

Living planetarium: challenges for surviving the pandemic

D. M. Allen¹, D. B. Seriacopi¹, R. R. de Campos¹, N. D. V. de Oliveira¹, F. Bianchini¹ & S. Araujo¹

¹ Planetário Municipal do Carmo - Prof. Acácio Riberi. e-mail: dallen@prefeitura.sp.gov.br

Abstract. Planetariums are spaces for non-formal education, structured to welcome the public. Until 2019, hardly any other form, but on-site service, in these institutions was considered. However, in 2020, planetariums were taken by surprise by the pandemic, forcing them to reinvent themselves. Initially, it was thought that the situation would end up quickly, and everything would return to normal soon. As the time passed by and the situation worsened, many planetariums around the world realized that they needed to change how they served and engaged the audience (Petersen 2020). A group of members from the Brazilian Planetarium Association (ABP) developed a virtual session described in Allen (2020), presented on the September equinox, attended live by over 40,000 people, mainly involving the school audience. At the Carmo Planetarium, we directed our efforts almost entirely towards social media, and the result upon reopening was surprising. In this work, we demonstrate how we kept the Carmo Planetarium alive during the long months of closure due to the pandemic and compare the numbers of in-person attendance before and after this dark period.

Resumo. Planetários são espaços de educação não formal, estruturados para receber o público. Até 2019, dificilmente se pensava em outra forma de atendimento nessas instituições. Porém, em 2020 os planetaristas foram surpreendidos pela pandemia, obrigando-os a se reinventar. No início, imaginava-se que aquela situação acabaria rapidamente, e logo tudo voltaria ao normal. Com o passar dos meses, vendo a situação se agravar cada vez mais, muitos planetaristas pelo mundo afora perceberam que precisavam mudar a forma de atender e cativar o público (Petersen 2020). Um grupo de membros da Associação Brasileira de Planetários (ABP) elaborou uma sessão virtual descrita em Allen (2020), apresentada no equinócio de setembro, assistida ao vivo por mais de 40 mil pessoas, envolvendo principalmente o público escolar. No Planetário do Carmo, voltamos nossos esforços quase completamente para as redes sociais, e o resultado na reabertura foi surpreendente. Neste trabalho, mostramos como mantivemos o Planetário do Carmo vivo durante os longos meses de fechamento pela pandemia, e a comparação entre os números de atendimento presencial antes e depois desse período tão sombrio.

Keywords. Teaching of Astronomy

1. Introduction

Planetariums play a crucial role in the promotion and teaching of astronomy, offering immersive and educational experiences that transcend the limitations of traditional education. These institutions use advanced technology to simulate the starry sky. Their importance in scientific communication is notable, providing a bridge between the complexity of the universe and the understanding of the general public. They play a vital role in popularizing astronomy, making complex astronomical concepts accessible to all ages. In this context, we will explore the trajectory of Carmo planetarium, highlighting how this educational space has adapted to contemporary challenges, such as the global pandemic, and continue to play an essential role in promoting astronomical knowledge.

2. Social Media

During the pandemic, all planetariums worldwide had to close their doors. In response to these unprecedented circumstances, the Carmo Planetarium had to adapt its traditional shows, substituting them with engaging alternatives such as live streams and video series. This material remains accessible through the YouTube channel (Planetários de São Paulo) and social media posts. Embracing the digital realm, the Carmo planetarium navigated the challenges posed by the pandemic by venturing into new territories, including the innovative creation of a Planetarium map in the popular gaming platform Minecraft (Righi and Castejon 2021). This innovative project showcased the resilience and adaptability of the Carmo Planetarium in the face of unprecedented circumstances. Social media played a crucial role in keeping the Carmo Planetarium active during this

period, and they continue to be used today, albeit with less intensity.

3. Visitor Services

The reopening of the Carmo Planetarium during the pandemic took place on October 12, 2021, with a record number of visitors. From that date onward, the Planetarium operated in pandemic mode, offering only one show and one guided tour per week. The number of activities offered increased as the pandemic situation eased, leading to a corresponding audience growth. Fig. 1 depicts the evolution of the Carmo Planetarium's audience in the pre-pandemic era (2019), in 2022 and 2023, compared to the audience of the Ibirapuera Planetarium in 2019.

