



Role-Playing as an Alternative Approach for Interactive Learning in Participatory Planning Education

Chrisna T. Permana^{ab*}, Azka F. Najwa^a

Urban and Regional Planning Programme, Universitas Sebelas Maret, Surakarta, Indonesia^a

Center for Engineering Education, Universitas Sebelas Maret, Surakarta, Indonesia^b

chrisna.permana@staff.uns.ac.id, azkafauzianajwa@student.uns.ac.id

ABSTRACT

BACKGROUND & CONTEXT

Participatory planning subject is an essential yet complex aspect of urban planning education. It involves abstract concepts such as social dynamics, power relations, actor networks, and subjective perceptions elements that are often difficult to comprehend through conventional learning methods. Along with the need to develop more student-centred learning, role-playing is explored by academic institutions to strengthen participatory planning education methods.

PURPOSE OR GOAL

This study aims to explore the process through which role-playing can be applied in planning education to strengthen learning activities for abstract subjects such as participatory planning theories. The goal is to determine whether role-playing can enhance student engagement through course design, improve conceptual understanding through discussions techniques, and foster essential competencies in participatory planning through the reporting and presentation activities.

APPROACH OR METHODOLOGY

This study is qualitative in nature. Data were collected through class observations, interviews, and documentary reviews. The analysis process involved a mixture of discourse and content analysis. The study object is two groups of fifty undergraduate students in the Department of Urban and Regional Planning, Faculty of Engineering, Universitas Sebelas Maret.

OUTCOMES

Role-playing method encourages critical thinking, active communication, and the development of basic practical skills of planning such as negotiation and decision-making.

CONCLUSIONS

Role-playing is a promising pedagogical tool to enhance learning approach to participatory planning that supplements students with in-depth understanding, technical skill, empirical knowledge from real-case problems. However, its effectiveness depends on thorough instructional design and preparation, lecturers' knowledge, and active student participation.

KEYWORDS

Interactive-learning, Role-playing, Participatory Planning, Planning Education.

Introduction

In recent years, participatory planning has emerged as a critical approach in urban planning practices, emphasising an interactive process between planners as a facilitator and other stakeholders as active participants in the plan-making. This approach allows more bottom-up and engaging process that encourage mutual learning, ensuring planning decisions are decided under equal knowledge, understanding, and commitment (Soikkeli et al., 2023). Whilst this approach is promising, its actual implementations remain challenging (Faehnle & Tyrväinen, 2013). There are obstacles to realise participation, such as power, knowledge, networking imbalance, and socio-cultural differences (Harsanto & Permana, 2020).

Participatory planning theory has rapidly evolved and become a core subject in urban planning education worldwide. This paradigm urges universities to equip planning students with both theoretical knowledge and practical skills in communication, stakeholder engagement, negotiation, and open decision-making (Huxley & Yiftachel, 2000). Participatory planning is essential not only in urban and regional planning but also in engineering education. In fields like civil, mechanical, electrical, and industrial engineering, students must learn to engage with stakeholders, negotiate interests, and understand power dynamics in decision-making. These skills are transferable across disciplines, such as negotiating design requirements, coordinating energy projects, or balancing production efficiency with worker welfare. Participatory planning enhances students' organizational behavior and management skills, which are crucial for engineers in socio-technical environments (Fariás, 2011).

Mainstream lectures often fail to convey the real-world complexities of participatory planning, such as power imbalances, elite influence, and the challenges of negotiating interests, which are deeply tied to local contexts (Chrisna T Permana et al., 2021; Booher & Innes, 2002; Ching, 2020). While basic concepts like the ladder of participation are well-covered, students often grasp the theory but struggle to apply it in real-world cases (Innes & Booher, 2010). Experiential and interactive learning methods, such as case studies, group work, and project-based learning, are essential for teaching participatory planning effectively. These approaches allow students to engage with real-world scenarios and develop key interpersonal and analytical skills (Arrighi et al., 2016; Holden, 2008). However, integrating real-world problems into theory-based modules is challenging for educators due to time, material, and budget constraints.

Role-playing is a practical yet underused method in planning education, often overshadowed by fieldwork-based activities like planning studios. Aligned with constructivist learning, it encourages students to manage their knowledge through experience and reflection in roles like community members, government officials, or private sector actors (Pojani & Rocco, 2023; Healey, 2015). Through role-playing, students explore competing interests, conflicting values, and power dynamics in planning decision-making (Chrisna T Permana et al., 2021). Unlike fieldwork-based methods, role-playing offers a controlled environment for students to experiment, make mistakes, and refine their skills, preparing them for the complexities of participatory planning.

