The goal of this study is to provide a theoretical model regarding sightplaying phenomena based upon investigation, analysis, and synthesis from a large amount of research findings, observation results, theoretical ideas, teaching methods, and perspectives from various fields of study including psychology of music, music education, psycho-musicology, and neurological science. Specifically, the focus of the study is on an individual’s ability to sightplay on the piano. As a result of an extended review of literature, the author proposed a generalized picture about the possible components shown to be involved in the process of sightplaying development as well as sightplaying performance. With a qualitative philosophy as the research methodology and multiple perspectives in mind, the author believes that the model describing the four sightplaying components, CAPE: physical Coordination, musical Awareness, musical Potential, and musical Experiences, is useful as an instructional and experimental guideline for investigating and understanding a unique sightplaying ability in each individual as well as sightplaying performance in different circumstances. When using this model, music educators and researchers need to be aware that variations among levels or differences in the strengths of the component have not been predicted by this model. Any generalizations and implications need to be drawn with appropriate caution.