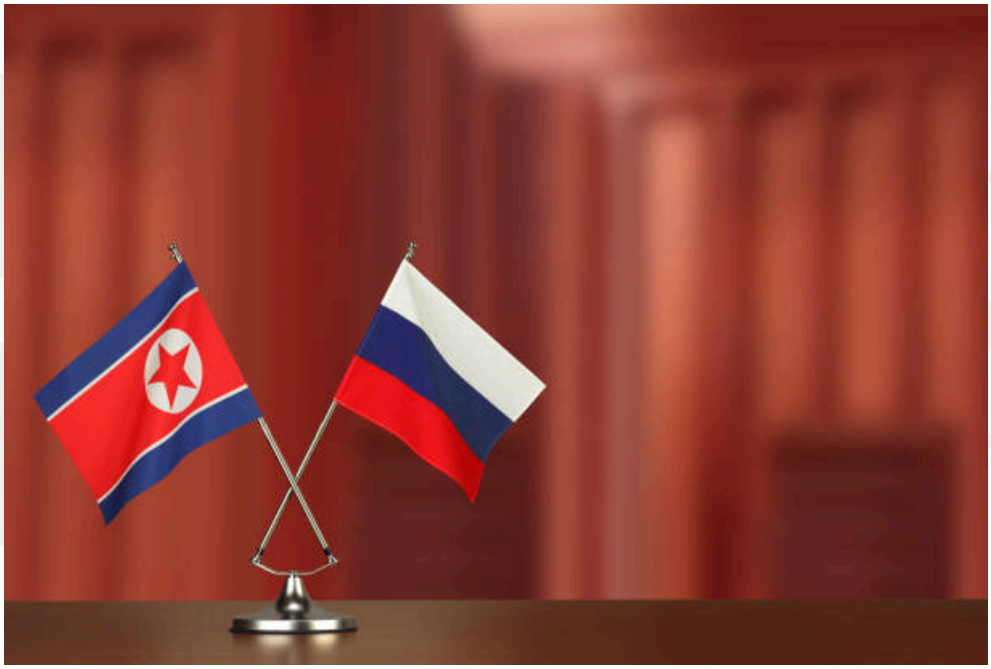
Kursk as a Training Ground: What North Korea Learns from Russia's War against Ukraine

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Two crossed national flags on Wooden table

From Denial to Memorial

For months, Pyongyang denied that its soldiers were fighting in Russia's war against Ukraine. It confirmed the deployment only in April 2025, and one year later, Kim Jong Un opened a memorial to North Korea's war dead (Paton Walsh et al., 2026). According to Ukrainian military intelligence, some 25,000 North Koreans have rotated through Russia's armed forces since October 2024, and around 8,500 are deployed there today (Paton Walsh et al., 2026). South Korean estimates are more cautious, at more than 16,000 troops (S.-Y. Lee, 2026). Even the lower figures point to Pyongyang's sustained strategic commitment.

Cooperation began with deliveries of artillery shells and ballistic missiles and has since grown into what Howell (2024) describes as a long-term strategic partnership. The partnership's legal core is the Comprehensive Strategic Partnership Treaty of June 2024, whose mutual defence clause is the first such commitment North Korea has made since the Cold War (Pescali, 2026). Ukraine's incursion into the Kursk region in August 2024 then supplied both the need and the justification: Russia required manpower, and both governments could present the fighting as the defence of Russian soil.

Existing analyses have focused on what Pyongyang gains from the partnership: hard currency, food, energy, and military technology (Pescali, 2026; Jung & Lee, 2024). Less attention has been paid to what its army learns, although this matters directly for the security of South Korea and Japan. This article therefore asks what military experience North Korea gains from the war, how much of it turns into lasting capability and what it costs Pyongyang.

The analysis draws on the concept of military adaptation, which Farrell (2010) describes as changes in tactics, techniques or existing technologies that armed forces undertake to improve their operational performance in war. Since North Korea's army adapts while taking part in someone else's war, the article looks at three stages: exposure (what soldiers experience at the front), adaptation in theatre (whether units change how they fight) and institutionalisation (whether lessons reach the army at home through manuals, training, new units or exercises). It also asks what North Korea would have learned without the Battle of Kursk.

Learning the Hard Way: From Infantry to Specialists (2024–2026)

The first wave focused on mass. From October 2024, around 11,000 soldiers arrived in the Kursk region, many of them from the elite 11th Corps, the so-called "Storm Corps" (Gardner, 2025).

Russia employed them as assault infantry. Western officials estimated in January 2025 that roughly 4,000 of the 11,000 soldiers had become casualties within three months, around 1,000 of them killed (Gardner, 2025). Even so, the troops adapted. Diaries of captured soldiers describe using one soldier as bait to lure Ukrainian drones, and North Korean units reportedly reduced their losses by working more closely with Russian drone units (Corrado et al., 2025).

The contingent in Russia today looks different. According to Ukrainian military intelligence, the roughly 8,500 North Koreans in the Kursk region include about 1,000 engineers and deminers and 400 drone operators (Paton Walsh et al., 2026). They primarily reinforce Russian rear positions and support aerial reconnaissance and fire control for multiple-launch rocket systems (Paton Walsh et al., 2026; Y.-J. Lee, 2026). In addition, a missile unit

of around 90 personnel has begun deploying to the Voronezh region (S.-Y. Lee, 2026), and about 3,000 soldiers are believed to have returned home to work as instructors (Y.-J. Lee, 2026).