The audience disparity between the two planetariums in 2019 is significant, with Carmo being much less frequented at that time. However, the lines representing attendance at Carmo in 2022 and 2023 show a notable audience growth. The spike in attendance in August is attributed to the *Festa das Cerejeiras*, which occurs annually in that month. The increase in attendance in May and August 2022 is due to the partnership with CEU Parque do Carmo, where night observations were conducted. The declines observed mainly in 2023 are attributed to structural issues that resulted in numerous activity cancellations.

In addition to the general public, the Carmo Planetarium serves schools on Fridays during the school term. Since bookings depend on the interest and availability of schools rather than the spontaneity of the public, there has not been much change in attendance from one year to the next (see Fig. 2). This is an important data point, indicating that spontaneous visitors are more frequently seeking out the Carmo Planetarium since 2022.

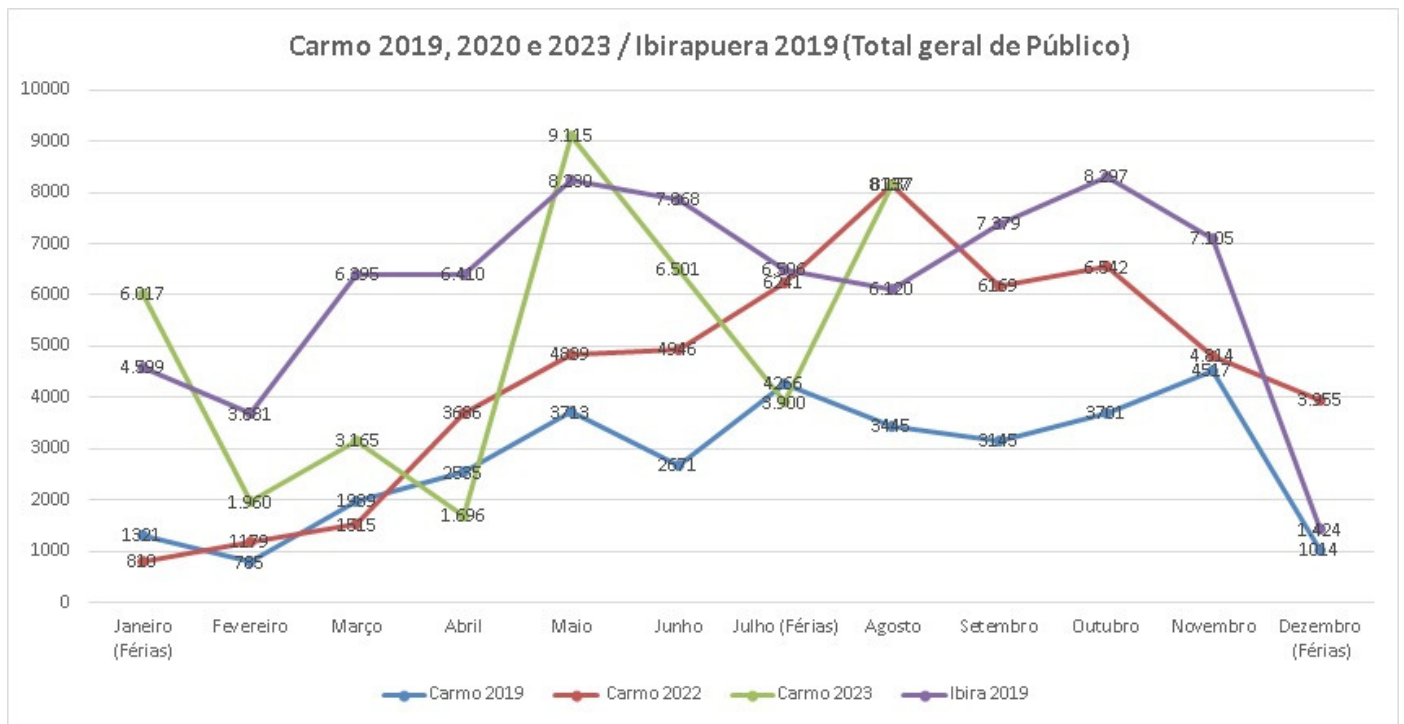


FIGURE 1. Audience at Carmo Planetarium in 2019, 2022 and 2023, compared to Ibirapuera Planetarium in 2019.