This study explores three key questions: how role-playing boosts student engagement, enhances understanding of participatory planning theories, and develops essential competencies for practice. Engagement is measured by attendance, participation, and reflections; understanding through theory application in discussions; and competencies through negotiation, inclusivity, and presentation skills, demonstrating role-playing's value in linking theory to practical learning.

Literature Review

Participatory Planning and Learning Challenge

One major challenge in participatory planning is the expertise imbalance between professional planners and community stakeholders. Planners have technical knowledge in urban theory, policy, and design, while many community members lack formal training, creating barriers to mutual understanding. Technical jargon and complex concepts often lead to misunderstandings and disapproval (Jun & Musso, 2013; Tang & Tang, 2006). Bridging this knowledge gap is crucial to ensure smoother participatory planning practices (Soikkeli et al., 2023).

Another challenge lies in the diverse and often conflicting forms of knowledge that stakeholders bring to the table (Harsanto & Permana, 2020). Communities possess localised, experiential, cultural and religiously-driven knowledge based on existing condition. They form opinions and insights through social networks, cultural practices, and everyday activities that may not be evident to outside planners (Chrisna Trie Permana et al., 2023). Integrating these different forms of knowledge requires careful negotiation and mechanisms to ensure local knowledge influences decision-making without being overshadowed by technical expertise (Seo, 2022). Participatory planning often struggles with knowledge accessibility, as relevant data like zoning laws, landowner registration, and environmental assessments are not always available or easily understood by the public (Chrisna T Permana et al., 2021). This limits the ability of community members to fully engage in the planning process and to challenge assumptions or proposals put forth by planners (C. Permana, 2019). To ensure equitable participation, planners must make data more accessible, promote transparency, and provide resources that empower community stakeholders to contribute meaningfully (Innes & Booher, 2010).

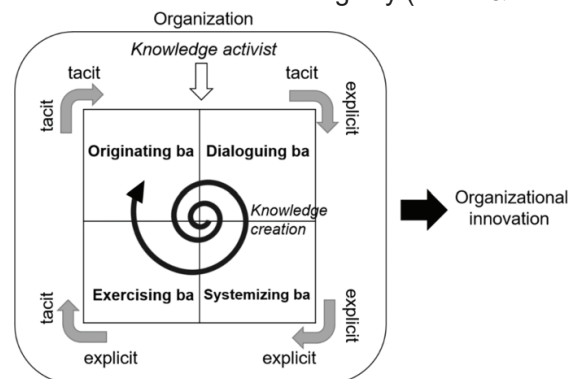


Figure 1: Co-creation of Knowledge in Participatory Planning Practice (Seo, 2022)

Learning by Doing: A Transformation of Planning Education

The complexity of participatory planning has led to a transformation in planning education, moving from traditional in-class learning to more practical, studio-based models. This shift recognizes the need for hands-on experience to fully understand real-world planning challenges (van Assche et al., 2014). While classroom learning provides theoretical foundations, it often lacks practical application. Studio-based models immerse students in project-based learning, where they apply their knowledge to simulate real urban design, zoning, or policy issues (Gal & Fallik, 2022). Studio-based learning fosters creativity, problem-solving, and collaboration, simulating real-world planning dynamics (Boelens, 2011). It includes role-playing, with students taking on various planner roles such as project leader or environmental expert. However, many urban planning programs are evolving beyond traditional studio models to incorporate more interactive approaches like "mini studios" or "in-class workshops," internships, and partnerships with planning officials through simulations (Burroughs et al., 2009). This shift allows students to engage directly with the scenes of planning profession, working alongside experienced real planners to tackle community issues

(Chrisna T Permana et al., 2021). By being involved in the simulation of decision-making process, conducting analyses, and interacting with different roles of stakeholder, students gain a deeper understanding of the complexities and trade-offs that professional planners normally face (Sage et al., 2011).

The integration of studio-style learning into in-class learning with incorporation of role-playing provides an important transformation in planning education, bridging the gap between academia and practice, but with more practical natures for learning (Healey, 2015). These experiments provide students with exposure to real constraints, such as political pressure, budget limitations, and regulatory frameworks, which are often absent in theoretical discussions of a classroom activities (Soikkeli et al., 2023).

