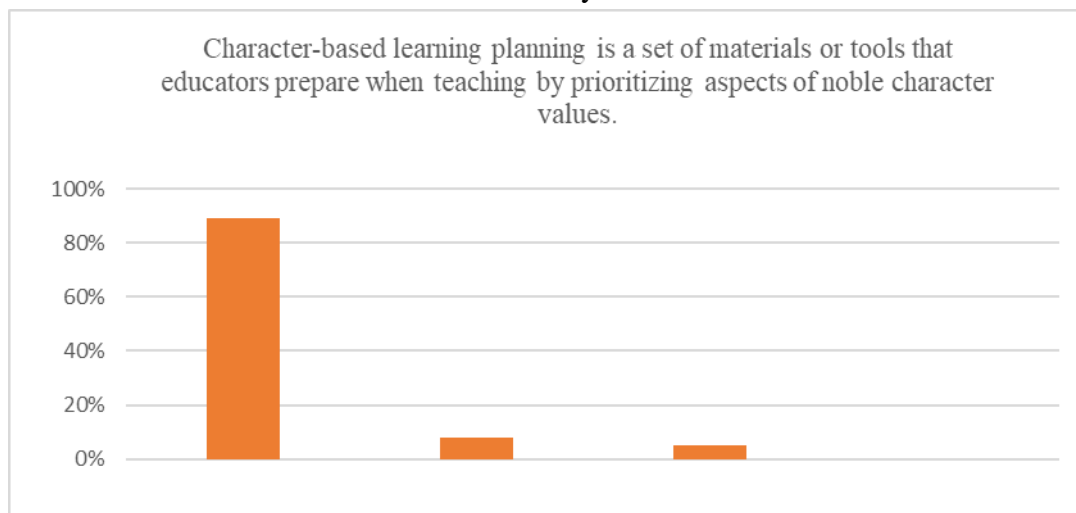
RESULT AND DISCUSSION

Character-based learning planning in the 21st century has a huge impact on ethics, morals or education, so educators must be required to be able to apply character-based learning planning in learning. With the application of character-based learning planning, it can make or change the character of students, where initially the behavior or behavior of students who are not good can be even better in the future. Educators are required to be able to apply or practice how to behave properly, so that they can be an example for students, or be a role model for their students. Therefore, every student can practice or apply character-based learning planning. Character-based learning planning has been adjusted to the purpose of studying it so that students with good character, good morals, good morals are created, and with this character-based learning, students can easily change their behavior, morals and others.
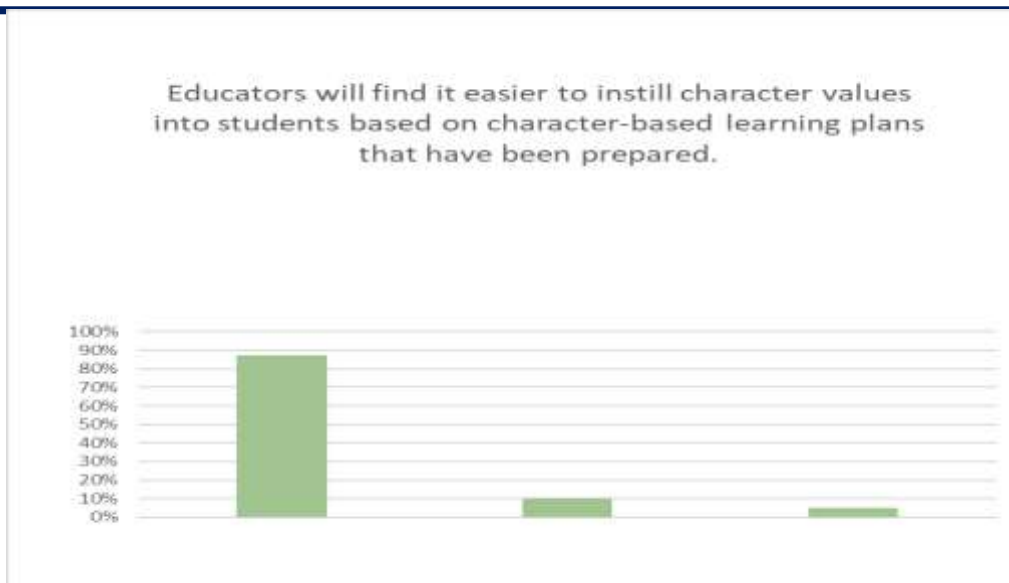
This study was conducted using a quantitative method using survey references and online-based in-depth interviews. Collecting information that has used a questionnaire distributed through the Whatt App group to third semester students. A total of more than 50 students who have filled out the survey questionnaire at the Faculty of Tarbiah and Keguuan Sciences majoring in Islamic Religious Education at UIN Mahmud Yunus Batusangkar. The study of information is tried to use quantitative methods in order to draw conclusions and form suggestions. As a variety of knowledge used by character-based learning educators. The following is questionnaire research data that has been attached below as follows:

Bar diagram of the research results of character-based learning planning in the 21st century

Character-based learning planning is a set of materials or tools that educators prepare when teaching by prioritizing aspects of noble character values.

It can be seen from the diagram above how the opinions of educators, students, and the surrounding community towards character-based learning planning, where the materials or tools that educators prepare when going to teach by prioritizing aspects of noble character values. Where educators choose with different answers, some choose to agree, disagree and disagree. This research was conducted in schools in Tanah Datar, it can be seen that educators are more inclined or more likely to agree related to character-based learning planning where the tools prepared by educators when prioritizing aspects of noble character values. The questionnaire obtained from this statement is 90% of students answered agree, 8.5% of students answered disagree, and 2% of students answered disagree. From the results obtained, it is found that many choose to agree. With the materials or tools that educators have prepared when going to study, it will make it easier for educators. And for those who disagree or disagree, the possibility of answering disagree or disagree may not understand or not understand the material or tools that educators prepare when teaching by prioritizing aspects of noble character values.

Educators will find it easier to instill character values into students based on character-based learning plans that have been prepared.