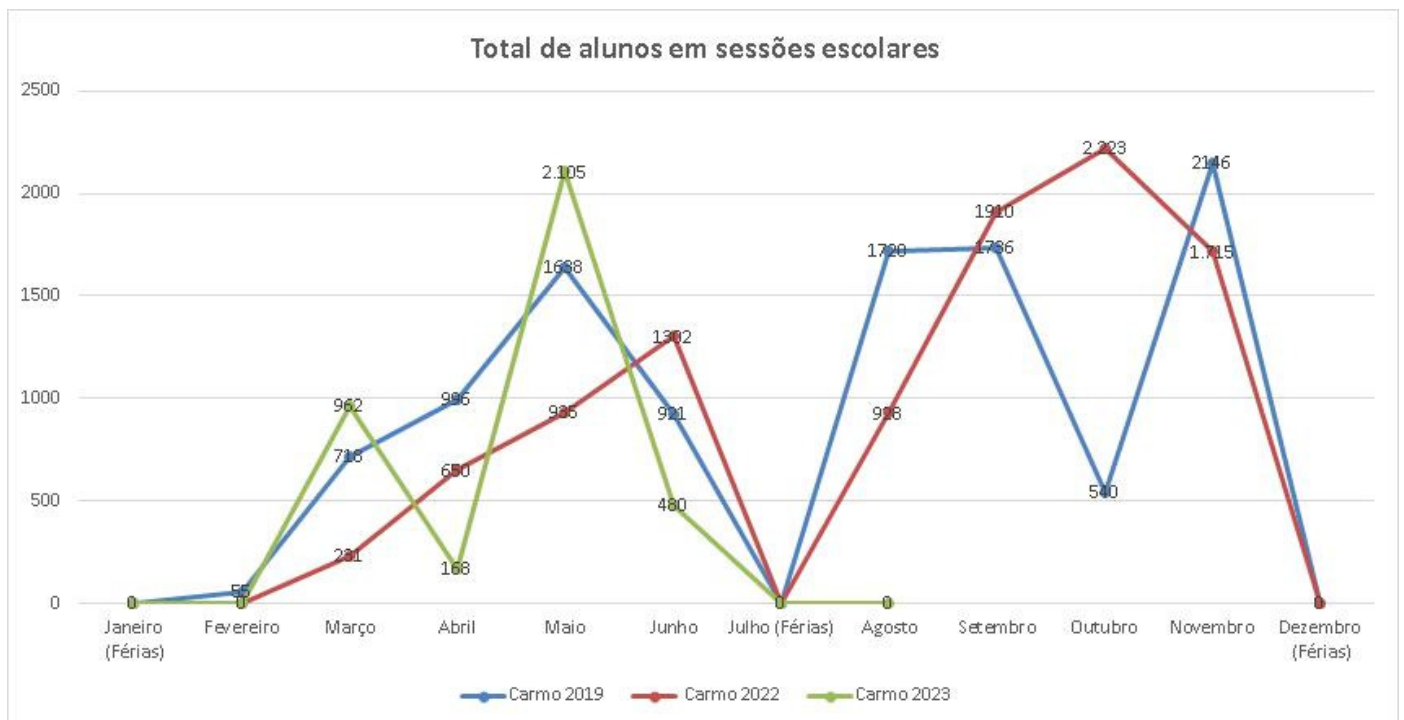


FIGURE 2. School audience at Carmo Planetarium in 2019, 2022 and 2023.

4. Conclusion

Although the pandemic abruptly halted activities in 2020, the period on social media brought visibility to the Carmo Planetarium. Since reopening, an intensive in-person schedule featuring new sessions, exhibitions blending art and science, sky observations, among others, has captivated the audience. Thus, despite all the challenges imposed by the pandemic, the Carmo Planetarium remained alive during this period. More than that, it continued to shine!

References

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