Role-Playing: Bridging the Gap of In-Class and Studio-based Learning in Planning Education

Role-playing in teaching is an experiential learning method that allows students to actively engage with the material by assuming the roles of different characters or stakeholders in a simulated scenario. This method encourages students to think from multiple perspectives, deepening their understanding of complex subjects by placing them in real-life situations (Pojani & Rocco, 2023). In a classroom setting, role-playing helps students explore various viewpoints, practice problem-solving, and develop communication skills as they interact with peers in a structured environment (Baldwin & Rosier, 2017). By immersing themselves in the roles of different actors, such as government officials, community members, or private developers, students experience firsthand the challenges and dynamics of decision-making processes (Baldwin & Rosier, 2017).

This method is particularly valuable in fields like urban planning where negotiation, collaboration, and stakeholder engagement are clearly demonstrated. Role-playing helps students move beyond theoretical knowledge, allowing them to experiment with strategies, confront conflicts, and respond to challenges in a low-stakes environment (Kotval, 2003). It also fosters empathy, as students must understand and articulate the motivations and concerns of the roles they are playing. By making learning more interactive and dynamic, role-playing not only enhances students' critical thinking but also prepares them for the complexities they will encounter in professional practice, where diverse interests and perspectives must be balanced (Staub & Lulo, 2011).

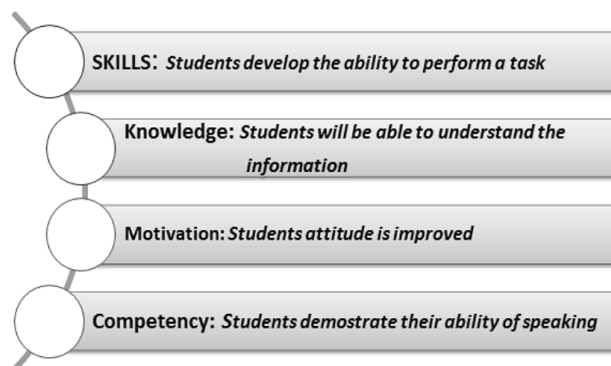


Figure 2: Steps of Conducting Role Playing (Pallathadka & Pallathadka, 2021)

Existing literature on participatory planning highlights issues like knowledge imbalance, conflicting perspectives, and limited accessibility, but fewer studies explore how these challenges impact planning education. This paper contributes by connecting participatory knowledge complexities with the evolution of planning education, demonstrating how role-playing, studio models, and simulation-based learning bridge theory with practical negotiation, decision-making, and stakeholder management.

Methodology

Study Design

This qualitative research used simulation, observation, and recording as core data sources. It focused on two case studies from the International Thematic Planning Workshop (ITPW) modules, with one topic being Participatory Planning Theory. The studies involved fifth-semester students from the Urban and Regional Planning Department at Universitas Sebelas Maret. The 50 participants, from diverse backgrounds, had only completed one planning project course, the Planning Process Studio, and lacked prior knowledge on the subject.

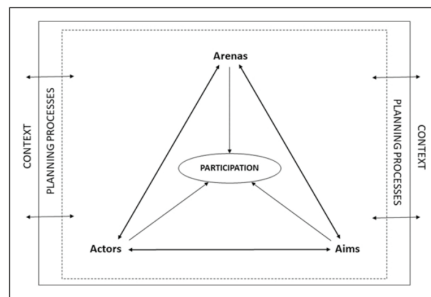


Figure 3: Participatory Planning in the Making (Hofer & Kaufmann, 2023)

Data Collection and Analysis

The role-playing process took place over three weeks, following guidelines from disciplines that have used role-playing in planning education. Students were divided into 4-6 groups of 7-8 members, each assigned specific roles such as local government representatives, community leaders, and activists. They were presented with a case study involving planning issues that required a participatory approach, with context drawn from real-world references. Students discussed role distribution and simulated solving the case while others observed and critically assessed the process.

Data analysis followed a qualitative approach, using open coding and thematic framework analysis to identify recurring patterns in reflections, discussions, and observer notes. Initial codes, such as "power imbalance" and "conflict resolution," were grouped into broader themes like knowledge asymmetry and decision-making dynamics. The coding framework drew from participatory planning literature (Healey, 1997; Innes & Booher, 2004). Content and discourse analysis were used to examine how students framed power and authority, capturing both the substance of arguments and rhetorical strategies. This multi-layered approach provided deeper insights into how participatory planning can be taught in an educational setting.