It can be seen from the diagram that many chose to agree with the question given, namely that educators will find it easier to instill character values into students based on character-based planning that has been prepared. From here it can be seen that students are required to be able to understand the character values that have been provided. Here the answer has 3 answer options, 1.5% answered disagree, 10.2% disagreed, and 88.1% answered agree. When analyzed from the responder data, it can be seen that many answered agree, this is because applying character values in students is based on character-based learning plans that have been prepared. So that students can apply or instill character values in themselves. While for students who answered disagree or disagree because students did not understand the cultivation of character values that had been prepared by educators.
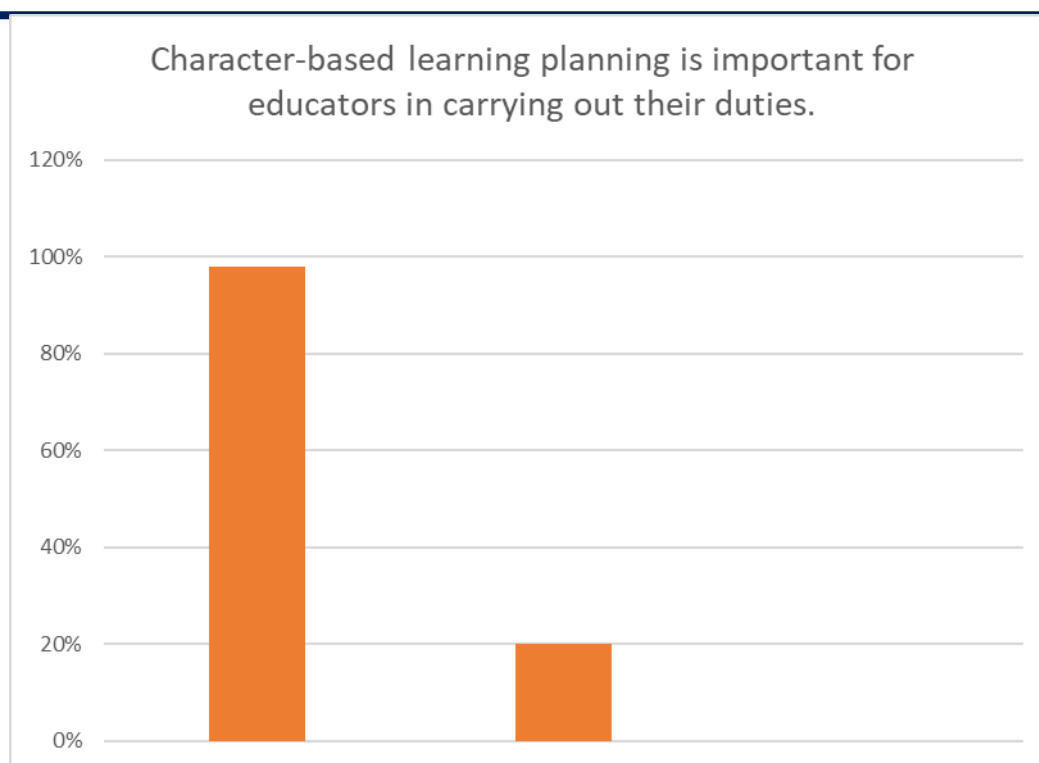
Based on the responder diagram above, it can be seen how the options or opinions regarding character-based learning planning are important for educators in carrying out their duties. Where educators choose various answers, some answer agree, disagree and disagree. Here almost 100% of respondents answered agree to the question, among those who answered that 98.3% answered agree, 20% answered disagree and 0% who answered disagree. Students who answered disagree from the question about character-based learning planning is an important thing for educators in carrying out their duties, if there is no character-based learning planning, morals, behavior, temperament, morals and others, and is an important thing for educators. Students who answer agree from the question regarding the question above can help the teaching and learning process.