Two considerations appear to drive this shift. Specialists behind the front suffer far fewer casualties than assault troops, so more of them return home with their knowledge intact. It also reflects Russian needs, since the recapture of Kursk left Moscow with mined terrain to clear rather than a salient to storm. Nor is the trend guaranteed. In late September 2026, President Zelenskyy warned that another 10,000 North Korean troops could follow (Meredith, 2026).

What the North Korean Army Learns

Drone warfare is the most obvious case, and the only one in which learning can be followed from the front back to North Korea. The 400 operators in Russia fly missions against a capable opponent (Paton Walsh et al., 2026), and the bait tactic shows that units have changed how they fight. Lessons also seem to have reached the army at home. In late 2024, the General Staff reportedly ordered electronic warfare units to practise taking over enemy drones, using new combat manuals based on drone tactics from the war (Jeong, 2024). However, the report on the manuals relies on a single anonymous source.

It is also doubtful how much of this is due to Kursk. Kim Jong Un oversaw tests of suicide drones as early as August 2024, two months before the first troops left (Al Jazeera, 2024). The new manuals appeared only about six weeks after the troops arrived, which is too early for them to reflect their combat experience. What Kursk adds is something that watching cannot provide. It is operators with real combat experience who can train others at home.

Mine Warfare

In mine warfare, experience and usable knowledge differ more than it first appears. The 1,000 engineers and deminers clear some of the most heavily mined terrain in the world (Paton Walsh et al., 2026). At home, however, North Korea mainly lays mines. According to the South Korean military, it has planted around 960,000 mines in the Demilitarised Zone since April 2024 (Choi, 2026). This campaign started before the deployment and requires different skills from those required for clearing mines. Experience from Kursk would be more useful for breaching enemy minefields, which mainly matters if North Korea were to attack.

Missile Employment

Strategically, missile employment matters most, but here the evidence is weaker than it seems. Ukrainian sources report that North Korean KN-23 missiles fired by Russia initially missed their targets by one to three kilo-

metres and were landing within 50 to 100 metres by early 2025 (S.-Y. Lee, 2026). According to Vann Diepen (2026), however, Ukrainian electronic warfare most likely blocked the missiles' satellite navigation, and Russia probably provided the fix. In that case, Russia restored the missiles' accuracy rather than North Korea learning how to improve it. Moreover, almost all of the accuracy data comes from Ukraine, which has an interest in emphasising the threat.

The more lasting gain probably lies elsewhere. North Korea reportedly operated its own KN-23 launch unit in Russia from November 2023 to December 2025 (Vann Diepen, 2026). Its crews fired road-mobile missiles while facing Ukrainian air defence and counterstrikes, which no peacetime test can simulate. Since the KN-23 would play a central role in any conflict on the Korean Peninsula (Vann Diepen, 2026), this experience is likely to be useful in the home context. Yet no open-source data show what has changed in its missile units.

Combined-Arms Warfare

The least is learned in combined-arms warfare: the coordination of infantry, artillery, drones and logistics. North Korean troops, however, operate within Russian command structures. They do not plan operations or manage logistics themselves, so the army watches combined-arms warfare without practising it. Watching, however, North Korea could also have done from a distance. Kim Jong Un's call to learn from "real combat experience" (Corrado et al., 2025) and the plan to use returnees as instructors (Y.-J. Lee, 2026) show intent, but not yet any change in doctrine.

Where the Learning Ends

The most important limit is Russia's role. Russia commands the operations, plans the logistics and, in the case of the missiles, probably supplied the decisive technical fix. This limits learning precisely in the two areas that matter most strategically: missiles and combined-arms warfare. The second limit is transferability. Kursk was a slow war of attrition on open terrain, while a war on the Korean Peninsula would be fought in mountains, against opponents with air superiority and under the threat of nuclear escalation. Lessons from Kursk could therefore be of little use or even mislead planners in Pyongyang.

The third limit is the slow pace at which lessons become doctrine. Experience has to be written down, trained and spread across the whole army, which takes years. Open sources show this only for drones, although in a closed state, missing evidence proves little.

Is the Learning Worth the Cost?

The partnership itself also has limits. North Korea has sent more than 16,000 personnel to Russia since October 2024 and supplied over 15 million

artillery rounds, and it cannot deplete its own stocks and manpower indefinitely without weakening its posture at home (S.-Y. Lee, 2026). Estimates of its losses range from around 2,000 dead and 4,000 to 5,000 wounded (Y.-J. Lee, 2026) to roughly 6,000 casualties (Pescali, 2026). The most valuable gains also depend on Russian help, which deepens Pyongyang's dependence on Moscow.

At the same time, the deployment pays off for Pyongyang. Moscow compensates it with hard currency, oil, food and other strategic goods (Jung & Lee, 2024; S.-Y. Lee, 2026). Measured against these costs, the learning would hardly justify the deployment on its own. Learning is therefore a valuable side effect, but probably not the main reason why North Korean troops are in Russia.

Conclusion

North Korea's presence in Russia's war has changed from mass infantry to specialists, but the evidence supports a narrower conclusion than this shift suggests. Only for drones can learning be traced from the front back to North Korea, and even there Kursk mainly speeds up an existing programme. The improved missile accuracy is more likely the result of a Russian fix than of North Korean learning, while the crews' operational experience is plausible but unproven. In mine warfare and combined-arms warfare, there is, so far, little sign that experience has translated into capability.

Whether the Korean People's Army as a whole will change cannot yet be judged from open sources. Nevertheless, observers should treat North Korean troops in Russia not merely as Moscow's reserve army, but also as a selective investment in Pyongyang's own future warfighting, especially in drones and missile operations. Future research should watch for new drone units, training schools and exercises reported by state media.

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