Results and Discussion

The Implementation of Role-Sharing Method

The International Thematic Planning Workshop (ITPW) is a four-credit course at Universitas Sebelas Maret (UNS) that trains students in participatory planning through multi-stakeholder and multi-scale collaboration. Focusing on themes like food security and community-based tourism, students learn to understand regional development dynamics and create inclusive, sustainable planning solutions. The course uses interactive, contextual learning with role-playing to develop spatial analysis, cross-actor communication, collaboration, and adaptability in addressing complex field issues.

Terms of Reference

International Thematic Planning Workshop
in cooperation with
Urban Citizenship Academy Kota Kita
Overseas Practice Engagement UCL 2022/2023

Exploring the role of community-based food initiatives in
contributing to food security in Solo

Contents

1. Partnership
2. The Practice Engagement
 - Introduction
 - Overall Aim and Research Question(s)
 - Case Studies
 - Group Work
3. Schedule and Logistics
 - Engagement Schedule
 - Research Design Sessions
 - Ethics and COVID-19 considerations
4. Outputs
 - Group Outputs
 - SDP Output
 - Urban Citizenship Academy Output

Figure 4: Module Guideline (Source: ITPW UCL-KOTAKITA-UNS 2023)

The role-playing method in the International Thematic Planning Workshop (ITPW) module was tested in the 2021 and 2022 case studies to develop a participatory planning approach for the university. The method was applied across several stages: group formation, theoretical grounding, case study analysis, actor mapping, simulation, and reflection. These stages provided a structured learning pathway, enabling students to engage with real-world planning scenarios and better understand multi-stakeholder dynamics. Student groups were formed from multidisciplinary and multinational teams, including participants from Universitas Sebelas Maret (UNS) and partner universities like University College London (UCL) in 2021 and Universiti Teknologi Malaysia (UTM) in 2022. Each group was assigned a case study on Urban Food Resilience (2021) or Collaborative Tourism Planning (2022). After receiving lectures and workshops on participatory planning, governance frameworks, stakeholder analysis, and spatial planning tools, students conducted a detailed case study analysis, identifying planning challenges and the actors involved. They created stakeholder maps to visualize the roles, interests, and power relations of involved parties, derived from documents, coursework, and ITPW proposals.

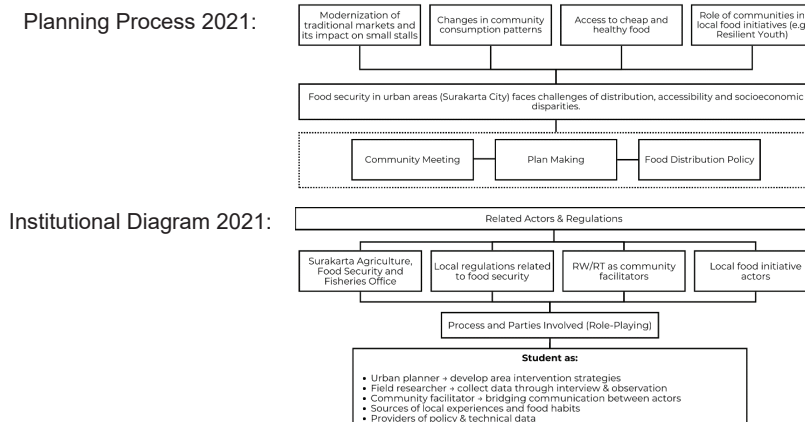


Figure 5: Planning Process and Stakeholder Diagram

Building on this actor mapping (see Figure 5 above), students allocated roles within their groups, simulating the identified stakeholders in the planning process. Each student adopted an actor's perspective, representing their views, mandates, and constraints. The groups then selected a planning issue, such as food vendor resilience or community-based tourism governance, and re-enacted a planning process to address it. This exercise involved dialogue, negotiation, and decision-making, allowing students to experience the complexity of stakeholder coordination and collaborative problem-solving.

Throughout the simulation, students documented interactions, conflicts, consensus, and shifts in stakeholder positions. These observations were analyzed in debriefing sessions, led by lecturers, to critically evaluate the planning process, challenge assumptions, and refine understanding of participatory governance. This iterative cycle of simulation, observation,

reflection, and adjustment was repeated to improve students' analytical skills and adaptability in planning scenarios.