character-based learning planning is an effort to form good habits in students from an early age
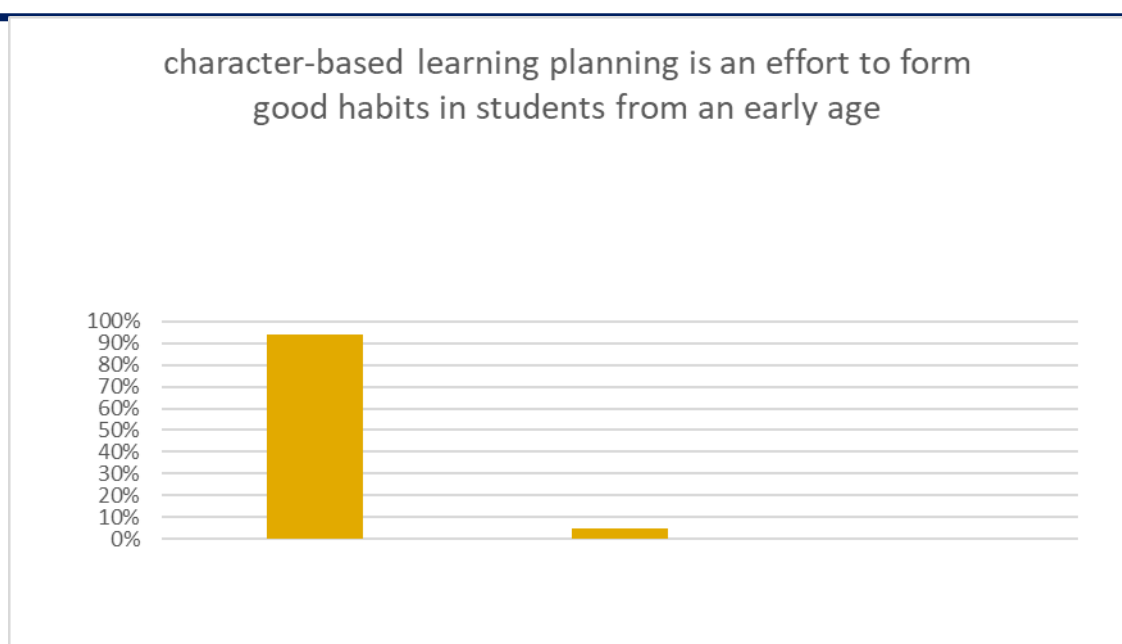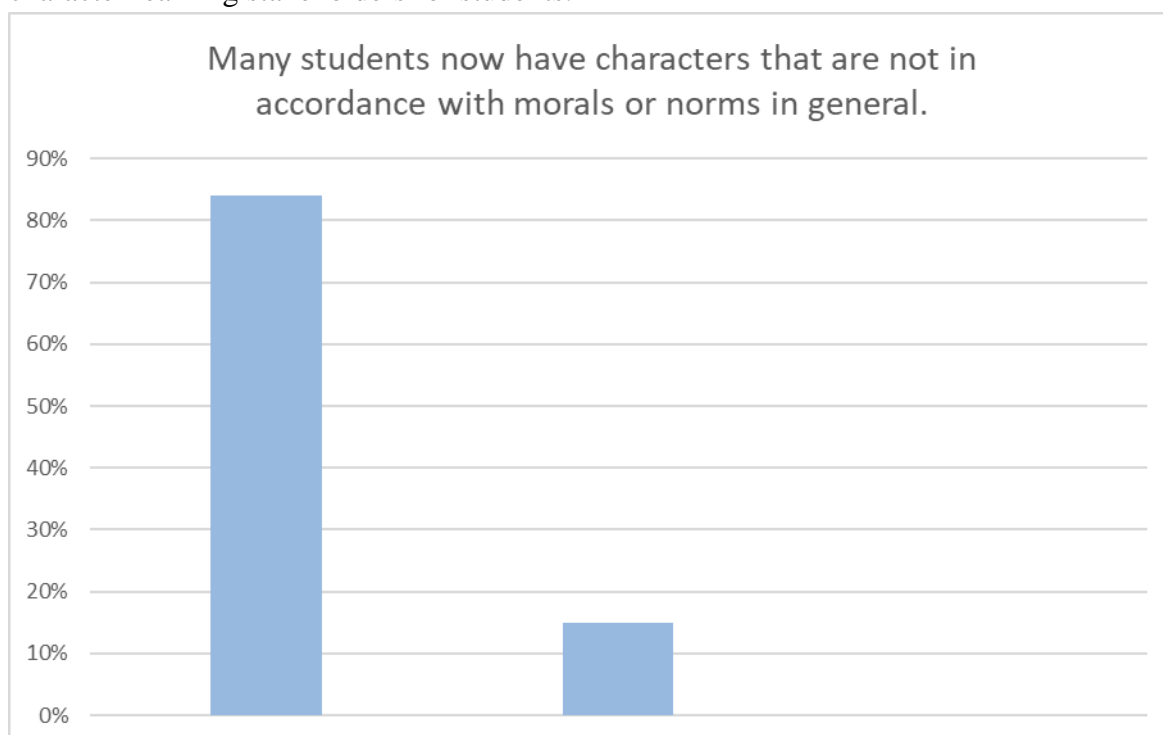

Judging from the diagram above, the relevant respondents who answered agreed, disagreed less. About the question of character-based learning planning is an effort to form good habits in students now. Here we can almost 100% of respondents answered agree to the question. Respondents chose to agree as much as 94.9% and 5.1% for respondents who disagreed. Students who answered disagree maybe they don't really understand how important it is to apply character to children, apply good morals to children. Students who answered in the affirmative must have understood how important it is for children to be equipped with good morals from now on, and so that they from a young age can apply the best morals as well as these good characters, and when they grow up, they only add or maintain these good morals or maintain these good characters. This is very much beneficial for students.