Figure 6: Illustration of the In-Class Role Playing Processes

The role-sharing process was validated through real-world engagement, with students visiting study sites and conducting interviews, focus groups, and field observations with simulated stakeholders. Key comments from the interview process include:

“Our main strategy is continuous innovation. introducing new attractions like underwater photography spots and diving packages, while ensuring water quality through conservation practices. (student a, tourism operator, after interviews with Ponggok tourism manager, 2024).”

“The challenge lies in balancing interests. Some residents want more tourism development, while others are concerned about environmental impacts. We need to mediate to ensure all parties benefit. (student b, local official, after interviews with village official, 2024).”

“We want to develop eco-tourism packages combining water tourism with agriculture, such as visiting greenhouses and learning stay from local farmers. This would extend visitor stay and distribute benefits to more sectors. (student c, BUMDes official, after interviews with BUMDes Secretary, 2024).”

These encounters allowed them to triangulate their simulation-based insights with on-the-ground realities, deepening their understanding of institutional arrangements and community dynamics.



Figure 7: Illustration of the Validating the Results with Real Actors

Role Playing's Reflection: Potential and Challenge

The ITPW simulation provided an immersive learning experience, with most groups actively engaging and understanding their roles. In the 2023 Urban Food Resilience session, students embodied stakeholders like government officials, planners, and community leaders. Many, especially those playing street vendors, gained valuable insights by observing real vendors' routines. However, two groups struggled with role clarity, causing confusion during discussions. Some students, like those acting as government officials, were unsure of their duties, while others faced challenges with power dynamics and community advocacy. Despite these challenges, the overall atmosphere was positive, with students recognizing the need for clearer role definitions and better preparation.

Through the simulation, students faced real-world challenges they may encounter as planners. One key issue was miscommunication, especially between government officials and community representatives like street vendors. Technical terms used by planners were often misunderstood, leading to delays and friction, highlighting the importance of clear communication and adapting language to the audience. Another challenge was the tension

between policy frameworks and community needs. Students playing local government roles struggled to balance zoning laws with community demands, such as requests for more green spaces. This underscored the complexities of navigating regulatory constraints while striving for community-driven outcomes, showing students that planning involves both technical solutions and political negotiation.



Figure 8: Illustration of the Simulation Process: Conflicts and Negotiations

Additionally, The simulation exposed students to the interpersonal and social challenges of participatory planning. Many groups faced issues like community distrust, with representatives skeptical of government officials and planners, mirroring real-world challenges of overcoming historical mistrust. Some students, in community roles, struggled to voice concerns, highlighting the emotional and psychological aspects of planning, which require empathy, trust-building, and effective communication. Finally, Students also confronted the influence of elites and political regimes. In some groups, influential figures dominated discussions, prioritizing elite interests over community needs, reflecting the challenge of ensuring democratic, inclusive planning when powerful actors have disproportionate influence.

Overall, the simulation provided valuable insight into the complexities of participatory planning. While most students engaged actively, challenges faced by some groups highlighted the need for better preparation and clearer expectations. The exercise emphasized issues like miscommunication, regulatory constraints, community distrust, and elite influence, all essential to understanding real-world planning dynamics. It also allowed students to create their own learning modules, enhancing participatory planning education for a wider audience.



Figure 9: Student Posters and Reports

Conclusion

Role-playing is an effective method in planning education, enhancing understanding of participatory processes by simulating real-world dynamics like stakeholder negotiation and institutional complexity. It transforms theory into experiential learning, fostering empathy, communication, and critical reflection. Its success relies on preparation, lecturer expertise, and active student participation. Clear role definitions, context-specific scenarios, and structured debriefings are essential. Role-playing, combined with theory and reflection, improves

cognitive and interpersonal skills. Involving professionals bridges the gap between theory and practice, preparing planners for collaborative planning. Embedding participatory planning in engineering education shows its broader relevance. The Umbul Ponggok case highlights the importance of negotiation and consensus in managing competing interests, skills crucial for engineers in balancing infrastructure, environmental concerns, and stakeholder relations. By integrating these skills, engineering programs prepare graduates to navigate power dynamics and relationships, key elements of Science and Technology Studies (STS) (Farías, 2011).