character-based learning planning is very useful for character learning stakeholders
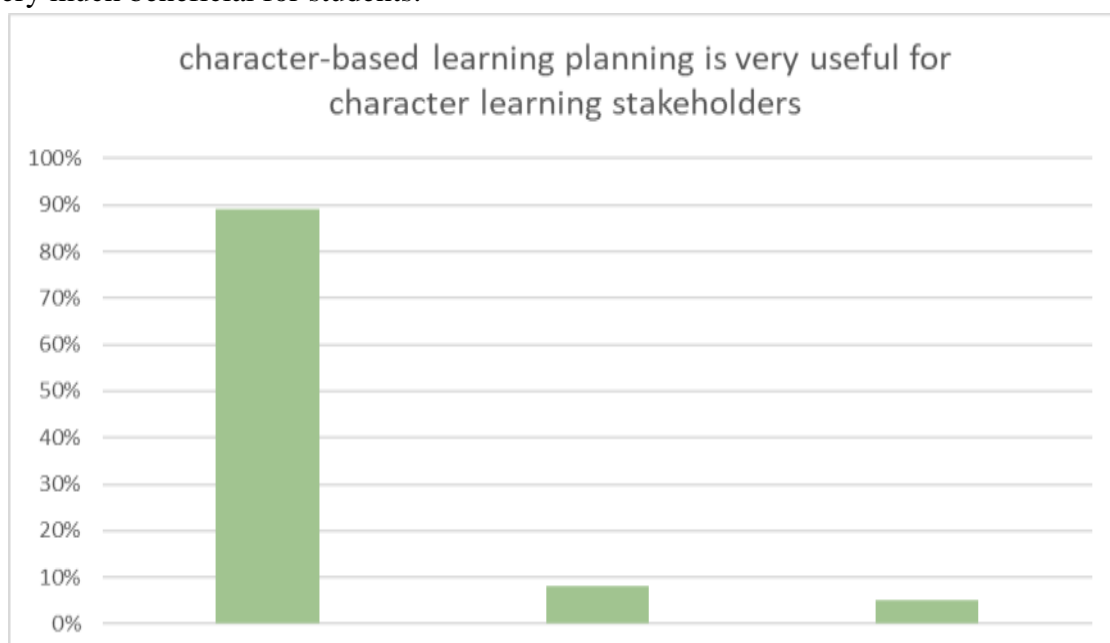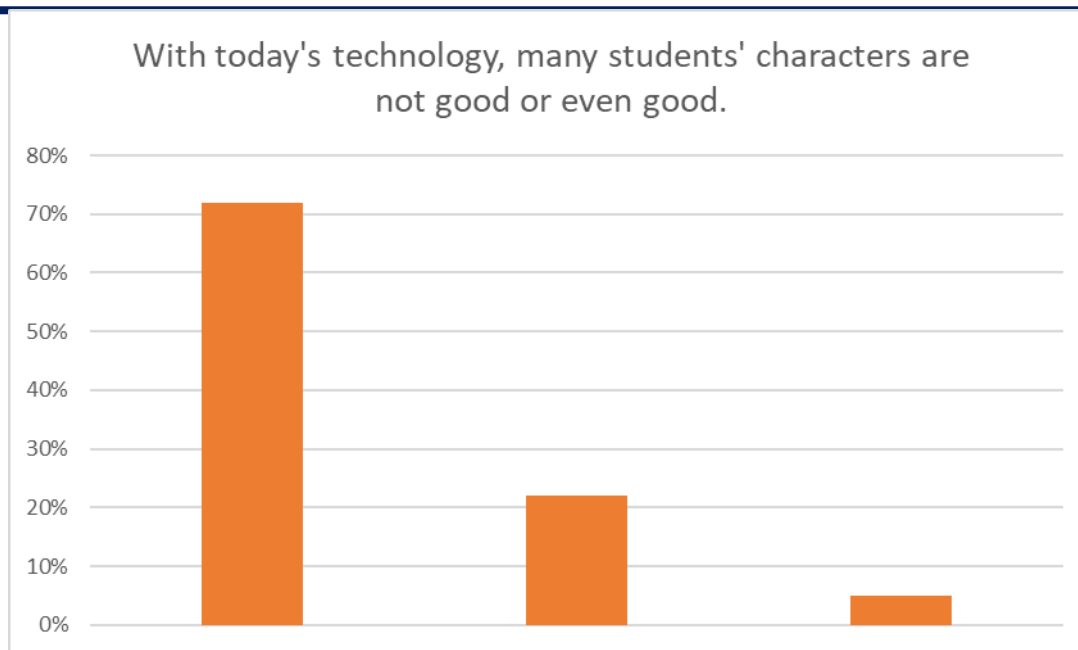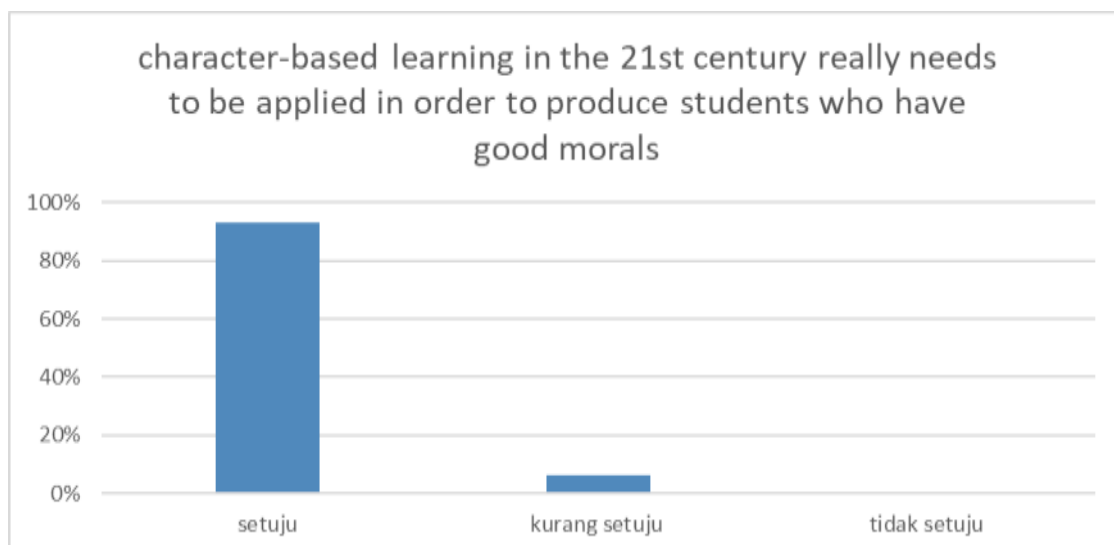
Judging from the diagram above, many chose to agree with the question given, namely that character-based learning planning is very useful for character learning stakeholders. From this it can be obtained that character-based learning is beneficial for character learning stakeholders. However, here we see the same there are 3 options or answers from spanden, 89.8% who answered agree, 8.5% who answered disagree and 1.5% who answered disagree. if analyzed from the results of obtaining data from respondents, it can be seen that many answered agree, this is because here stakeholders are a collection of a number of individuals who join and have a commitment to collaborate with each other to achieve the same goal, both to change the character of students who were initially not good so they are better than before. As for those who disagree, they disagree because students cannot really understand the question about the benefits of character learning stakeholders for students.

Many students now have characters that are not in accordance with morals or norms in general.

Judging from the diagram above, many chose to agree, almost 100% who answered agree to the questions given, where the question is that many educators now have characters that are not in accordance with the morals or character of children in general. Here it can be obtained that there are many students whose characters are in accordance with good morals or morals. There are 2 options about the question, 84.7% who answered agree and 15.3% who answered disagree. Most respondents answered agree because in general the character of today's children who deviate from their behavior is not in accordance with the character of children who are right, not good morals, not in accordance with the morals or character of good children. Respondents who chose to disagree may not really understand the question, or indeed do not see children today whose morals are not good, less polite, less good character.