References

- Arrighi, J., Koelle, B., Besa, M. C., Spires, M., Kavonic, J., Scott, D., Kadihasanoglu, A., Bharwani, S., & Jack, C. (2016). *Dialogue for decision-making : unpacking the ' City Learning Lab ' approach*. 15.
- Baldwin, C., & Rosier, J. (2017). Growing Future Planners: A Framework for Integrating Experiential Learning into Tertiary Planning Programs. *Journal of Planning Education and Research*, 37(1), 43–55. <https://doi.org/10.1177/0739456X16634864>
- Boelens, L. (2011). Going beyond planners' dependencies: An actor-relational approach to Mainport Rotterdam. *Town Planning Review*, 82(5), 547–572. <https://doi.org/10.3828/tpr.2011.32>
- Booher, D. E., & Innes, J. E. (2002). Network power in collaborative planning. *Journal of Planning Education and Research*, 21, 221–236. <https://doi.org/10.4324/9781315259451-23>
- Burroughs, S., Brocato, K., & Franz, D. (2009). Problem Based and Studio Based Learning: Approaches to Promoting Reform Thinking among Teacher Candidates. *National Forum of Teacher Education Journal*, 19(3), 1–16.
- Ching, L. (2020). Social networks and perceptions of power in the Mekong. *Water Alternatives*, 13(2), 393–417.
- Faehnle, M., & Tyrväinen, L. (2013). A framework for evaluating and designing collaborative planning. *Land Use Policy*, 34(3), 332–341. <https://doi.org/10.1016/j.landusepol.2013.04.006>
- Farías, I. (2011). The politics of urban assemblages. *City*, 15(3–4), 365–374. <https://doi.org/10.1080/13604813.2011.595110>
- Gal, A., & Fallik, O. (2022). Learn from Each Other: A Peer-Teaching Model. *Interdisciplinary Journal of Environmental and Science Education*, 17(3), e2242. <https://doi.org/10.21601/ijese/10896>
- Harsanto, B., & Permana, C. T. (2020). Sustainability-oriented innovation (SOI) in the cultural village : an actor-network perspective in the case of Laweyan Batik Village. *Journal of Cultural Heritage Management and Sustainable Development*, 2044(1266). <https://doi.org/10.1108/JCHMSD-08-2019-0102>
- Healey, P. (2015). Civil Society Enterprise and Local Development. *Planning Theory and Practice*, 16(1), 11–27. <https://doi.org/10.1080/14649357.2014.995212>
- Hofer, K., & Kaufmann, D. (2023). Actors, arenas and aims: A conceptual framework for public participation. *Planning Theory*, 22(4), 357–379. <https://doi.org/10.1177/14730952221139587>
- Holden, M. (2008). Social learning in planning: Seattle's sustainable development codebooks. *Progress in Planning*, 69(1), 1–40. <https://doi.org/10.1016/j.progress.2007.12.001>
- Huxley, M., & Yiftachel, O. (2000). New paradigm or old Myopia? Unsettling the communicative turn in planning theory. *Journal of Planning Education and Research*, 19(4), 333–342. <https://doi.org/10.1177/0739456X0001900402>
- Innes, J. E., & Booher, D. E. (2010). *Planning with Complexity: An Introduction to Collaborative Rationality for Public Policy*. Routledge. <https://doi.org/10.4324/9780203864302>
- Jun, K. N., & Musso, J. (2013). Participatory Governance and the Spatial Representation of Neighborhood Issues. *Urban Affairs Review*, 49(1), 71–110. <https://doi.org/10.1177/1078087412453704>
- Kotval, Z. (2003). Teaching experiential learning in the Urban planning curriculum. *Journal of Geography in Higher Education*, 27(3), 297–308. <https://doi.org/10.1080/0309826032000145061>
- Pallathadka, H., & Pallathadka, L. K. (2021). Role-Play: An Interactive Activity To Enhance The English Speaking Skills Of Engineering Graduates. *Journal of Cardiovascular Disease Research*, 12(05), 723–731.
- Permana, C. (2019). *Community Initiatives and The Reshaping of Collaborative Planning Practice in Indonesia: The Case of Creative Kampung* (PhD Thesis). University of Liverpool.
- Permana, Chrisna T, Rahayu, P., & Andini, I. (2021). Enhancing Innovations through Distance-Learning Studio : The Sociological Institutionalism Perspective. *IEOM Society International*, 14(11), 1962–1973.
- Permana, Chrisna Trie, Mukaromah, H., & Astuti, W. (2023). Creative Kampung and the Promotion of Sustainable Development Knowledge in Urban Grassroots : The Case of Surakarta. *Local Wisdom*,

- 15(2), 137–155.
- Pojani, D., & Rocco, R. (2023). Edutainment: Role-Playing versus Serious Gaming in Planning Education. *Journal of Planning Education and Research*, 43(3), 585–597. <https://doi.org/10.1177/0739456X20902251>
- Sage, D., Dainty, A., & Brookes, N. (2011). How actor-network theories can help in understanding project complexities. *International Journal of Managing Projects in Business*, 4(2), 274–293. <https://doi.org/10.1108/17538371111120243>
- Seo, B. K. (2022). Co-creation of knowledge in the urban planning context: The case of participatory planning for transitional social housing in Hong Kong. *Cities*, 122(November 2021), 103518. <https://doi.org/10.1016/j.cities.2021.103518>
- Soikkeli, A., Santamäki, E., Hynninen, O., & Äijälä, S. (2023). Challenges of participatory design in apartment buildings' renovation projects in Finland. *Journal of Housing and the Built Environment*, 38(3), 1889–1905. <https://doi.org/10.1007/s10901-023-10016-2>
- Staub, A., & lulo, L. D. (2011). User-Participation and the Design Charrette: ARCC 2011, 1(1), 305–314. file:///Users/jlmorlacci/Desktop/341-1148-1-PB.pdf
- Tang, C. P., & Tang, S. Y. (2006). Democratization and capacity building for environmental governance: Managing land subsidence in Taiwan. *Environment and Planning A*, 38(6), 1131–1147. <https://doi.org/10.1068/a37375>
- van Assche, K., Duineveld, M., & Beunen, R. (2014). Power and Contingency in Planning. *Environment and Planning A*, 46(10), 2385–2400. <https://doi.org/10.1068/a130080p>
- Arrighi, J., Koelle, B., Besa, M. C., Spires, M., Kavonic, J., Scott, D., Kadihasanoglu, A., Bharwani, S., & Jack, C. (2016). *Dialogue for decision-making : unpacking the ' City Learning Lab ' approach*. 15.
- Baldwin, C., & Rosier, J. (2017). Growing Future Planners: A Framework for Integrating Experiential Learning into Tertiary Planning Programs. *Journal of Planning Education and Research*, 37(1), 43–55. <https://doi.org/10.1177/0739456X16634864>
- Boelens, L. (2011). Going beyond planners' dependencies: An actor-relational approach to Mainport Rotterdam. *Town Planning Review*, 82(5), 547–572. <https://doi.org/10.3828/tpr.2011.32>
- Booher, D. E., & Innes, J. E. (2002). Network power in collaborative planning. *Journal of Planning Education and Research*, 21, 221–236. <https://doi.org/10.4324/9781315259451-23>
- Burroughs, S., Brocato, K., & Franz, D. (2009). Problem Based and Studio Based Learning: Approaches to Promoting Reform Thinking among Teacher Candidates. *National Forum of Teacher Education Journal*, 19(3), 1–16.
- Ching, L. (2020). Social networks and perceptions of power in the Mekong. *Water Alternatives*, 13(2), 393–417.
- Faehnle, M., & Tyrväinen, L. (2013). A framework for evaluating and designing collaborative planning. *Land Use Policy*, 34(3), 332–341. <https://doi.org/10.1016/j.landusepol.2013.04.006>
- Farías, I. (2011). The politics of urban assemblages. *City*, 15(3–4), 365–374. <https://doi.org/10.1080/13604813.2011.595110>
- Gal, A., & Fallik, O. (2022). Learn from Each Other: A Peer-Teaching Model. *Interdisciplinary Journal of Environmental and Science Education*, 17(3), e2242. <https://doi.org/10.21601/ijese/10896>
- Harsanto, B., & Permana, C. T. (2020). Sustainability-oriented innovation (SOI) in the cultural village : an actor-network perspective in the case of Laweyan Batik Village. *Journal of Cultural Heritage Management and Sustainable Development*, 2044(1266). <https://doi.org/10.1108/JCHMSD-08-2019-0102>
- Healey, P. (2015). Civil Society Enterprise and Local Development. *Planning Theory and Practice*, 16(1), 11–27. <https://doi.org/10.1080/14649357.2014.995212>
- Hofer, K., & Kaufmann, D. (2023). Actors, arenas and aims:A conceptual framework for public participation. *Planning Theory*, 22(4), 357–379. <https://doi.org/10.1177/14730952221139587>
- Holden, M. (2008). Social learning in planning: Seattle's sustainable development codebooks. *Progress in Planning*, 69(1), 1–40. <https://doi.org/10.1016/j.progress.2007.12.001>
- Huxley, M., & Yiftachel, O. (2000). New paradigm or old Myopia? Unsettling the communicative turn in planning theory. *Journal of Planning Education and Research*, 19(4), 333–342. <https://doi.org/10.1177/0739456X0001900402>
- Innes, J. E., & Booher, D. E. (2010). *Planning with Complexity: An Introduction to Collaborative Rationality for Public Policy*. Routledge. <https://doi.org/10.4324/9780203864302>
- Jun, K. N., & Musso, J. (2013). Participatory Governance and the Spatial Representation of Neighborhood Issues. *Urban Affairs Review*, 49(1), 71–110. <https://doi.org/10.1177/1078087412453704>
- Kotval, Z. (2003). Teaching experiential learning in the Urban planning curriculum. *Journal of Geography in Higher Education*, 27(3), 297–308. <https://doi.org/10.1080/0309826032000145061>