With today's technology, many students' characters are not good or even good.
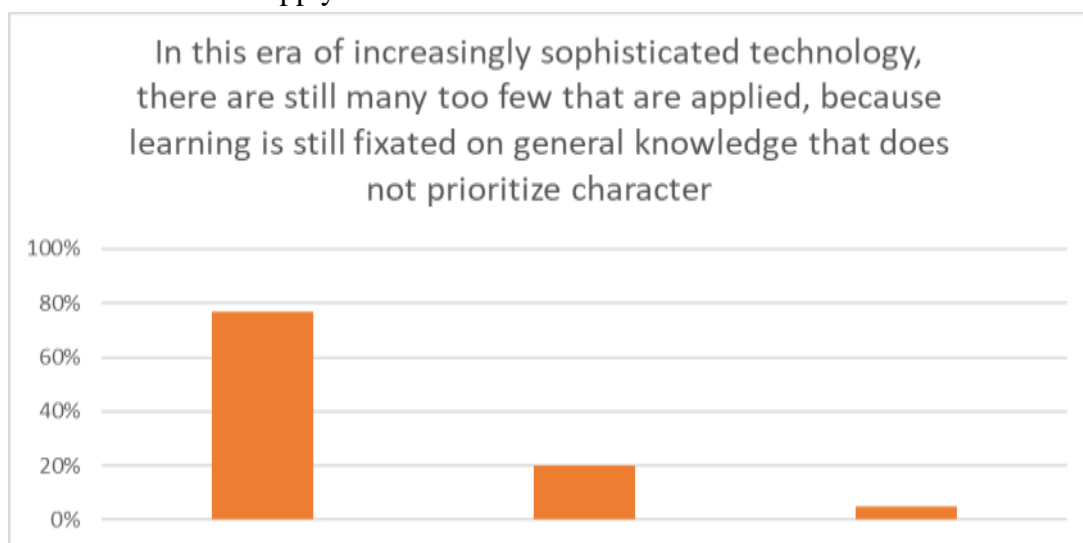
Judging from the diagram above, it can be seen that many choose to agree to the question with the existence of technology now many characters are not good or even bad, children nowadays if they are connected to increasingly sophisticated technology, children forget the real world. There are several options from respondents regarding this question, but many agree with the question, 72.9% who agree with the question, 22% who disagree and 5.1% who disagree with this. Judging from those who chose to agree, many children now because of the gaming world, because of the sophisticated world of technology they forget about the real world, many children now have poor character, children are busy with the world of technology alone, and do not care about what happens around or around them, many of their characters are deviant. For those who choose to disagree, maybe these children already understand using technology, can divide their time, already understand the function of technology, and pay attention to character and pay attention to their behavior and morals.

character-based learning in the 21st century really needs to be applied in order to produce students who have good morals

It can be seen from the diagram above that many people choose to agree to the question that It is given that character-based learning in the 21st century is very necessary in order to produce students who have good morals. From this it can be seen or obtained that character learning really needs to be implemented in schools so that students can have good morals. There are 2 options or 2 answers to respondents from the question above, 93.2% of respondents who answered agreed to the question and 6.8% of respondents who disagreed with the question. If analyzed from the results of the data obtained by the respondents, it can be concluded that many agree that character learning needs to be implemented in schools or further improved so that they can guide, nurture, educate students to have good morals And respondents who disagree about the argument may not understand the need to apply character to students.

It can be seen from the diagram above how the opinions of students and educators on this increasingly sophisticated technological era are still not applied because general knowledge is used as a reference and does not prioritize character. There are so many options from the question above, some agree, some disagree, and some do not agree. But most respondents agreed with the question above. 785 agreed with the question above, 20.3% disagreed with the question above and 5% disagreed with the question above. Respondents who chose to agree mostly in this era of rapid technology, many of which are not applied in schools, educators only focus on the general knowledge that educators have, and neglect less important characters that must be put forward. For those who disagree, they may not understand the question, or there are already those who apply technology as a reference to add insight and prioritize character.

students will be helped to have a character that has been prepared in the planning.
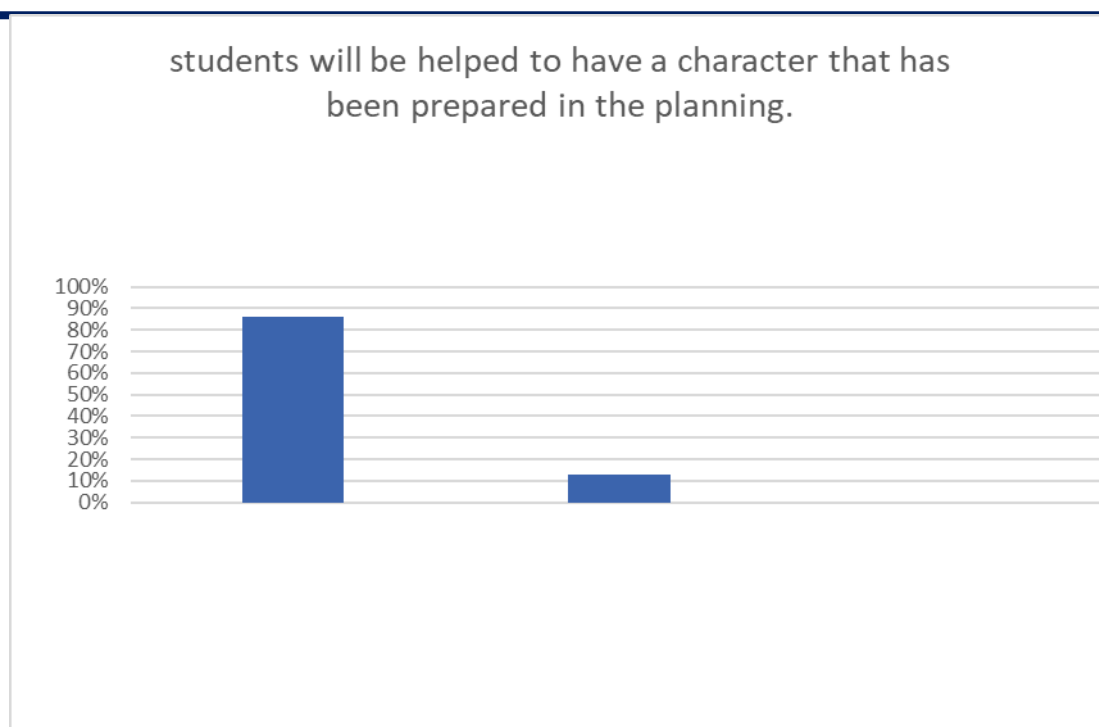
It can be seen from the diagram that many people agree with the question given, which is that students will be helped to have a character that has been prepared in planning. From this it can be obtained that students will be helped to have a good character that has been provided or that has been prepared by educators when they want to teach in class. Here there are 2 answer options, namely agree and disagree, 86.6% of respondents agreed with the question and 15.4% of respondents disagreed with the question. If analyzed from the acquisition of data from respondents, it can be seen that many agree, this is because students will be helped to have character when the educator has already or first prepared or planned the character. Students who answer less agree may not understand or understand less about this, and maybe they disagree because they think that students are not helped by educators will be helped if educators plan the character.