- Pallathadka, H., & Pallathadka, L. K. (2021). Role-Play: An Interactive Activity To Enhance The English Speaking Skills Of Engineering Graduates. *Journal of Cardiovascular Disease Research*, 12(05), 723–731.
- Permana, C. (2019). *Community Initiatives and The Reshaping of Collaborative Planning Practice in Indonesia: The Case of Creative Kampong* (PhD Thesis). University of Liverpool.
- Permana, Chrisna T, Rahayu, P., & Andini, I. (2021). Enhancing Innovations through Distance-Learning Studio : The Sociological Institutionalism Perspective. *IEOM Society International*, 14(11), 1962–1973.
- Permana, Chrisna Trie, Mukaromah, H., & Astuti, W. (2023). Creative Kampong and the Promotion of Sustainable Development Knowledge in Urban Grassroots : The Case of Surakarta. *Local Wisdom*, 15(2), 137–155.
- Pojani, D., & Rocco, R. (2023). Edutainment: Role-Playing versus Serious Gaming in Planning Education. *Journal of Planning Education and Research*, 43(3), 585–597. <https://doi.org/10.1177/0739456X20902251>
- Sage, D., Dainty, A., & Brookes, N. (2011). How actor-network theories can help in understanding project complexities. *International Journal of Managing Projects in Business*, 4(2), 274–293. <https://doi.org/10.1108/17538371111120243>
- Seo, B. K. (2022). Co-creation of knowledge in the urban planning context: The case of participatory planning for transitional social housing in Hong Kong. *Cities*, 122(November 2021), 103518. <https://doi.org/10.1016/j.cities.2021.103518>
- Soikkeli, A., Santamäki, E., Hynninen, O., & Äijälä, S. (2023). Challenges of participatory design in apartment buildings' renovation projects in Finland. *Journal of Housing and the Built Environment*, 38(3), 1889–1905. <https://doi.org/10.1007/s10901-023-10016-2>
- Staub, A., & Iulo, L. D. (2011). User-Participation and the Design Charrette: *ARCC 2011*, 1(1), 305–314. <file:///Users/jlmorlacci/Desktop/341-1148-1-PB.pdf>
- Tang, C. P., & Tang, S. Y. (2006). Democratization and capacity building for environmental governance: Managing land subsidence in Taiwan. *Environment and Planning A*, 38(6), 1131–1147. <https://doi.org/10.1068/a37375>
- van Assche, K., Duineveld, M., & Beunen, R. (2014). Power and Contingency in Planning. *Environment and Planning A*, 46(10), 2385–2400. <https://doi.org/10.1068/a130080p>

Copyright Statement

Copyright © 2025 Chrisna T. Permana, Azka F. Najwa. The authors assign to the Research in Engineering Education Netork (REEN) and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full, and this copyright statement is reproduced. The authors also grant a non-exclusive licence to REEN to publish this document in full on the World Wide Web (prime sites and mirrors), on portable media and in printed form within the REES and RCEE & RHed 2025 proceedings. Any other usage is prohibited without the express permission of the authors.