CONCLUSION

Lesson planning is something that educators really need in doing their job as an educator. Learning planning includes a projection of something that will be done by a learner to coordinate learning components. Character-based learning planning prioritizes aspects of attitude, behavior, behavior, character, habits, or character that will be conveyed to a learner. Before carrying out teaching and learning activities, a careful planning is needed so that lessons become more effective. Therefore, lesson planning is needed and must be carried out by educators when going to teach into the classroom. If someone wants to instill character values in children or students, then the planning must be character-based. Planning plays an important role in guiding a learner to carry out his duties as an educator in serving the learning needs of students, and is also intended as the first stage or step before the learning process takes place, and is used as a guide for educator activities in the teaching and learning process which is systematically arranged.

REFERENCES

Afshin, A., Sur, P. J., Fay, K. A., Cornaby, L., Ferrara, G., Salama, J. S., Mullany, E. C., Abate, K. H., Abbafati, C., Abebe, Z., Afarideh, M., Aggarwal, A., Agrawal, S., Akinyemiju, T., Alahdab, F., Bacha, U., Bachman, V. F., Badali, H., Badawi, A., … Murray, C. J. L. (2019). Health effects of dietary risks in 195 countries, 1990–2017: A systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, *393*(10184), 1958–1972. https://doi.org/10.1016/S0140-6736(19)30041-8

Agha, R., Abdall-Razak, A., Crossley, E., Dowlut, N., Iosifidis, C., Mathew, G., Beamishaj, Bashashati, M., Millham, F. H., Orgill, D. P., Noureldin, A., Nixon, I. J., Alsawadi, A., Bradley, P. J., Giordano, S., Laskin, D. M., Basu, S., Johnston, M., Muensterer, O. J., … Ather, M. H. (2019). STROCSS 2019 Guideline: Strengthening the reporting of cohort studies in surgery. *International Journal of Surgery*, *72*, 156–165. https://doi.org/10.1016/j.ijsu.2019.11.002

Albawi, S., Mohammed, T. A., & Al-Zawi, S. (2017). Understanding of a convolutional neural network. *2017 International Conference on Engineering and Technology (ICET)*, 1–6. https://doi.org/10.1109/ICEngTechnol.2017.8308186

Alzheimer's Association. (2018). 2018 Alzheimer's disease facts and figures. *Alzheimer's & Dementia*, *14*(3), 367–429. https://doi.org/10.1016/j.jalz.2018.02.001

Anderson, R. M., Heesterbeek, H., Klinkenberg, D., & Hollingsworth, T. D. (2020). How will country-based mitigation measures influence the course of the COVID-19 epidemic? *The Lancet*, *395*(10228), 931–934. https://doi.org/10.1016/S0140-6736(20)30567-5

Bannuru, R. R., Osani, M. C., Vaysbrot, E. E., Arden, N. K., Bennell, K., Bierma-Zeinstra, S. M. A., Kraus, V. B., Lohmander, L. S., Abbott, J. H., Bhandari, M., Blanco, F. J., Espinosa, R., Haugen, I. K., Lin, J., Mandl, L. A., Moilanen, E., Nakamura, N., Snyder-Mackler, L., Trojian, T., … McAlindon, T. E. (2019). OARSI guidelines for the non-surgical management of knee, hip, and polyarticular osteoarthritis. *Osteoarthritis and Cartilage*, *27*(11), 1578–1589. https://doi.org/10.1016/j.joca.2019.06.011

Bansal, M. (2020). Cardiovascular disease and COVID-19. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, *14*(3), 247–250. https://doi.org/10.1016/j.dsx.2020.03.013

Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., & Jemal, A. (2018). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*, *68*(6), 394–424. https://doi.org/10.3322/caac.21492

Büchi, G., Cugno, M., & Castagnoli, R. (2020). Smart factory performance and Industry 4.0. *Technological Forecasting and Social Change*, *150*, 119790. https://doi.org/10.1016/j.techfore.2019.119790

Chen, Q., Liang, M., Li, Y., Guo, J., Fei, D., Wang, L., He, L., Sheng, C., Cai, Y., Li, X., Wang, J., & Zhang, Z. (2020). Mental health care for medical staff in China during the COVID-19 outbreak. *The Lancet Psychiatry*, *7*(4), e15–e16. https://doi.org/10.1016/S2215-0366(20)30078-X

Cho, N. H., Shaw, J. E., Karuranga, S., Huang, Y., da Rocha Fernandes, J. D., Ohlrogge, A. W., & Malanda, B. (2018). IDF Diabetes Atlas: Global estimates of diabetes prevalence for 2017 and projections for 2045. *Diabetes Research and Clinical Practice*, *138*, 271–281. https://doi.org/10.1016/j.diabres.2018.02.023

Choi, Y., Choi, M., Kim, M., Ha, J.-W., Kim, S., & Choo, J. (2018). StarGAN: Unified Generative Adversarial Networks for Multi-domain Image-to-Image Translation. *2018 IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 8789–8797. https://doi.org/10.1109/CVPR.2018.00916

Chu, D. K. W., Pan, Y., Cheng, S. M. S., Hui, K. P. Y., Krishnan, P., Liu, Y., Ng, D. Y. M., Wan, C. K. C., Yang, P., Wang, Q., Peiris, M., & Poon, L. L. M. (2020). Molecular Diagnosis of a Novel Coronavirus (2019-nCoV) Causing an Outbreak of Pneumonia. *Clinical Chemistry*, *66*(4), 549–555. https://doi.org/10.1093/clinchem/hvaa029

Deng, J., Guo, J., Xue, N., & Zafeiriou, S. (2019). ArcFace: Additive Angular Margin Loss for Deep Face Recognition. *2019 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 4685–4694. https://doi.org/10.1109/CVPR.2019.00482

Diercks, C. S., Lin, S., Kornienko, N., Kapustin, E. A., Nichols, E. M., Zhu, C., Zhao, Y., Chang, C. J., & Yaghi, O. M. (2018). Reticular Electronic Tuning of Porphyrin Active Sites in Covalent Organic Frameworks for Electrocatalytic Carbon Dioxide Reduction. *Journal of the American Chemical Society*, *140*(3), 1116–1122. https://doi.org/10.1021/jacs.7b11940

Feng, S., Shen, C., Xia, N., Song, W., Fan, M., & Cowling, B. J. (2020). Rational use of face masks in the COVID-19 pandemic. *The Lancet Respiratory Medicine*, *8*(5), 434–436. https://doi.org/10.1016/S2213-2600(20)30134-X

Griffin, B. J., Purcell, N., Burkman, K., Litz, B. T., Bryan, C. J., Schmitz, M., Villierme, C., Walsh, J., & Maguen, S. (2019). Moral Injury: An Integrative Review. *Journal of Traumatic Stress*, *32*(3), 350–362. https://doi.org/10.1002/jts.22362

Heidari, A. A., Mirjalili, S., Faris, H., Aljarah, I., Mafarja, M., & Chen, H. (2019). Harris hawks optimization: Algorithm and applications. *Future Generation Computer Systems*, *97*, 849–872. https://doi.org/10.1016/j.future.2019.02.028

Hu, M., Graves, C. E., Li, C., Li, Y., Ge, N., Montgomery, E., Davila, N., Jiang, H., Williams, R. S., Yang, J. J., Xia, Q., & Strachan, J. P. (2018). Memristor-Based Analog Computation and Neural Network Classification with a Dot Product Engine. *Advanced Materials*, *30*(9), 1705914. https://doi.org/10.1002/adma.201705914

Ibanez, B., James, S., Agewall, S., Antunes, M. J., Bucciarelli-Ducci, C., Bueno, H., Caforio, A. L. P., Crea, F., Goudevenos, J. A., Halvorsen, S., Hindricks, G., Kastrati, A., Lenzen, M. J., Prescott, E., Roffi, M., Valgimigli, M., Varenhorst, C., Vranckx, P., Widimský, P., … Gale, C. P. (2018). 2017 ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation. *European Heart Journal*, *39*(2), 119–177. https://doi.org/10.1093/eurheartj/ehx393

Islam, A., & Shin, S. Y. (2019). BUS: A Blockchain-Enabled Data Acquisition Scheme With the Assistance of UAV Swarm in Internet of Things. *IEEE Access*, *7*, 103231–103249. https://doi.org/10.1109/ACCESS.2019.2930774

Kahneman, D., & Tversky, A. (Ed.). (2000). *Choices, Values, and Frames:* (1 ed.). Cambridge University Press. https://doi.org/10.1017/CBO9780511803475

Kemper, W. D., & Rosenau, R. C. (2018). Aggregate Stability and Size Distribution. Dalam A. Klute (Ed.), *SSSA Book Series* (hlm. 425–442). Soil Science Society of America, American Society of Agronomy. https://doi.org/10.2136/sssabookser5.1.2ed.c17

Knutson, T., Camargo, S. J., Chan, J. C. L., Emanuel, K., Ho, C.-H., Kossin, J., Mohapatra, M., Satoh, M., Sugi, M., Walsh, K., & Wu, L. (2020). Tropical Cyclones

and Climate Change Assessment: Part II: Projected Response to Anthropogenic Warming. *Bulletin of the American Meteorological Society*, *101*(3), E303–E322. https://doi.org/10.1175/BAMS-D-18-0194.1

Lau, W. C. M., & Grieshaber, S. (2018). School-based integrated curriculum: An integrated music approach in one Hong Kong kindergarten. *British Journal of Music Education*, *35*(2), 133–152. https://doi.org/10.1017/S0265051717000250

Lemoine, G. J., Hartnell, C. A., & Leroy, H. (2019). Taking Stock of Moral Approaches to Leadership: An Integrative Review of Ethical, Authentic, and Servant Leadership. *Academy of Management Annals*, *13*(1), 148–187. https://doi.org/10.5465/annals.2016.0121

Li, M., Lu, J., Chen, Z., & Amine, K. (2018). 30 Years of Lithium-Ion Batteries. *Advanced Materials*, *30*(33), 1800561. https://doi.org/10.1002/adma.201800561

Martín-Martín, A., Orduna-Malea, E., Thelwall, M., & Delgado López-Cózar, E. (2018). Google Scholar, Web of Science, and Scopus: A systematic comparison of citations in 252 subject categories. *Journal of Informetrics*, *12*(4), 1160–1177. https://doi.org/10.1016/j.joi.2018.09.002

McDonagh, T. A., Metra, M., Adamo, M., Gardner, R. S., Baumbach, A., Böhm, M., Burri, H., Butler, J., Čelutkienė, J., Chioncel, O., Cleland, J. G. F., Coats, A. J. S., Crespo-Leiro, M. G., Farmakis, D., Gilard, M., Heymans, S., Hoes, A. W., Jaarsma, T., Jankowska, E. A., … Skibelund, A. K. (2021). 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. *European Heart Journal*, *42*(36), 3599–3726. https://doi.org/10.1093/eurheartj/ehab368

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M., & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, *78*, 185–193. https://doi.org/10.1016/j.ijsu.2020.04.018

Phua, J., Weng, L., Ling, L., Egi, M., Lim, C.-M., Divatia, J. V., Shrestha, B. R., Arabi, Y. M., Ng, J., Gomersall, C. D., Nishimura, M., Koh, Y., & Du, B. (2020). Intensive care management of coronavirus disease 2019 (COVID-19): Challenges and recommendations. *The Lancet Respiratory Medicine*, *8*(5), 506–517. https://doi.org/10.1016/S2213-2600(20)30161-2

Raissi, M., Perdikaris, P., & Karniadakis, G. E. (2019). Physics-informed neural networks: A deep learning framework for solving forward and inverse problems involving nonlinear partial differential equations. *Journal of Computational Physics*, *378*, 686–707. https://doi.org/10.1016/j.jcp.2018.10.045

Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian Journal of Psychiatry*, *52*, 102066. https://doi.org/10.1016/j.ajp.2020.102066

Rao, S. S. (2019). *Engineering Optimization Theory and Practice* (1 ed.). Wiley. https://doi.org/10.1002/9781119454816

Siegel, R. L., Miller, K. D., & Jemal, A. (2020). Cancer statistics, 2020. *CA: A Cancer Journal for Clinicians*, *70*(1), 7–30. https://doi.org/10.3322/caac.21590

Sun, C., Mezzadra, R., & Schumacher, T. N. (2018). Regulation and Function of the PD-L1 Checkpoint. *Immunity*, *48*(3), 434–452. https://doi.org/10.1016/j.immuni.2018.03.014

Sung, F., Yang, Y., Zhang, L., Xiang, T., Torr, P. H. S., & Hospedales, T. M. (2018). Learning to Compare: Relation Network for Few-Shot Learning. *2018 IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 1199–1208. https://doi.org/10.1109/CVPR.2018.00131

Szklarczyk, D., Gable, A. L., Lyon, D., Junge, A., Wyder, S., Huerta-Cepas, J., Simonovic, M., Doncheva, N. T., Morris, J. H., Bork, P., Jensen, L. J., & Mering, C. von. (2019). STRING v11: Protein–protein association networks with increased coverage, supporting functional discovery in genome-wide experimental datasets. *Nucleic Acids Research*, *47*(D1), D607–D613. https://doi.org/10.1093/nar/gky1131

Tacconelli, E., Carrara, E., Savoldi, A., Harbarth, S., Mendelson, M., Monnet, D. L., Pulcini, C., Kahlmeter, G., Kluytmans, J., Carmeli, Y., Ouellette, M., Outterson, K., Patel, J., Cavaleri, M., Cox, E. M., Houchens, C. R., Grayson, M. L., Hansen, P., Singh, N., … Zorzet, A. (2018). Discovery, research, and development of new antibiotics: The WHO priority list of antibiotic-resistant bacteria and tuberculosis. *The Lancet Infectious Diseases*, *18*(3), 318–327. https://doi.org/10.1016/S1473-3099(17)30753-3

Thema, M., Bauer, F., & Sterner, M. (2019). Power-to-Gas: Electrolysis and methanation status review. *Renewable and Sustainable Energy Reviews*, *112*, 775–787. https://doi.org/10.1016/j.rser.2019.06.030

Théry, C., Witwer, K. W., Aikawa, E., Alcaraz, M. J., Anderson, J. D., Andriantsitohaina, R., Antoniou, A., Arab, T., Archer, F., Atkin-Smith, G. K., Ayre, D. C., Bach, J.-M., Bachurski, D., Baharvand, H., Balaj, L., Baldacchino, S., Bauer, N. N., Baxter, A. A., Bebawy, M., … Zuba-Surma, E. K. (2018). Minimal information for studies of extracellular vesicles 2018 (MISEV2018): A position statement of the International Society for Extracellular Vesicles and update of the MISEV2014 guidelines. *Journal of Extracellular Vesicles*, *7*(1), 1535750. https://doi.org/10.1080/20013078.2018.1535750

Thompson, A. J., Banwell, B. L., Barkhof, F., Carroll, W. M., Coetzee, T., Comi, G., Correale, J., Fazekas, F., Filippi, M., Freedman, M. S., Fujihara, K., Galetta, S. L., Hartung, H. P., Kappos, L., Lublin, F. D., Marrie, R. A., Miller, A. E., Miller, D. H., Montalban, X., … Cohen, J. A. (2018). Diagnosis of multiple sclerosis: 2017 revisions of the McDonald criteria. *The Lancet Neurology*, *17*(2), 162–173. https://doi.org/10.1016/S1474-4422(17)30470-2

Tortorici, M. A., & Veesler, D. (2019). Structural insights into coronavirus entry. Dalam *Advances in Virus Research* (Vol. 105, hlm. 93–116). Elsevier. https://doi.org/10.1016/bs.aivir.2019.08.002

Wan, Y., Shang, J., Graham, R., Baric, R. S., & Li, F. (2020). Receptor Recognition by the Novel Coronavirus from Wuhan: An Analysis Based on Decade-Long Structural Studies of SARS Coronavirus. *Journal of Virology*, *94*(7), e00127-20. https://doi.org/10.1128/JVI.00127-20

Wang, X., Girshick, R., Gupta, A., & He, K. (2018). Non-local Neural Networks. *2018 IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 7794–7803. https://doi.org/10.1109/CVPR.2018.00813

Wang, Y., Xia, Y., Shen, H., & Zhou, P. (2018). SMC Design for Robust Stabilization of Nonlinear Markovian Jump Singular Systems. *IEEE Transactions on Automatic Control*, *63*(1), 219–224. https://doi.org/10.1109/TAC.2017.2720970

Wang, Y.-X., Girshick, R., Hebert, M., & Hariharan, B. (2018). Low-Shot Learning from Imaginary Data. *2018 IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 7278–7286. https://doi.org/10.1109/CVPR.2018.00760

Wishart, D. S., Feunang, Y. D., Guo, A. C., Lo, E. J., Marcu, A., Grant, J. R., Sajed, T., Johnson, D., Li, C., Sayeeda, Z., Assempour, N., Iynkkaran, I., Liu, Y., Maciejewski, A., Gale, N., Wilson, A., Chin, L., Cummings, R., Le, D., … Wilson,

M. (2018). DrugBank 5.0: A major update to the DrugBank database for 2018. *Nucleic Acids Research*, *46*(D1), D1074–D1082. https://doi.org/10.1093/nar/gkx1037

Yao, X., Ye, F., Zhang, M., Cui, C., Huang, B., Niu, P., Liu, X., Zhao, L., Dong, E., Song, C., Zhan, S., Lu, R., Li, H., Tan, W., & Liu, D. (2020). In Vitro Antiviral Activity and Projection of Optimized Dosing Design of Hydroxychloroquine for the Treatment of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). *Clinical Infectious Diseases*, *71*(15), 732–739. https://doi.org/10.1093/cid/ciaa237

Yuan, J., Zhang, Y., Zhou, L., Zhang, G., Yip, H.-L., Lau, T.-K., Lu, X., Zhu, C., Peng, H., Johnson, P. A., Leclerc, M., Cao, Y., Ulanski, J., Li, Y., & Zou, Y. (2019). Single-Junction Organic Solar Cell with over 15% Efficiency Using Fused-Ring Acceptor with Electron-Deficient Core. *Joule*, *3*(4), 1140–1151. https://doi.org/10.1016/j.joule.2019.01.004